

**CITY OF SOLANA BEACH
ENGINEERING CONSTRUCTION STANDARDS**

GRADING PLAN SUBMITTALS

Prior to acceptance of any submittal by the Engineering Department, all of the following requirements must be met:

1. Engineering plan check fee must be paid (valuation based on Engineer's estimate; minimum fee \$1,020; \$0 to \$20,000 - 5%; \$20,001 to \$80,000 - 4.5%; \$80,001 to \$400,000 - 4%; over \$400,000 - 3%).
2. First submittal shall include 3 copies of the grading plans, 2 copies of drainage study and cost estimate, and one copy of soils report. Subsequent submittals as requested.
3. Submit one copy of all reference materials needed to aid in the plan check process, such as a title report, approved tentative map, site development plan, conditional use permit, coastal permit, Council resolution, improvement plans, record data and cross sections.
4. Submit all previous plan checks.
5. All final reports shall:
 - a. Be prepared on 8-1/2" x 11" paper.
 - b. Be prepared in a neat and logical fashion. Methods, formulas used and results shall be clearly shown.
 - c. Be signed and stamped by the Engineer of Work.
6. The design of all storm water drainage facilities shall be in accordance with the latest standards of the San Diego County Hydrology Manual.
7. Storm Water Checklist or Management Plan, depending if project is minor, standard or priority. See Engineering Department webpage under forms.
8. A separate letter of transmittal for each project indicating all is being submitted.
9. Final grading plans submitted for approval shall be printed on mylar and shall not have self-adhesive attachments.
10. An engineer's estimate based on the latest City of San Diego Development Review Department's Unit Price List, plus a 10% contingency. The cost of grading (embankment, excavation, export and/or import) shall be adjusted as follows: 100% for first \$5,000, 50% for next \$45,000, and 25% for cost over \$50,000. The cost of retaining walls shall be adjusted as follows: 100% for first \$5,000, 50% for next \$5,000, and 25% for cost over \$10,000

NOTE: If the Engineering Department finds that some items are missing when the plans are being reviewed, the submittal will be returned with a note indicating what is needed to complete the submittal.

GRADING NOTES AND CERTIFICATES
(To be shown on grading plans)

An AutoCAD file with sheet layout and notes is available upon request.

GENERAL NOTES

1. Approval of this grading plan does not constitute approval of vertical or horizontal alignment of any private road shown herein for public road purposes.
2. Final approval of these grading plans is subject to final approval of the associated improvement plans where applicable. Final curb grade elevations may require changes in these plans.
3. Import materials shall be legally obtained.
4. A construction, excavation or encroachment permit from the City Engineer will be required for any work in the public right-of-way.
5. All slopes over three feet in height shall be landscaped and irrigated.
6. The contract shall verify the existence and location of all utilities before commencing work. Notice of proposed work shall be given to the following agencies:

UNDERGROUND SERVICE ALERT

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7. The soils report titled _____, prepared by _____, and dated _____, shall be considered as part of this grading plan. All grading shall be done in accordance with the recommendations and specifications contained in said report.
8. Approval of these plans by the City Engineer does not authorize any work or grading to be performed until the property owner's permission has been obtained and a valid grading permit has been issued.
9. The City Engineer's approval of these plans does not constitute the building official's approval of any foundation for structures to be placed on the area covered by these plans. No waiver of the grading ordinance requirements concerning minimum cover over expansive soils is made or implied.

10. All operations conducted on the premises, including the warming up, repair, arrival, departure or running of trucks, earthmoving equipment, construction equipment and any other associated grading equipment shall be limited to the period between 7:00 a.m. and 6:00 p.m. each day, Monday through Friday and no earthmoving or grading operations shall be conducted on the premises on Saturdays, Sundays or holidays without the written permission of the City Engineer.
11. All major slopes shall be rounded into existing terrain to produce a contoured transition from cut or fill faces to natural ground and abutting cut or fill surfaces.
12. Notwithstanding the minimum standards set forth in the Excavation and Grading Code, and notwithstanding the approval of these grading plans, the permittee is responsible for the prevention of damage to the adjacent property. No person shall excavate on land so close to the property line as to endanger any adjoining public street, sidewalk, alley, function of any sewage disposal system, or any other public or private property without supporting and protecting such property from settling, cracking, erosion, silting scour or other damage which might result from the grading described on this plan. The City will hold the permittee responsible for correction on non-dedicated improvements, which damage adjacent property.
13. Slope ratios: CUT 2:1 FILL 2:1
Cut:_____CY. Fill:_____CY. Import/(Export):_____CY.
Note: A separate permit must exist for either import or export areas.
14. Special Conditions: If any archeological resources are discovered on the site of this grading during grading operations, such operations will cease immediately and the permittee will notify the City Engineer of the discovery. Grading operations will not commence until the permittee has received written authority from the City Engineer to do so.
15. All grading shown on this plan shall be completed as a singular unit with no provision for partial releases. Should it be anticipated that a portion of this project is completed separately, a separate plan and permit application shall be submitted for approval.
16. The contractor shall notify the City of Solana Beach at (858) 720-2470, 24 hours before grading operations begin.
17. Finished grading and planting shall be accomplished on all slopes prior to October 1, or immediately upon completion of any slopes graded between October 1 and April 1. Prior to any planting, all landscaping shall be approved by the Planning Department at the development review stage, or by separate landscaping plan.
18. All off-site haul routes shall be submitted by the contractor to the City Engineer for approval 72 hours prior to beginning work.

19. Upon final completion of the work under the grading permit, but prior to final grading approval and/or final release of security, an as-graded certificate shall be provided stating: "The grading under Permit No. SBGR-_____ has been performed in substantial conformance with the approved grading plan or as shown on the attached as-graded plan." This statement shall be followed by the date and signature of the Civil Engineer who certifies such grading operation.
20. The contractor shall design, construct and maintain all safety devices including shoring, and shall be solely responsible for conforming to all local, state and federal safety and health standards, laws and regulations.

EROSION CONTROL NOTES

1. Storm Water and Non-Storm Water Discharge Control. Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities.
2. Erosion and Sediment Control. Erosion prevention shall be emphasized as the most important measure for keeping sediment on site during excavation and grading activities. Sediment controls shall be used as a supplement to erosion prevention for keeping sediment on site.
3. Erosion control on slopes shall be mitigated by installing landscaping as per approved landscape plans as required by the Development Review conditions, or by temporary erosion control conforming to the following:

Non-Irrigated Hydroseed Mix with a bonded fiber matrix applied at 4,000 lb/acre

<u>Lbs./Acre</u>	<u>% Purity/Acre</u>	<u>Seed Species</u>
20	70% Plus	Atriplex Glauca
50		Plantage Insularis
8		Encelis Farinosa
6	Scarified	Lotus Scoparius
7	50% Plus	Exchscholzia California
Total 91 Lbs.		

4. The tops of all slopes shall be diked or trenched to prevent water flowing over crests of slopes.
5. Catch basins, desilting basins and storm drain systems shall be installed to the satisfaction of the City Engineer.
6. Sand bags check dams shall be placed in unpaved areas with gradients in excess of 2% in other graded or excavated areas as required by the office of the City Engineer and at or near every point where concentrated flow leaves the development.
7. Sand bags shall be placed on the upstream side of all drainage inlets to minimize silt buildup in the inlets and pipes.

8. The contractor shall repair any eroded slopes as directed by the office of the City Engineer.
9. The contractor shall sweep roadways and entrances to and from the site on a regular basis to keep them free of soil accumulation and at all other times directed by the City Engineer.
10. The contractor shall water site on a continuous basis to minimize air borne dust created from grading and hauling operations or excessive wind conditions, and at all times directed by the City Engineer.
11. In the event silt does enter the existing public storm drain system, removal of the silt from the system will be at the developer's expense.

OWNER'S/DEVELOPER'S CERTIFICATE

I, _____ as Owner/Developer of the property described herein acknowledge these plans have been prepared at my direction with my full consent. I fully understand and accept the terms and conditions contained herein and as attached by reference on this grading plan.

It is agreed that field conditions may require changes to these plans.

It is further agreed that the Owner/Developer shall have a registered civil engineer make such changes, alternations or additions to these plans which the City Engineer determines are necessary and desirable for the proper completion of the Improvements.

I further agree to commence work on any improvements shown on these plans within existing City right-of-way within 60 days after issuance of the construction permit and to pursue such work actively on every normal working day until completed, irrespective and independent of any other work associated with this project or under my control.

Signed _____

Date _____

ENGINEER OF WORK'S CERTIFICATE

I, _____ hereby declare that I am the Engineer of Work for this project, that I have exercised responsible charge over the design of the project as defined in Section 6703 of the Business and Professions Code, and the design is consistent with current standards and City of Solana Beach Resolution No. _____.

I understand that the check of project drawings and specifications by the City of Solana Beach and Santa Fe Irrigation District is confined to a review only and does not relieve me of responsibilities for project design.

Signed _____

Date _____

R.C.E. No. _____ Exp. _____

Firm _____

Address _____

Telephone: _____

ENGINEER OF WORK'S AS-BUILT CERTIFICATE

I, _____ Hereby declare that the preparation of these As-built drawings and that the information shown is based on actual site investigations and surveys of the improvements between the dates of _____ and _____. To the best of my knowledge and experience the information shown on these plans provide an accurate and correct representation of the As-built conditions.

Signed _____ Date _____

R.C.E. No. _____ Exp. _____

SOIL ENGINEER'S CERTIFICATE

I, _____ a registered Civil Engineer of the State of California, principally doing business in the filed of applied soil mechanics, hereby certify that a sampling and study of the soil and conditions prevalent within the site was made by me or under my direction between the dates _____ and _____. I have reviewed the project design and grading shown herein is consistent with the recommendations contained in the approved soils and geotechnical reports for the project. One complete copy of the final soils report compiled from this study, with my recommendations, has been submitted to the office of the City Engineer.

Signed _____ Date _____

R.C.E. No. _____ Exp. _____

Firm _____

Address _____

Telephone: _____

SOILS ENGINEER'S AS-BUILT CERTIFICATE

To the best of my knowledge and experience the grading conforms with the recommendations contained in the soils report and plans with the exception that any changes or deviations from the plans due to unforeseen field conditions have been identified in the final soils report for the project. One complete copy of the final soils report compiled from this study, with my recommendations, has been submitted to the office of the City Engineer.

Signed _____ Date _____

R.C.E./P.L.S. No. _____ Exp. _____

FLOOD STATEMENT

I, _____, a registered Civil Engineer/Surveyor, hereby certify that the pad structures shown on this as-built grading plan have been verified by me and that said elevations are at or above the base flood elevation shown on the Flood Insurance Rate Map of the County of San Diego.

Signed _____ Date _____

R.C.E./P.L.S. No. _____ Exp. _____

TRANSFER OF RESPONSIBILITY:

If responsible professionals (civil engineer, soil engineer, engineering geologist, the testing agency, the contractor or other professional) of record are changed during the course of the work, the work shall be stopped until:

1. The owner submits a letter of notification verifying the change of the responsible professional; and
2. The new responsible professional submits in writing that he/she has reviewed all prior reports and/or plans (specified by date and title) and work performed by the prior responsible professional and that he/she concurs with the findings, conclusions, and recommendations, and is satisfied with the work performed. The new professional must state that he/she assumes all responsibility within his purview as of the specified date. All exceptions must be justified to the satisfaction of the City Engineer.

Where clearly indicated that the firm, not an individual professional, is the contracting party, the designated professional may be reassigned and another professional of comparable accreditation within the firm may assume responsibility.

- The new responsible professional processing a revision to the approved plans shall include bubbling out the revision and signing the plans at the required locations. The "Declaration of (Professional Title) of Work" on the plans shall also be included and signed in the event of a change of professional.

AS-BUILT:

When the work shown on the plans is completed, the Engineer of Work shall be required to "As-Built" the plans. Initially, a print of original plans shall be red-lined plans showing all "As-built" information including but not limited to approved construction changes, location of water and sewer services, gas and electric facilities, and final pavement sections. When the "As-built" prints are conceptually approved, the original plans will be checked out to the Engineer of Work to make those changes onto the original plan. The Engineer of Work shall turn in those original plans, with all of the original "wet" signatures, back to the City. The securities for the work will not be released until the City accepts the "As-built" plans.

PRE-CONSTRUCTION GRADING GUIDELINES
(Chapter 15.40Excavation and Grading Code)

1	Permittee's Representative or Superintendent	Shall be on site full time. One to one contact shall be established between the permittee's representative and the inspector
2.	Emergency Telephone Numbers	Shall be provided to make emergency, after hour requests. Answering machine or service is <u>NOT ACCEPTABLE</u>
3.	Hours of Operation (15.40.090.H)	7:00 a.m. to sunset M-F; including equipment warm-up. Saturday is allowed if work requires no inspection. No Sundays or legal holidays of the City.
4.	Time Limits (15.40.090.C)	The permittee shall fully perform and complete all of the work required to be done pursuant to the grading permit within the time specified therein or, if no time specified, within 180 days after the date of issuance of the permit.
5.	Notice to Inspectors (15.40.210.B)	At least one working day in advance. Phone and/or leave message on voicemail.
6.	Field Changes (15.40.090.E)	Any modifications of or changes in the approved grading plans must be approved by the City Engineer in writing before any modified grading is done. The inspector can <u>not</u> approve any changes.
7.	Inspection and Supervision (15.40.200)	All grading in excess of 5,000 cubic yards of material shall be designated "controlled grading". Grading other than controlled

		grading shall be designated "regular grading".
8.	Regular Grading (15.40.200.B)	Upon notification from the Permittee, the inspector shall inspect the stages required by this code and shall either approve the portion then completed, or shall notify the permittee wherein it fails to comply with the requirements of this code. Investigations and reports by an approved soil testing agency and/or geologist may be required at the direction of the City Engineer at any stage of the grading.
9.	Controlled Grading (15.40.200.C)	It shall be the responsibility of the grading engineer to observe the grading operations and to coordinate site inspection and testing to assure compliance of the work with the approved grading plans, the recommendations of the soils engineer geologist and the requirements of this code. He shall submit periodic progress reports as required by the City Engineer. The City Engineer may require sufficient inspections by the geologist to assure that all geological conditions have been adequately considered and recommended corrective measures incorporated in the work.
10.	Inspections by the Soil Engineer (15.40.130.G)	Shall provide sufficient inspection during fill placement and compaction operations to determine that such work is being performed in accordance with the conditions of plan approval and requirements of this code. The soil engineer shall provide continuous inspection for fills exceeding 30 feet.
11.	Compaction (15.40.130.A)	All fills shall be compacted throughout their full extent to a minimum of 90 percent of the maximum dry density. (The density within a roadway shall be 95 percent, within the top three feet of the subgrade.)
12.	Testing (15.40.130.G)	Test to determine density of the compacted fill soils shall be made on the basis of not less one test for each two-foot vertical lift of fill, but not less one test for each 1,000 cubic yards of material placed. In addition, density tests at a point approximately one foot below the fill slope surface shall be made on the basis of not less than one test for each 10 foot vertical of slope height. (To verify the accuracy of the testing method a sand cone test shall be performed at least every 250

		cubic yards of fill, and every 100 linear feet of trench backfill.)
13.	Clearing and Grubbing (15.40.50.A)	Shall not be undertaken until all discretionary approvals for the land development project have been issued and a grading permit for the project has been obtained.
14.	Dust Control (15.40.090.I)	All grading operations, including bluffs, shall be conducted in such a manner as to confine dust generated for the operation to the site of the grading. Special conditions may be imposed in the field if necessary.
15.	Storm Drainage Precautions (15.40.170)	No grading permit shall be issued for work to be commenced between November 11 of any year and April 11 of the following year, unless the plans for such work include details of protective measures necessary to protect adjoining public and private property from damage.
16.	Temporary Erosion Control (15.40.210.E)	The permittee shall put into effect and maintain all precautionary measures necessary to protect adjacent watercourses and public or private property from damage.
17.	Import & Export (15.40.090.G)	Where an excess of 5,000 cubic yards of earth per site project is moved on public roadways from or to the site of an earth grading operation this code shall apply.
18.	Haul Routes (10.48.010)	Haul Permit required from City Engineer. Provide map of hauling, begin/end dates, and maximum number of trucks to be used.
19.	Traffic Control Plan (11.20.300)	Encroachment Permit required from City Engineer prior to implementing any traffic control on a public street.
20.	Depositing materials upon public or private property (15.40.240)	Not allowed. In the event it is not so removed within 36 hours, the City Engineer shall cause such removal and the cost of such removal shall be paid to the City. No grading over the premises of another without the express consent so affected or upon over any public property. Such consent shall be in writing and in a form acceptable to the City Engineer.
21.	Protection of Adjacent Property (15.40.210.D)	Permittee is responsible for the prevention of damage.
22.	Planting of Slopes (15.40.160)	All cut slopes more than five feet in height and fill slopes more than three feet in height shall be planted and irrigated. Slopes shall be planted as soon as practical after rough grading.

23.	Construction Water	Construction meter shall be obtained from Santa Fe Irrigation District (858) 756-2424
24.	Underground Construction	Interim compaction report shall be approved prior to beginning.
25.	Pavement Structural Section	Recommendations shall be submitted to City Engineer for approval prior to placement of base material.
26.	As-Built Requirements	All items shown on the approved plans must be completed and "As-Built" plans approved prior to requesting security release.
27.	Release of grading security	Upon satisfactory completion of the work and compliance of all the terms and conditions of the grading permit, the City Engineer may release the grading security.
28.	Requirements prior to the release of Building Permits (15.40.200.E)	(A) Final compaction report by the Soil Engineer; (B) Pad Certification by Civil Engineer; (C) Construction phasing plan by developer; (D) Storm Drainage system installed; (E) Fire Protection and access in and approved.