



Town of Moraga

PLANNING DEPARTMENT
 329 Rheem Boulevard
 MORAGA, CA 94556
 Phone: (925) 888-7040 Fax: (925) 376-5203
www.moraga.ca.us
planning@moraga.ca.us

Form Updated 4/5/10
 For Staff Use Only

File #: _____
 Deposit Amount: \$ _____
 Deposit #: _____

HILLSIDE DEVELOPMENT PERMIT APPLICATION FORM

PROPERTY ADDRESS: _____ ZONING: _____

ASSESSORS PARCEL NUMBER: _____

APPLICANT INFORMATION	OWNER INFORMATION
NAME: _____	NAME: _____
ADDRESS: _____	ADDRESS: _____
CITY/STATE/ZIP: _____	CITY/STATE/ZIP: _____
PHONE: _____	PHONE: _____
EMAIL: _____	EMAIL: _____

An application for a Hillside Development Permit requires an initial deposit of \$5,000.⁰⁰. This deposit covers approximately 20 hours of Staff time which includes time to receive the application, review it for completeness, prepare and distribute a public notice, write a staff report, prepare and distribute packets to Town Officials, attend the meeting, prepare meeting minutes, and finalize the decision. This deposit also covers the anticipated cost of geotechnical peer review. Clear, complete and consistent applications require less staff time and thus are less expensive to process.

APPLICANT / OWNER AUTHORIZATION
CHOOSE ONE: <input type="checkbox"/> I am the property owner and hereby authorize the filing of this application. <input type="checkbox"/> I am the applicant and am authorized by the owner to file this application. By signing below the applicant acknowledges the Town of Moraga deposit account system and agrees to pay any additional charges that may be incurred beyond the initial deposit. SIGNATURE AND DATE: _____

OTHER CONTACT INFORMATION AND PROJECT CONSULTANTS

PROJECT GEOTECHNICAL ENGINEER	PROJECT CIVIL ENGINEER
NAME: _____	NAME: _____
ADDRESS: _____	ADDRESS: _____
CITY/STATE/ZIP: _____	CITY/STATE/ZIP: _____
PHONE: _____	PHONE: _____
EMAIL: _____	EMAIL: _____

PROJECT ARCHITECT OR DESIGNER	LANDSCAPE ARCHITECT
NAME: _____	NAME: _____
ADDRESS: _____	ADDRESS: _____
CITY/STATE/ZIP: _____	CITY/STATE/ZIP: _____
PHONE: _____	PHONE: _____
EMAIL: _____	EMAIL: _____

REQUIREMENT FOR A HILLSIDE DEVELOPMENT PERMIT

Any land with a slope of twenty (20) percent or greater is defined as "Hillside land" under Moraga Municipal Code (MMC) Section 8.136.020. The percent slope is calculated by the formula below:

$$\frac{\text{Vertical Drop}}{\text{Horizontal Distance}} = \frac{\text{[]}}{\text{[]}} = \text{[]} \times 100 = \text{[]}$$

A Hillside Development Permit (HDP) is required to "grade, clear, construct upon or alter hillside land" (MMC Section 8.136.040). An application for a HDP may be combined with an application for a conditional use permit, tentative subdivision map approval, building permit or other land use entitlement (MMC 8.136.050-A). If any portion of the existing or "pre-development" topography has a slope greater than 20% a HDP is required. In other words, the average slope under a proposed structure or within an area to be graded is not a factor in determining whether a HDP is required.

HILLSIDE DEVELOPMENT PERMIT APPLICATION PROCESS

1. After an application is submitted to the Town it will be reviewed for completeness. If the HDP application is found to be incomplete, then a letter will be sent to the applicant stating the additional materials and information required to complete the submittal.
2. If all the submittal requirements listed on this application form have been submitted, then the planning staff will send the applicant's geotechnical report to the Town's geotechnical peer review consultant. Generally, the application will not be considered "complete" until the Town receives a report from our geotechnical peer review consultant that the geotechnical report submitted for the project adequately addresses slope stability, soil characteristics and seismic factors in accordance with General Plan Policy PS4.2.
3. After the geotechnical report and recommendations have been found acceptable by the Town's geotechnical peer review consultant, the HDP application will be put on the next available Design Review Board (DRB) or Planning Commission (PC) meeting agenda for consideration. The choice of DRB or PC depends on the nature of the project and other ordinance requirements. For example, if

grading is proposed on a slope over 20% but less than 25%, then the DRB can review the project, but if the grading is on a slope over 25% then the PC must review the project and make a recommendation to the Town Council.

4. Notices will be mailed to neighbors within 300 feet of the proposed project 10 days in advance of the DRB or PC hearing.
5. Under MMC Section 8.136.070, the reviewing body shall consider the following factors prior to approval of a HDP: slope, soil instability, drainage, soil characteristics, seismic factors, existing and future residential development, view shed, access, potential traffic congestion, fire risk, noise, glare, wildlife, dust and impact on existing vegetation.
6. A staff report will be written for the DRB or PC. The staff report is typically available five days prior to the hearing. It is the responsibility of the applicant or property owner to pick up the report from the Planning Department; however, a copy can be emailed if the applicant provides the email address.
7. Applicants are expected to attend the DRB or PC meeting. The applicant is encouraged to prepare a brief presentation of the project to the board or commission. The DRB members or Planning Commissioners may have questions, so the applicant should be in attendance to respond.
8. Following the presentation, the board or commission opens up the meeting to public testimony, after which they will discuss the project and render a decision.
9. The decision of the Board or Commission can be appealed within 10 days of the action (with a fee).
10. Applications are processed on a staff-time basis. It is to the advantage of the applicant to submit a complete and accurate application. If approved, the project may require a grading permit from the Town's Engineering Department.

PROJECT DESCRIPTION:

Moraga Municipal Code Section 8.136.070 specifies the standards for review and approval of a hillside development permit. The information requested below is specifically related to the standards for review and approval of the permit.

1. Please explain what effect the proposed project would have on the existing view shed as experienced from the occupant's perspective and from neighboring perspectives.

2. Please explain what effect the proposed project would have on noise levels in the immediate vicinity.

3. Please explain what effect the proposed project would have on traffic congestion in the neighboring area, such as trucks hauling soil to or from the project site.

4. Please explain what impact and effect the proposed project would have on wildlife in the area.

5. Please explain what impact the proposed project would have on dust in the area.

6. Please explain what impact the proposed project would have on glare in the area, such as reflection of sun from windows or other reflective surfaces.

7. Please explain what impact the proposed project would have on existing vegetation in the area.

8. If applicable, please describe how the site plan provides an appropriate living space consistent with the site's constraints. NOTE: Design guideline SFR1.11 states that there should be a near level useable yard area of at least 25-feet by 40-feet, other than the front yard for single family homes.

9. Is your hillside building site located at the lowest possible elevation on the site? **YES / NO** If not, please explain why the building site cannot be located at a lower elevation on the hillside.

10. If the building site is located adjacent to a steep downslope, are the principal and accessory structures designed to blend with the hillside topography? **YES / NO** Please describe building design features, proposed grading or landscaping that is intended to make the proposed project blend with the topography.

OTHER TOWN APPROVALS

Other Town approvals in addition to a hillside development permit may be required for your project. Some of the more common additional application types are listed below.

1. Will the project require removing any trees that are indigenous to Moraga, such as Oak, Bay, Redwood, Toyon and Knobcone Pine, where the trunk is 5” or more in diameter or where there are multiple trunks with a total perimeter of 40” or more measured 3-feet above grade? **(YES/NO)**

If “YES”, a **tree removal permit** will be required. Exceptions can be made for any trees located closer than five (5) feet to an existing structure and trees located in a right-of-way and deemed to be hazardous by the Public Works Superintendent.

2. Will more than 500 cubic yards of soil be imported or removed from the project site? **(YES / NO)** If “YES”, you must file a **hauling permit** application for review by the Town Engineer and approval by the Town Council. Planning Staff will review the application and a permit will be prepared for issuance, subject ratification by the Town Council. The normal procedure will be to place permits that are ready for ratification on the Town Council’s consent calendar. The Council may ratify staff action or remove the item to be discussed as a separate agenda item. If the hauling operation will occur over private streets, then letters authorizing the haul route that was approved by the owner/owners of the private drive must accompany the application.

3. Are any retaining walls proposed in your project? **(YES / NO)**

If “YES”, is the wall visible from off-site? **(YES / NO)**

What is the proposed maximum height of the retaining wall? _____

What is the shortest distance between a proposed retaining wall and a property line? _____

Are there any retaining walls stacked or terraced above another retaining wall? **(YES / NO)**

If “YES”, what is the maximum height of the walls and the distance between the walls?

Height of Wall #1 _____, Height of Wall #2 _____ Distance between Walls _____

If any retaining wall is greater than 5 feet in height or if the retaining wall is visible from off-site and is more than 3 feet in height, **Design Review Board approval** is required. If a retaining wall is located closer than 3-feet to a property line an applicant must request an exception to design guideline ID11.5. If stacked retaining walls are closer together than twice the height of the highest adjacent retaining wall, then an exception to design guideline ID11.4 will be required.

4. Will the floor elevation of any proposed structure built over a slope, such as a home addition, deck or gazebo, exceed 4-feet above the existing grade? **(YES / NO)** If “YES”, **Design Review Board**

approval is required and special treatment of the skirt wall below the structure may be required or submittal of a landscape plan to mitigate the height of the skirt wall. If the structure is higher than 6-feet above grade then an exception is required to design guideline SFR2.11 if the structure is visible from off-site. Decks that exceed 6-feet in height must be substantially screened by landscaping or an exception to design guideline SFR2.12 will be required.

5. Will the project require: (1) more than 50 cubic yards of soil to be moved; (2) a cut deeper than 3-feet from the existing ground surface; (3) any fill on a slope of 20% or more; (4) grading within 100-feet of a natural watercourse; (5) placement of unretained earthwork within 9-feet of any adjacent property? **(YES / NO)** If “YES”, you must also submit an application for a **grading permit** as specified under MMC Section 14.04.031. Grading permits are issued and inspected by the Town’s Engineering Department; however, depending upon the average pre-development slope of the area of disturbance for the grading, **Design Review Board or Planning Commission and Town Council approval** may be required.

COMPLIANCE WITH TOWN OF MORAGA DESIGN GUIDELINES:

The Town Council adopted new design guidelines on July 11, 2007 and approved revisions on January 9, 2008. The new guidelines are available on the Town website, www.moraga.ca.us and copies of the guidelines are also available in the Planning Department at 329 Rheem Boulevard, Suite 2 during normal business hours. Please review the design guidelines and determine whether your project as submitted requires any exceptions to the guidelines. ***If you believe your proposal warrants an exception to the guidelines, you will need to submit a written statement with the justification of each requested exception and attach it to this application form.*** An exception to a design guideline is considered a “special circumstance” and an additional \$500.00 fee is required for Design Review Board consideration of each requested exception.

The design guidelines listed below are primarily for grading and hillside development. If your project involves construction of a building or other structure on hillside land, you should review the complete list of design guidelines. Please review the design guidelines and related questions below and circle the appropriate response.

3 MAINTAIN THE TOWN’S SEMI-RURAL CHARACTER (SRC)

- SRC1 Retain, protect, and utilize existing natural features, such as trees and other vegetation, interesting ground forms, rocks, water, and significant views in the design. **(YES / NO / NA)**
- SRC5 Preserve natural site amenities.
- a. Development is planned in relation to natural features. **(YES / NO / NA)**
 - b. Natural features will be protected during and after construction. **(YES / NO / NA)**
 - c. Trees and other native vegetation will be retained, consistent with tree preservation ordinance, to maintain current stability of steep hillsides, retain moisture, prevent erosion, and enhance the natural scenic beauty. **(YES / NO / NA)**
Grading under tree drip lines will be avoided to protect the root system during development. **(YES / NO / NA)**
 - d. Significant natural features, such as creeks, rock out-croppings, and prominent knolls, have been treated as assets. **(YES / NO / NA)**
- SRC8 Mature native tree groupings will be protected. **(YES / NO / NA)**
- SRC9 Improvements are sited away from creeks to enhance safety and to protect existing drainage patterns, riparian habitat, and wildlife. **(YES / NO / NA)**

4 PROTECT RIDGELINES AND HILLSIDE AREAS (RH)

- RH1 Ridgelines are protected from development. **(YES / NO / NA)**
- RH2 New development is sited in areas that are least sensitive in terms of environmental and visual resources, including areas of flat or gently sloping topography. **(YES / NO / NA)**
- RH6 The proposed hillside grading blends with the natural slopes and is contoured to achieve a natural appearance. **(YES / NO / NA)** The use of retaining walls and other man-made grading features to mitigate geologic hazards has been avoided. **(YES / NO / NA)**
- RH8 In hillside areas, solid board privacy fences have only been used when located close to the residence. **(YES / NO / NA)**
Perimeter fencing on hillsides is visually open (i.e., split rail or deer fencing) in order to minimize the visual “ribbon-like” effect of fencing on the hillsides. **(YES / NO / NA)**
- RH10 Both close-up and distant views of the natural hillside and ridgeline landscape as seen from valley areas has been preserved. **(YES / NO / NA)**

7 MINIMIZE THE IMPACTS OF DEVELOPMENTS (ID)

Is the proposed development located in areas that are least sensitive in terms of environmental and visual resources, including: a) areas of flat or gently sloping topography outside of flood plain or natural drainage areas; b) the Moraga Center and Rheem park area; c) Infill parcels in areas of existing developments? **(YES / NO / NA)**

- ID1 Are downhill or uphill portions of the project landscaped to: a) address potential soil erosion; b) complement adjacent developments and provide a pleasing view from distant horizons? **(YES / NO / NA)** Does the project use dense native landscaping blend hillside structures with the natural setting? **(YES / NO / NA)**
- ID3 Does the project provide wind barriers, shade, sound absorption, dust abatement, glare reduction, and proper drainage on site? **(YES / NO / NA)**
- ID5 Geologic hazards shall be addressed as follows:
 a. Is any construction proposed in geologic hazard areas identified as landslides, springs, or earthquake fault zones? **(YES / NO / NA)**
 b. Has the risk of off-site geologic property damage been minimized by locating the development away from areas which are vulnerable to slope failure? **(YES / NO / NA)**
 c. Has professional evaluation of the soil conditions and potential geologic hazards been completed for any residential structures in the development? **(YES / NO / NA)**
- ID9.1 Does the site design and building method minimize impervious surfaces? **(YES / NO / NA)**
Have directly connected impervious surfaces been minimized to avoid excessive concentrated stormwater runoff? **(YES / NO / NA)** Is any runoff from impervious surfaces directed to pervious areas or landscaped depressions? **(YES / NO / NA)**
- ID9.2 Impervious paving may be reduced by using various types of permeable materials for pedestrian walkways, parking facilities, and areas with light traffic.
 a. Does the project use unit pavers-on-sand such as turf block, brick, natural stone, or concrete unit pavers? **(YES / NO / NA)**
 b. Does the project use poured pervious surfaces such as pervious concrete or pervious asphalt **(YES / NO / NA)**
 c. Does the project use granular materials such as crushed shells, gravel, aggregate base, cobbles, decomposed granite or wood mulch? **(YES / NO / NA)**
- ID10.1 Is the proposed grading for the project in accordance with an approved development plan that has been found to be geologically safe and aesthetically pleasing? **(YES / NO / NA)**

- ID10.2 Is the pre-development average slope in the area to be graded less than 20%? **(YES / NO / NA)** If “YES” see Moraga Municipal Code Section 14.08.010 for grading permit procedures.
- ID10.3 Is the pre-development average slope in the area to be graded greater than or equal to 20%? **(YES / NO / NA)** If “YES” then development is prohibited in MOSO areas. Grading on slopes steeper than 20% shall be avoided in other zoning districts, but may be permitted if supported by site-specific analysis and the grading is consistent with Moraga Municipal Code Title 14. If the project requires grading on a slope of 20% or more, has soil displacement and the use of retaining walls been minimized by using contour grading techniques? **(YES / NO / NA)**
- ID10.4 Is grading proposed on a pre-development average slope of 25% or greater? **(YES / NO / NA)** If “YES” the proposed grading can only be authorized by the Town Council where it can be shown that a minimum amount of grading is proposed in accordance with General Plan Policy LU1.8 and the grading is not incompatible with all other policies of the General Plan. Are any new residential structures or homes proposed on after-graded average slopes of 25% or steeper? **(YES / NO)** If “YES”, are the new residential structures proposed on existing lots that were either legally created after March 1, 1951 or specifically approved by the Town Council after April 15, 2002? **(YES / NO)** If “NO”, the residential structures are prohibited.
- ID10.5 Are cut slopes placed behind buildings or other structures where they will be screened from view? **(YES / NO / NA)**
- ID10.6 Preserve the natural topography of the land, especially at the horizon:
 - Are the graded slopes rounded off in a manner that conforms to the natural contours of the land and to the surrounding terrain? **(YES / NO / NA)** Are there any sharp angles at the top and toe of graded slopes? **(YES / NO / NA)**
 - Are slopes contour graded to achieve a natural appearance? **(YES / NO / NA)**
 - Are the slopes blended with the contours of contiguous properties to create a smooth transition? **(YES / NO / NA)**
 - Does the proposed grading minimize scars due to cuts, fills, and drainage benches on natural slopes? **(YES / NO / NA)**

Does the proposed grading have cuts or fills that result in slopes steeper than 3:1 (horizontal to vertical)? **(YES / NO / NA)** If “YES”, and the grading of steeper slopes is unavoidable, does the grading plan include special mitigation measures for the design construction and maintenance of the slopes? **(YES / NO / NA)**
- ID11.1 Retaining walls (excluding foundation retaining walls) and other man-made grading features may only be used to mitigate geologic hazards when:
 - Are the retaining walls required to decrease the possibility of personal injury or property damage? **(YES / NO / NA)**
 - Are the retaining walls designed to blend with the natural terrain and avoid an artificial or structural appearance? **(YES / NO / NA)**
 - Are the retaining walls appropriately screened by landscaping? **(YES / NO / NA)**
 - Are the retaining walls designed to avoid creating a tunnel effect along roadways and to ensure unrestricted views for vehicular and pedestrian safety? **(YES / NO / NA)**
 - Are the retaining walls designed to ensure minimal public and/or private maintenance costs? **(YES / NO / NA)**
- ID11.2 Are there any proposed exterior retaining walls over five feet in height? **(YES / NO / NA)** If “YES”, an exception is required to this design guideline. Are there any retaining walls higher than three feet that are visible from off site? **(YES / NO / NA)** If “YES” they require an exception to this design guideline. Is the total height of a retaining wall and fencing on top of the wall higher than eight feet? **(YES / NO / NA)** If “YES”, Design Review Board approval is required. **NOTE:** a guardrail or handrail may be located on top of a retaining wall provided a solid fence does not support the guardrail or handrail.

- ID11.3 A retaining wall exceeding 3 feet requires professional engineering, a building permit, and may require a grading permit. As required by design guideline ID11.2, Design Review Board approval is required if a retaining wall exceeding 3 feet is visible from off-site. Will any proposed retaining walls for your project require professional engineering? **(YES / NO / NA)**
- ID11.4 Is the horizontal depth of the terraces between any stacked retaining walls a minimum of twice the height of the highest adjacent retaining wall? **(YES / NO / NA)** If “YES” the Design Review Board must consider an exception to this guideline.
- ID11.5 Are there any retaining walls proposed closer than three feet to a property line. **(YES / NO / NA)** If “YES” an exception is required to this guideline.
- ID12.2 Regulations set forth by the San Francisco Bay Regional Water Quality Control Board (RWQCB) shall apply to all new or redeveloped residential and commercial projects:
- Does the project create or replace more than 10,000 square feet of impervious surface? **(YES / NO)** If “YES”, then the site must comply with Provision C.3 of the Town’s Stormwater Permit.
 - Relative to the 10,000 square foot threshold, will the project include replacement of 50% or more of the existing impervious surface? **(YES / NO)** If “YES”, then 100% of the site must comply with Provision C.3 of the Town’s Stormwater Permit.
 - Relative to the 10,000 square foot threshold, will less than 50% of the existing impervious surface be replaced? **(YES / NO)** If “YES”, then Provision C.3 of the Town’s Stormwater Permit only applies to the portion of impervious surfaces that are replaced.

NOTE: Exemptions include: Single-family homes that are not part of a larger development and routine maintenance work such as replacement or resurfacing of roofs and pavements. All new projects must retain pre-project hydrology. The Provision C.3 requirements of the Town’s Stormwater Permit are separate from, and in addition to, any requirements for erosion control and pollution prevention measures during construction (see also the Moraga Municipal Code section 13.04 and Town Council Resolution 9-96).

- ID12.3 Do site constraints on your project rule out the use of landscape infiltration for treatment of stormwater runoff? **(YES / NO / NA)** If “YES”, manufactured treatment systems can be inserted into the conventional storm drain system and a detailed operation and maintenance plan shall be submitted with the design application (see www.cccleanwater.org/construction for the C.3 *Stormwater Guidebook*). Will your project employ any of the following options:
- Catch basin or inlet inserts **(YES / NO)**
 - Separators (oil-grit or oil-water) **(YES / NO)**
 - Media filters (sand, gravel, peat, compost, activated carbon, fabric, or resin) **(YES / NO)**
 - Various filtration treatment devices **(YES / NO)**
- ID12.4 Does the drainage for your project follow natural flow patterns? **(YES / NO)** Where appropriate, does the proposed drainage allow for wide area flow patterns or dispersal, rather than concentrating the flow at one point? **(YES / NO / NA)**
- ID12.5 If the project is a new development, is all stormwater treated by “Best management Practices” (BMPs) prior to discharge into the Town’s storm drain system. **(YES / NO / NA)**
- ID12.6 Does the project include a sufficient number of drains behind retaining walls and in the crawl space under the foundation? **(YES / NO / NA)** Are there sufficient drains to drain any areas that may be divided by internal grade beams under the structure? **(YES / NO / NA)** Are the drains behind retaining walls and under crawl spaces directed to landscape areas or to a manufactured treatment system prior to discharge to the storm drain system? **(YES / NO)** Is the drainage system consistent with Moraga Municipal Code section 13.04.060d. **(YES / NO)**

SUBMITTAL REQUIREMENTS FOR HILLSIDE DEVELOPMENT PERMITS

Carefully review the plan submittal requirements for the Hillside Development Permit application. Please be advised that an incomplete application will take longer and be more expensive to process.

A. Completed application form and appropriate fee

B. Site Plan / Topographic Survey (7 copies initially – after the application is determined complete, 6 additional copies will be required). Plan shall contain:

- (1) North arrow (with plan oriented so north points to top of sheet).
- (2) Scale of Drawing. Scale should be 1 inch equals 20 feet or larger for the site and not less than 1 inch equals 200 feet for a vicinity sketch or other means of adequately indicating the site location.
- (3) Dimensioned property lines shown in true location with respect to the plan's topographic information. If the site is in the MOSO zoning district, the cell boundaries must also be indicated. If the site is not in the MOSO zoning district the proposed development/disturbance area must be identified (outlined).
- (4) Existing topography and source of topographic information. (Source subject to approval by the Town Engineer.) While 2 foot contours are acceptable outside the development area, 1 foot contours are required within the area proposed for development/disturbance.
- (5) Existing hillside vegetation. (Indicate all existing vegetation on slopes 20% or greater within the development area - all trees must be identified on the site plan but photographs may be submitted for other forms of vegetation).
- (6) Location of all existing improvements on the property including drainage facilities.
- (7) Show the total existing and proposed impervious surface area on the project site, including the area of all roofs and paved surfaces. This information is required to determine compliance with the Contra Costa Clean Water Program Stormwater C.3 Guidebook and the Hydromodification Management Plan (HMP) approved by the Regional Water Quality Control Board for Contra Costa County.
 - If your impervious surface area exceeds 10,000 sq. ft., then you will be required to submit a **Storm Water Control Plan** and have a minimum area equal to 4% of the impervious surface area dedicated to infiltration. Your project engineer should show a sufficient area of the site reserved to satisfy the infiltration requirements. Refer to the "C.3 Guidebook" for full Plan and report requirements.
 - If your total impervious surface area is less than 10,000 sq. ft. but your project will increase the existing impervious surface area, then your drainage plan will need to comply with the Best Management Practices (BMPs) required under the Town's NPEDS Permit. Typically, all roof drains and surface drains for new impervious surfaces must be routed through a biofilter, sand filter, or planted vegetated swale for ten or more feet prior to entering any storm drainage pipe or tight line drainage system.
 - For preliminary drainage planning, designing landscaped areas to drain away from paved areas prevents them from contributing to area that must have treated drainage water.
- (8) Location, name and width (including offers of dedication) of adjacent streets.
- (9) Location of curb and sidewalk improvements.
- (10) Location of all easements on the property. (Please also provide a copy of the title report that identifies the easements.)
- (11) Stamp and signature of the appropriately licensed professional who prepared the plan.

C. Grading Plan to be superimposed on site plan but submitted as a separate plan (6 copies initially – after the application is determined complete, 6 additional copies will be required). Plan shall contain:

- (1) North arrow (with plan oriented so north points to top of sheet)
- (2) Scale of drawing at a scale not less than 1 inch equals 20 feet.
- (3) Dimensioned property lines shown in true location with respect to the plan's topographic information. If the site is in the MOSO zoning district, the cell boundaries must also be indicated. If the site is not in the MOSO zoning district the proposed development/disturbance area must be identified (outlined).
- (4) Existing and proposed topography and source of topographic information. (Source subject to approval by the Town Engineer.) Proposed grading lines should be shown with heavy contour lines. While 2

foot contours are acceptable outside the development area, 1 foot contours are required within the area proposed for development/disturbance. Ninety percent (90%) of the contours shall be plotted within one contour interval of the true location. Include a daylight line, showing the limits of grading work or disturbed soil. Tabulate total amounts of cut and fill (try to balance grading on site).

- (5) Existing and proposed hillside vegetation. (Indicate all existing and proposed vegetation on slopes 20% or greater within the development/disturbance area - all trees must be identified on the grading plan but photographs may be submitted for other forms of vegetation).
- (6) Location of all existing and proposed improvements on the property including drainage facilities.
- (7) Location, name and width (including offers of dedication) of adjacent streets.
- (8) Location of curb and sidewalk improvements.
- (9) Location of all easements on the property.
- (10) Location of all active or dormant landslides and other geological hazards on the property with indication of whether or not the conditions may extend onto adjacent properties.
- (11) The *limit of grading line*, which will include the entire area of the site that will be disturbed, including the following areas:
 - All cut and fill areas
 - Areas to be used for stockpiling of soil
 - Areas needed for maneuvering grading equipment
 - Estimated limit of landslide remediation work
 - Graded debris benches or catchment areas recommended in the geotechnical reports
- (12) The project engineer must calculate the existing (predeveloped) average slope of the area within the limit of grading line on the property. **NOTE:** If the average slope is over 20% but less than 25%, then the Design review Board will be authorized to approve the grading. If the average slope is 25% or more, then approval by the Planning Commission and Town Council will be required.
- (13) Stamp and signature of the appropriately licensed professional who prepared the plan.

D. Conceptual Drainage Plan to be superimposed on grading plan but submitted as a separate plan (7 copies initially – after the application is determined complete, 6 additional copies will be required):

- (1) North arrow (with plan oriented so north points to top of sheet)
- (2) Scale of drawing at a scale not less than 1 inch equals 20 feet.
- (3) Dimensioned property lines shown in true location with respect to the plan's topographic information. If the site is in the MOSO zoning district, the cell boundaries must also be indicated. If the site is not in the MOSO zoning district the proposed development/disturbance area must be identified (outlined).
- (4) Existing and proposed topography and source of topographic information. (Source subject to approval by the Town Engineer.) Proposed grading lines should be shown with heavy contour lines. While 2-foot contours are acceptable outside the development area, 1-foot contours are required within the area proposed for development/disturbance. Ninety percent (90%) of the contours shall be plotted within one contour interval of the true location. Include a daylight line, showing the limits of grading work or disturbed soil. Contour intervals shall extend a minimum of 100 feet off-site, or a sufficient distance to show on-and off-site drainage patterns as determined by the Town Engineer. Indicate all proposed drainage basins and calculations.
- (5) Existing and proposed hillside vegetation. (Indicate all existing and proposed vegetation on slopes 20% or greater within the development/disturbance area - all trees must be identified on the drainage plan but photographs may be submitted for other forms of vegetation).
- (6) Location of all existing and proposed improvements on the property including drainage facilities. Plans shall indicate horizontal and vertical location (plan and profile views) of all existing and proposed drainage facilities. Included details of inlets, ditches, swales, specifications and plans must be accompanied by a report which provides hydraulic/hydrology calculations that demonstrate the proposed system has adequate capacity for a minimum ten (10) year event and that the discharge does not exceed predevelopment volumes or rates. Velocity of discharge must be non-erosive. Drainage plans shall be superimposed on the grading plan unless otherwise impractical.
- (7). Location, name and width (including offers of dedication) of adjacent streets.

- (8) Location of curb and sidewalk improvements.
- (9) Location of all easements on the property.
- (10) Location of all active or dormant landslides and other geological hazards on the property with indication of whether or not the conditions may extend onto adjacent properties.
- (11) Stamp and signature of the appropriately licensed professional who prepared the plan.

E. Engineering Geology and Geotechnical Engineering Reports (10 bound copies):

(1) The Engineering Geology report shall be prepared by a Registered Engineering Geologist and be based upon adequate test borings, excavations, geophysical testing, or field mapping. Recommendations included in the report and approved by the Town Engineering Geologic Consultant and the Town Engineer shall be incorporated in the grading plans and specifications. The report shall include, but not be limited to, the following information:

- (A) An adequate description of the geology of the site;
- (B) A scaled site geology map;
- (C) Conclusions and recommendations regarding the effect of geologic conditions of the site on the proposed development; and
- (D) Opinions and recommendations covering the adequacy of sites to be developed by the proposed grading.

(2) The Geotechnical (Soil) Engineering report shall be prepared by a registered Geotechnical Engineer. The report shall indicate the presence of unstable naturally occurring or man-made soil which has the potential to cause damage to structures, buildings, and other improvements. Unstable soil conditions could include but are not limited to, landslide deposits, critically expansive soils, deposits of colluvium or alluvium, liquefiable soils and undocumented fill. Recommended measures for mitigating the identified unstable soil conditions should be provided in the report.

The Town may require that the report be evaluated by the Town Geotechnical Engineering Consultant. The cost of the review shall be borne by the applicant. The focus of the review would be to advise the Town as to the adequacy of the report in addressing all relevant geotechnical issues concerning the site and the proposed development. The geotechnical report shall, at a minimum contain the following information:

- (A) Opinions and recommendations covering adequacy of sites to be developed by the proposed grading
- (B) Data regarding the nature, distribution, strength, liquefaction potential and erodibility of existing soils, and of soil to be placed on the site, if any.
- (C) Reports on the suitability of the earthen material for construction of stable embankments and excavation slopes, including those necessary for any artificial or natural drainage channels
- (D) Conclusions and recommendations for grading and construction procedures to obtain required stability
- (E) Design criteria for corrective measures when necessary.
- (F) Conclusions and design recommendations for interim soil stabilization devices and measures and for permanent soil stabilization after construction is completed; and
- (G) Any other recommendations concerning landslides, unstable soil conditions, springs and seepage conditions, erosion control planting, or drainage facilities to enable proper development of the site.
- (H) Recommendations included in the report and approved by the Town Geotechnical Consultant and Town Engineer shall be incorporated in the grading plans or specifications.

F. Any supplementary material required by the Town Engineer