



City of Grover Beach

DEPARTMENT OF PUBLIC WORKS

GRADING AND DRAINAGE PLAN CHECKLIST

The following items shall be included as part of a grading plan submittal to the City of Grover Beach for grading plan/drainage plan approval.

1. Grading plans will be required for all vacant lot construction and non-attached additions or free standing granny units. A grading plan may not be required for a remodel or attached addition to an existing residence provided that the lot is essentially flat and an underground retention system is used for on-site drainage retention (a City Topographic Map with 2-foot contours is hereby provided and is also available in digital form upon request). Existing and finish contours shall be shown on all grading plans. In the event that shallow drainage basins or other features which are difficult to depict at 1-foot contour intervals are indicated, contour intervals at 0.5 foot or 0.1-foot may be required. Topographic data including the location of existing structures shall be shown a minimum of 10 feet beyond the boundary of the lot in question. In cases where existing offsite drainage/runoff is conveyed onto and/or across the lot in question, the grading plan shall provide for its continuation.

2. Case 1: For new construction on a vacant lot or redevelopment of a lot requiring the removal of the main structure, on-site drainage retention will be required for ALL impervious surface area, both existing and new;

Case 2: For lot redevelopment that includes a new addition, remodel and/or granny-unit construction and said new addition, remodel and/or granny-unit construction represents an increase in impervious surface area of 40% or more than existing impervious surface area, on-site drainage retention will be required for ALL impervious surface area, both existing and new. For lot redevelopment that includes a new addition, remodel and/or granny-unit construction and said new addition, remodel and/or granny-unit construction represents an increase in impervious surface area of less than 40% of existing impervious surface area, the project is required to retain drainage from the increase in impervious surface area on-site.

In each of the above two cases, on-site drainage retention will be required, except tract lots that have a common drainage basin that receives all lot drainage (per City Council Resolution 06-41, approved June 05, 2006). The volume of drainage to be retained shall be calculated using the formula: area of impervious surface in square feet times 0.325 equals cubic feet of drainage volume to be retained. For multiple basin systems, it may be necessary to include a tributary area diagram for clarity.

3. For new construction on a vacant lot OR redevelopment of a lot requiring the removal of the main structure and new construction resulting in an increase to impervious surface area equal to or greater than 40% of existing impervious surface area or total impervious surface area is equal to or greater than 2,500 square feet, a Long-Term Operations and Maintenance Agreement for on-site drainage retention will be required.



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4. Maximum side slope for basin(s) and other features is 3:1.
5. In most cases, drainage runoff from new or existing impervious surfaces shall be directed to the new drainage retention facilities utilizing underground piping. Driveways and flatwork may sheet flow into adjacent surface basins. Show gutters & downspouts.
6. In the case of an attached addition to an existing structure, when the natural lot overflow is less than one foot below existing finish floor elevation and where no reasonable alternative is available which would provide for a lower overflow elevation, drainage from the new impervious surface area shall be directed into an onsite storage facility which is sized to contain the drainage volume water surface as calculated in #2 above at an elevation of at least one foot below existing finish floor elevation plus the gradient required to cause the drainage to flow to the storage facility.

In the above case where the natural lot overflow is less than one foot below the finish floor elevation of the pre-existing structure, a note shall be placed on the grading plan. The note shall state that the project engineer has explained the relative elevations including finish floor, overflow and water surface to the project owner, along with the risk (if any) of flooding associated with or because of the respective elevations.

7. Show finish elevations for all new sidewalks and driveway approaches fronting the property in question. In the case of connecting new sidewalk to existing, or new gutter to existing pavement, show the existing elevations at the conform line.
8. Grading on site shall provide for a minimum of 0.5' from finish floor to adjacent grade, a minimum of 2% for 5-feet and then a minimum of 1% flowline grade to the top of curb or overflow point.
9. In order for a permeable driveway using grasscrete, pervious pavers, or pervious concrete material to be considered, the driveway used must be shown to pass 3.2 inches of runoff per hour and the material must be founded on clean, washed gravel. Grasscrete voids must be filled with clean, washed gravel only.
10. Underground infiltration systems shall be encapsulated on all sides with an engineering filter fabric such as Mirafi 140N or approved equal.
11. A silt and debris separator, similar in character to a small septic tank of approximately 300 gallons minimum size shall be utilized ahead of the inlet to the underground infiltration field. The separator shall have two compartments with access to each compartment for cleaning.
12. The surface drainage inlet to an underground infiltration system shall be depressed below the adjacent grade in a manner so that if the system fails, a surface pool of water is formed on private property to warn the property owner that the system has failed. The elevation of the pool shall be such that overflow occurs at least one foot below finish floor.



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13. The underground infiltration system shall be outside the zone of influence from adjacent building footings as defined by a 30 degree angle between the bottom of the adjacent footing and the bottom of the adjacent infiltration field. In the event that the above separation cannot be achieved, a report from a licensed Geotechnical Engineer shall be supplied to justify the proposed locations.
14. Underground drainage detention systems shall be designed to retain the amount of drainage described in item No. 2 above. A rock fill layer (6 inches minimum around each lateral) shall be used as part of the underground retention facility utilizing a 20% volume of porosity for sizing the system. The system may be resized during construction to accommodate laboratory tested rock fill with porosity volumes exceeding 20%, after the building permit has been obtained, on-site testing of the rock has been completed by a licensed soils engineer and the City Engineer has been notified.
15. Return red marked check prints with the resubmitted plans.
16. Grading plans must be prepared by an appropriately licensed Engineer or an architect.
17. The City Engineer reserves the right to request information not shown on this checklist, if circumstances justify such a request. Any information requested shall be submitted promptly to avoid project review delays.

Items 17 through 21 may be satisfied at building permit stage:

18. Retaining walls which do not have other external loads, or slopes which are not greater than 3:1, may be constructed according to City Standard Drawings. All other walls shall be specifically designed by a licensed Engineer or architect.
19. When retaining walls are required near property line to support a new lower property elevation on the development side, a shoring installation and removal plan shall be submitted and approved prior to installation of the retaining wall. In addition, retaining walls placed near property lines where the project side elevation is to be lowered shall be accompanied by a statement from a licensed Geotechnical Engineer that the resulting excavation will not result in damage to adjoining property.
20. A new Preliminary Soils Report will be required for new construction on a vacant lot, redevelopment of a lot requiring the removal of the main structure or lot redevelopment that includes a one-story new addition, remodel and/or granny-unit construction greater than 1,000 square feet or a two-story new addition, remodel and/or granny-unit construction regardless of area.
21. Provide calculations to justify pipe sizes, slopes and inlet capacity for all downspouts and basin connections.



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22. If there is no curb and gutter installed on the property frontage, a new street design shall be prepared for curb, gutter and sidewalk. See Street Design checklist.
23. A Water Pollution Control Drawing (WPCD) will be required as part of the Water Pollution Control Plan (WPCP) for new construction on a vacant lot, redevelopment of a lot requiring the removal of the main structure or lot redevelopment that includes a new addition, remodel and/or granny-unit construction. See Water Pollution Control Plan Checklist (Standard Plan C.1). If a new street design is required, it shall be integrated into the WPCP.
24. An Erosion and Sediment Control Plan (E&SC Plan) will be required for new construction on a vacant lot, redevelopment of a lot requiring the removal of the main structure or lot redevelopment that includes a new addition, remodel and/or granny-unit construction AND lot grading cuts and/or fills are greater than 6' and/or slopes are 3:1. See Erosion and Sediment Control Plan Checklist (Standard Plan C.2).

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