ORANGE COUNTY
OC PublicWorks
Our Community. Our Commitment.

300 N. Flower Street
Santa Ana, CA

P.O. Box 4048
Santa Ana, CA 92702-4048

Telephone: (714) 245-4550

PRECISE GRADING PERMIT
PREGRADING MEETING

Date:
Inspector: Tel**:**
Supervisor**:** Tel**:**
Office Hrs, Mon-Fri**.:**
Public Works Inspector**:**

GRADING PERMIT NO**:** TRACT # LOT # ' S

JOB ADDRESS**:**

OWNER**:** PERMIT EXPIRES ON**:**

I. General Requirements:

A. An original approved set of grading plans*****, preliminary soil report, and a copy of the grading permit shall be on the job at all times; working hours are Monday thru Saturday, 7 a.m. to 8 p.m. Work other than this time requires prior authorization and may involve approval by Board of Supervisors.

***** *An approved grading plan is defined as the set of plans containing a Grading Section departmental stamp and signature.*

B. **CALLING FOR INSPECTION:**

a. Inspection requests must be made the day **PRIOR** to the requested day of inspection.
b. To request inspection, use the automated inspection line by calling **(714) 667-8899,** or by going to the County of Orange's web site at ocpublicworks.com. Requests can be made up to **11:00 PM** for the next business day's inspection. Future inspection requests can also be made.
c. Use the Inspection Item Numbers identified during the pre-grade meeting to set up the required inspections.
d. If a specific time is needed to set up the inspection, contact the inspector on the morning of the inspection during the office hours noted above. Inspections will be provided on that day if workload and logistics allow.
e. You must recall your inspection if an inspection you called for was not made.
f. If you must cancel an inspection, please do so before the inspector leaves for the field by contacting him during the above noted office hours to avoid show-up charges to the permit.

C. **State Water Resources Control Board** requirements: This project must comply with State of California water quality standards. If this project is North of El Toro Road, refer to http://www.swrcb.ca.gov/rwqcb8/ (Santa Ana Regional Water Quality Control Board); if South of El Toro Road, refer to http://www.swrcb.ca.gov/rwqcb9/ (San Diego Regional Water Quality Control Board). Study the respective laws for their applications to this site. Inspectors from both the State and the County specializing in these water quality standards will routinely visit the site to verify compliance.

D. **CHANGES TO APPROVED GRADING PLAN AND SITE CONDITIONS:**

a. Work covered by this permit must conform to the approved grading plans and soil reports. Changes found during an inspection may result in a STOP WORK NOTICE.. Clearing of brush and/or grading activities that encroach beyond the approved grading and permit limits shown on the plan is strictly prohibited.
b. **AS-BUILT PLANS ARE NOT ALLOWED**. **Talk to the grading inspector & engineer before making any changes.**
c. Revisions to the plans must be submitted, reviewed, and approved PRIOR to starting the revised work.
d. Submit 5 sets of revised plans, 2 copies of a geotechnical review of the revised plans, and the last approved set of grading plans (all as a package) to the Main Office, to the attention of your inspector noted above. Plan check review will be required of all revisions.

INSPECTION CODE NO.	**II. REQUIRED GRADING INSPECTION:**

The **circled inspection codes** noted below are required grading inspections, specific to this project. If any work requiring inspection is covered or concealed by additional work without inspection, the grading inspector may require that the covered work be exposed for inspection.

801 A. **START OF WORK:** At time of brushing, clearing, demolition, and actual grading work.

- Limits of grading must be staked;
- Adequate water, erosion control, and toilet facilities must be on site;
- Erosion control devices (i.e., sandbags, siltfences, etc.) must be onsite.
- Sanitation facilities must be in place
- Working hours are Monday-Saturday 7am to 8pm; NO work allowed on Sunday and Federal Holidays

B. **EXCAVATION AND FILL INSPECTION**

802 1. **CANYON CLEANOUT**: After all brush and unsuitable material has been removed and an acceptable base has been exposed, and prior to fill placement.

- **Required paperwork -** memo from soil engineer/geologist approving area for fill.

803 2. **FILL OR BUTTRESS KEYWAY:** After suitable natural ground or bedrock is exposed; the bench or key must be excavated to design specifications; survey stakes are required to locate the toe of slope.

- **Required Paperwork** - memo from soil engineer/geologist approving buttress key.
- **Required Paperwork** – memo from soils technician approving fill slope bench.

804 3. **OVER-EXCAVATION:** After an area has been excavated to remove unsuitable material, and prior to any fill placement; any planned structures requiring over-excavation must be staked for location..

- **Required Paperwork** - memo from soil engineer/geologist approving area for fill.

805 4. **ROUTINE CUT & FILL:** Each working day of routine cut and/or fill; field memos for cut slopes and fill placement must be made available by the geotechnical firm, along with adequate engineered staking for limits of grading. **Note**: **Importing/exporting of soil may require traffic controls, flagman, and a haul route clearance. Clearance from Traffic Operations, or a Public Property Permit may be required. All exported soil must be taken to another site having a current grading permit, or a County dump/land-fill.**

806 4. **CANYON/BUTTRESS SUBDRAIN:** After filter fabric, gravel bedding, and pipe placement, but prior to covering pipe with gravel. .

- Required Paperwork: Memo from soils technician approving specifications and placement of filter fabric, subdrain pipe, and gravel.

C. SEGMENTAL RETAINING WALLS (SWR) (i.e., Keystone, Loffel, crib, etc.):

820 **1. WALL SUBGRADE:** Prior to placing any wall material, the bench or subgrade to the area receiving the wall members must be inspected. Wall materials (concrete members, fabric, gravel, geogrid) shall be on site for inspection.

Requirements for inspection must be on job site:

- Engineered stakes must be set for wall location (s)

- Line and Grade Certification letter/memo from civil engineer*
- Memo from geotechnical engineer approving excavation **and all materials on site***

*** signatures must be wet signed by registered engineer**

821 2. **SUBDRAIN**: Prior to covering with rock and fabric.
   - **Required Paperwork** -- Memo from geotechnical engineer.

822 3. **GEOGRID**: At initial placement, and thereafter during placement.

823 4. **FILL AND WALL MEMBER PLACEMENT:** Daily inspection calls must be made during routine construction of wall once initial work above is completed memos from both design and geotechnical engineers may be required if work warrants clarification.

NOTE: Full-time inspection by the geotechnical engineer is required during placement of wall materials and fill during the above-noted stages of wall construction.. The design civil engineer must incorporate and show all geotechnical and manufacturer specifications on the plans.

D. ROUGH GRADE RELEASE INSPECTION

This inspection is required prior to any construction activities taking place but after completion of grading. After this inspection is made, the inspector may allow some aspects of the work to initiate, such as trenching for foundations and utilities. However, allowing the release for issuance of building permits will not occur until all required paperwork is submitted and approved. Granting the release for retaining wall construction or public works improvements must meet the requirements spelled out below.

This inspection may be called for as a partial release when portions of the grading work is being accomplished in stages, but must follow the requirements as noted below:

830 1. **BUILDING PADS (for release of building permits):**

Field requirements
- witness stake and blue-top for each pad elevation shown on plan;
- property corners, building corners (condos and single lot only) and top & toe of slope in accordance with inspector's requirements;
- terrace/down drains on slopes or any critical drainage structures must be completed

Required paperwork
- line & grade from civil engineer at time of field inspection *
- memo/letter from soil engineer at time of field inspection *
- statement of compliance from grading contractor at time of field inspection
- **Geotechnical report -** a formal compaction report for the completed grading work must be submitted for review and approval prior to granting formal rough grade release of pads.

* must be wet signed by registered engineer or geologist.

832 **2. RETAINING WALL EXCAVATION (for release to building inspector):** The building inspector will not inspect and approve the steel in the foundation excavation until the grading inspector signs off the excavation for the wall on the approved plans. *For steel reinforcement inspections, refer to the RW permit inspection card for information*.

Field requirements

- off-set stakes set by surveyor locating face of wall or foundation;
- the backcut for the wall and the foundation excavation must be made

Required field paperwork

- civil engineer's certification for footing excavation location*
- memo/letter from soil engineer *

*must be wet signed by registered engineer and/or geologist, as applicable; memo from soil engineer must list referenced reports, and state if recommendations remain unchanged.

831 **3. STREET IMPROVEMENTS/UTILITY PLACEMENT (for release to public works inspector):**

Field requirements

- off-set staking by surveyor locating road template, contact the inspector just prior to staking for these requirements.

Required field paperwork

- line & grade from civil engineer *
- memo/letter from soil engineer *

*must be wet signed by registered engineer and/or geologist.

833 ***5.* FOUNDATION/CAISSON EXCAVATION INSPECTION:** If conditions warrant, excavation work may be needed to extend foundations of planned structures into specific geologic strata, as required in the geotechnical reports. <u>This is not an inspection of any structural steel.</u> *An inspection under the RS or RW permit must be made, and inspection by the building inspector is required for all structural steel.*

At the time of this inspection, the excavations must be made and survey control stakes must be provided along with the following required paperwork.

Required field paperwork

- memo from the soil engineer/geologist*
- line & grade from the civil engineer may be required for location of excavations*

*must be wet signed by registered engineer/geologist, as applicable. Geotechnical memo must state if foundation recommendations are unchanged from previously recommended and the referenced reports must be listed on memo.

840 **E. CONCRETE V-DITCH - TERRACE DRAINS, DOWN DRAINS, BROW DITCHES, AND RIBBON GUTTERS.**

1. **Forms**: Reinforcement & thickness control-wires must be in place at the time of inspection;
   Required Paperwork
   - memo from soil engineer approving area to receive concrete and if type 5 concrete is needed;
   - line & grade certification letter or memo from design engineer*

   * must be wet signed by engineer

2. **Concrete or Gunite Placement:** Minimum 2500 P.S.I. required; load tickets from delivery truck must be available; soil subgrade must be moistened prior to concrete placement and reinforcement steel must be centered within concrete during placement of concrete.

841 **F. PCC SLAB SUBGRADE** (i.e., for driveways used as drainage devices & parking lots)

1. **Forms**: Required reinforcement and forms be in place at the time of inspection
   Required Paperwork
   - memo from soil engineer approving area to receive concrete and if type 5 concrete is needed
   - **line & grade** memo from design engineer or survey party chief

2. **Concrete Placement:** Minimum 2500 P.S.I. required; load tickets from delivery truck must be available; soil subgrade must be moistened prior to concrete placement and reinforcement steel must be centered within concrete during placement of concrete.

842 **G. CURB & GUTTER**

1. **Forms**: Required reinforcement (if any) must be in place with form-work in place. Off-set staking must be set by the surveyor for location of curb face.
   Required Paperwork
   - memo from soil engineer approving area to receive concrete
   - line & grade letter or memo from design engineer or survey party chief

2. Concrete placement

H. STORM / AREA DRAIN AND INLET / JUNCTION STRUCTURES

Only the drainage devices shown approved grading plans, **not those shown on street or tract improvement plans approved with the public works department.**

843 1. **<u>RCP delivery</u>**; provide certificate of "D" load from manufacture.

844 2. **<u>Pipe Placement</u> -** prior to covering with backfill, pipe must be staked by engineer for location. All pipe bells shall be glued and face upstream.
   Required Paperwork - line & grade from the design engineer and a soils memo from a soils engineer.

845 3. **Pipe Collar/Anchor Forms** – prior to concrete, with required reinforcement in place.

846 4. **Inlet/Junction Structure Forms** - with required reinforcement in place.
Required Paperwork - line & grade from design engineer.

847 5. **Outlet Structure/Rip Rap** - prior to placing concrete or gunite, with the required reinforcement in place.

PAVING INSPECTION: PREPAVING MEETING REQUIRED (for all commercial sites, and for driveways or asphalt placement exceeding 3000 square feet)

A prepaving meeting shall be held prior to the establishment of subgrade. The project coordinator must contact the inspector at least (4) working days in advance and must also contact the following principals to be represented at the meeting: paving contractor, civil engineer, owner, and soil engineer. The required inspections for paving shall be discussed at that meeting.

J. SEDIMENT/EROSION CONTROL and STATE WATER QUALITY REQUIREMENTS:
Prevention measures to keep pollutants out of the storm drains and streambeds is a requirement 365 days a year, and is enforceable at any time. However, the official wet season is Oct. 1 thru April 30. During this time, all projects must have erosion control devices in place and functional. All sediment and construction contaminants must be contained within limits of permit so as to prevent deposition into downstream properties, including public streets, storm drains, creekbeds, and the ocean. The construction site will be subject to regular inspection for sediment control measure placement throughout the year. In addition, these requirements are enforceable throughout the entire year, including the dry season, especially if rain is imminent or practices on the project are cause for damage to water quality. The design and placement of control measures that mitigate water quality (called BMP's or Best Management Practices) must be designed by the project civil engineer. Erosion control plans, Storm Water Pollution Prevention Plans (SWPPP) and a suitable National Pollutant Discharge Elimination System (NPDES) must be current with the grading operation, available on site at all times, and be updated on a regular basis. If, in the opinion of the grading inspector, a lack of preparedness on the site is present for a possible rain event, or if housekeeping practices on the site impact requirements set forth within the SWPPP or NPDES, a stop work order my be given on construction activities until readiness is met. Further involvement by the County's authorized Water Quality Ordinance Inspector, or even the State of California Regional Water Quality Control Board inspector could result in severe fines for issues violating the Clean Water Act.

K. DUST CONTROL: Dust is considered a pollutant if excessive. All dust must be controlled during grading or heavy wind conditions. Failure to do so could result in all work being stopped or involvement by the AQMD (Air Quality Management District) who could impose fines.

Required inspections for typical erosion control

849 1. **PRE-BUILD/SANDBAG PLACEMENT**: Prior to starting erosion control work shown on erosion control plans, contact grading inspector to review erosion control program being planned and the required sand bag placement.

2. **DESILTING BASIN INSTALLATION**:
850 a. **Basin risers and outlet pipes** - prior to backfilling.
Required Paperwork
- line & grade from design engineer

851 **b.** **<u>Anti-seep collar forms</u>** – prior to concrete placement; all required reinforcement must be in place.

852 **c.** **<u>Spillways</u>** - prior to gunite; required reinforcement and guide wires must be in place.
Required Paperwork

- line & grade from design engineer
- memo from soil engineer for 90% RC for subgrade and the desilt basin embankment fill placement.

854 **3.** **<u>COMPLETION OF EROSION CONTROL</u>**:

When erosion control work is complete and readiness for the threat of rain is intact
Required Paperwork

- line & grade from the design engineer may be required.

870 **L. FINAL GRADING INSPECTION** (to obtain Certificate of Occupancy) **AND GRADING BOND RELEASE**:

Field requirements - When all work shown on approved grading plan is complete, including drainage device installation, swales, driveways, monumentation, and slope planting is established. In no case will a final be considered if safety is an issue.

***Final requirements*:**

1. **Final line and grade from** civil engineer/architect

2 **Final geotechnical report from** soil engineer; this report must include all work after the rough grade compaction report. Final reports must include interior & exterior utility trench backfill, retaining wall backfill, subgrade/base/asphalt testing and inspection, a slope stability statement, and any other geotechnical condition that may have arisen. Report must be reviewed and approved before any final can be given.

3. **Final revised plan from civil engineer/architect** - if site deviates from last approved grading plan (REVISED PLAN MAY NEED PLAN CHECK REVIEW AND COULD DELAY OCCUPANCY)

4. **Slope Planting and Irrigation -** slopes must be fully established with plant material and irrigated in accordance with the grading code. A certification from the landscape architect may be required.

5. **Fire Marshal Clearance (if required**) - contact Fire Marshal to meet any fuel modification requirements and have them notify the grading inspector when clearance is met.

6. **Public Works Clearance** – occupancy requests, or release of bonding for the grading permit is subject to clearance by the Public Works Inspector. Contact your PW Inspector ahead of time when such requests or releases are needed.

7. **Tract/site "Conditions of Approval"** - grading issues relating to those planning conditions set forth in the initial stages of the project must be met; review any planning documents to insure they are met.

871 **L. FINAL MONUMENTATION INSPECTION:**

Lot and Tract corner monuments required of the recorded tract map must be inspected as a condition of finalling this permit, releasing the grading bond, and releasing all monumentation bonds. Prior to calling for this inspection, the monuments that designated on the tract map as "to be set" must be located and flagged for inspection. A copy of the recorded tract map and a letter from the engineer, certifying the setting of the monuments, is required at time of inspection.

Note: A grading permit and grading bond will not be released until all outstanding issues on the grading permit are complete including monumentation. It is responsibility of the permittee to maintain an active permit until this requirement is met. Permits that lapse and expire may have to be processed into new grading permits by the permittee.

M. OTHER CONCERNS / NOTES

FINAL NOTICE TO OWNER, CONSULTANTS, AND CONTRACTORS (PLEASE READ)

The undersigned understands that the inspections and requirements set forth in this handout are considered part of the permit and specifications for the project. Any work item completed without inspection, and any changes made to the plans, soil reports, specifications, and field conditions without securing written approval and inspection from the Grading Section is subject to removal and/or correction. Any "as built" conditions presented to the inspector are NOT ALLOWED, and if presented to the inspector are subject to removal. The County of Orange does not subscribe to a policy of inspecting and approving work "after the fact."

Owner _____

By _____

Address _____

Telephone _____

Civil Engr./Arch. _____

By _____

Address _____

Telephone _____

Soil Engineer _____

By _____

Address _____

Telephone _____

Geologist _____

By _____

Address _____

Telephone _____

Grading Contractor _____

By _____

Address _____

Telephone _____

Coordinator/Superintendent _____

By _____

Address _____

Telephone _____

Others _____

By _____

Address _____

Telephone _____

Others _____

By _____

Address _____

Telephone _____