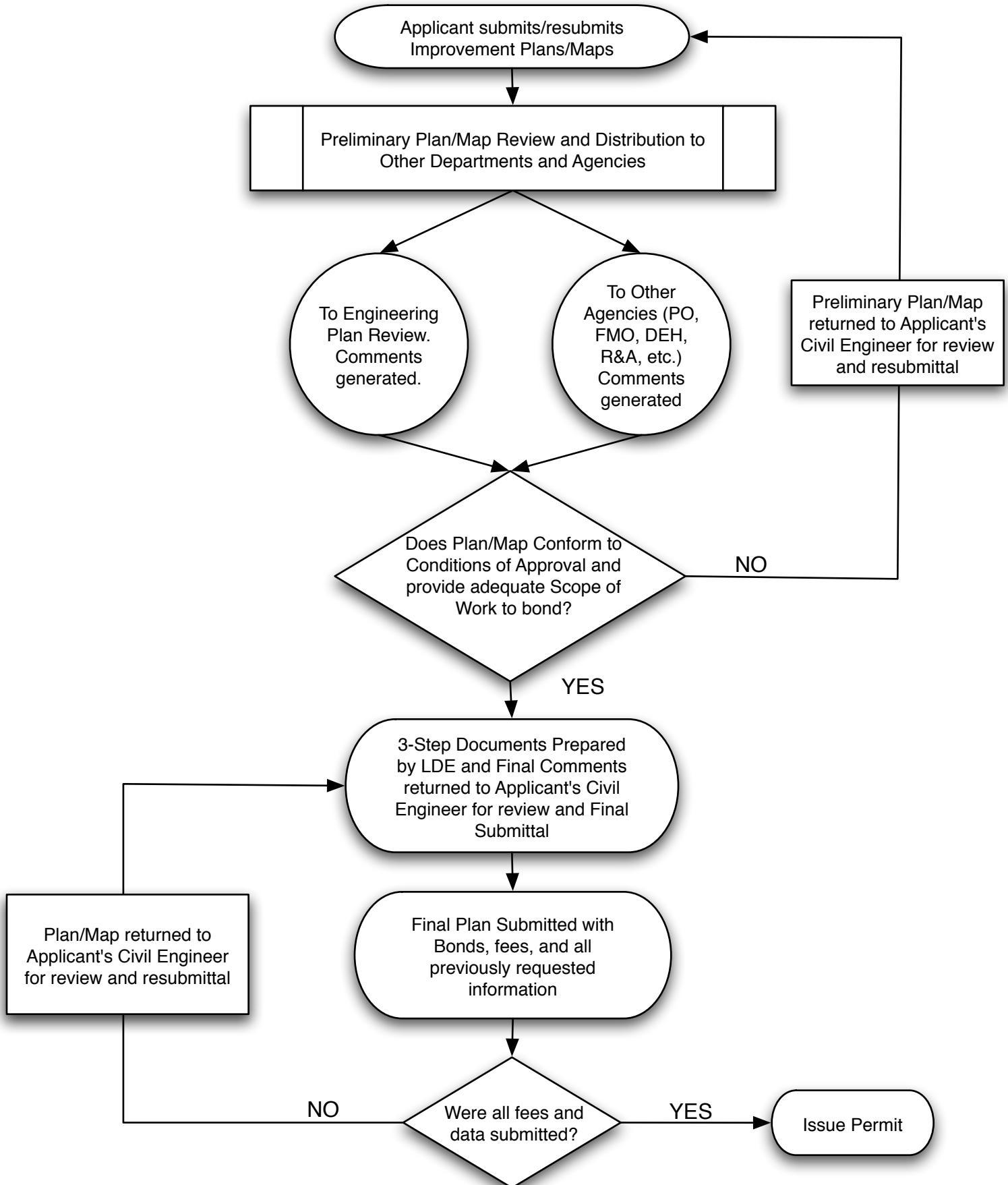


LAND DEVELOPMENT ENGINEERING - PLAN REVIEW PROCESS



POLICIES AND STANDARDS PERTAINING TO IMPROVEMENT PLANS, GRADING PLANS AND CONSTRUCTION

Background and Purposes

Long-standing County policy and regulations require improvement plans and/or grading plans for all land development and grading projects except minor work, such as a driveway approach within the road right of way where a published standard detail is sufficient for construction without engineering design. The primary County purposes of engineered plans are to:

- Coordinate the planning and implementation requirements of many different agencies that may be involved in any given project.
- Assess the proposed development and implement the minimum design and environmental standards of all affected agencies.
- Control the on-site and off-site improvement work for conformance with the concepts approved for the development by the County.
- Protect the public interest by providing a basis for inspection and a bond to help ensure that the work will be completed in accordance with approved design and time limits.

The policies and standards for preparation and approval of plans and other construction-related matters are described below.

Improvement Plans – General Policies

- Plans must be prepared by registered civil engineers, retained by the applicants, and based on adopted minimum standards of the affected agencies. The standards and format for the plans are described below under the heading, “Plan Content, Format and Standards.”
- The plans must properly reflect the conditions of approval for the particular project issued by the County. Imaginative and creative design which is equal to or better than the adopted minimum standards is encouraged.
- The County Surveyor is responsible for the coordination of the review of the plans by various agencies, the final approval of the plans and the enforcement of land development and grading agreements. A checklist is furnished to engineers that is intended to cover all of the standard items on a typical set of plans. This checklist must be filled out and turned in with the initial checkprints.
- Plans must be based on sufficient field data and reflect true field conditions. Plan and profile sheets drawn at appropriate scale are required for roads, driveways and pipelines. Standard notes and certificates also are required as described below:

- Plans must conform to the adopted minimum standards of the various agencies (Transportation Agency, Santa Clara valley Water District, sanitation districts and the County Surveyor). Any proposed deviations from these standards must be handled by direct communication between the private engineer and the agency involved.
- It is standard practice for most agencies to require that alternatives to adopted standards be presented by the engineer on an equal or better basis with appropriate written justification, as well as documentation, when needed, such as laboratory tests of soils, geologic reports, etc. In all situations involving a lesser design than the adopted County standard, the matter may be referred to the Board of Supervisors. Such deviations (as well as those of other affected regulatory agencies) should be made known by the engineer during the tentative map stage for resolution of issues at that time.
- All types of public improvements and on-site development work, should be included in one set of plans to better coordinate the construction, bonding, final plan approval and inspection requirements. This may include such items as sanitary sewers, water systems and improvements to flood control facilities.
- Earthwork must conform to the standards of the grading ordinance or any higher standards adopted by the affected public agencies.

Final Approval

- Improvement plans are submitted to the County Surveyor through the Central Permit Office for review and approval. Information on the number of copies and the process is available from the Central Permit Office. Copies are referred to all affected agencies by the County Surveyor for review in accordance with the three-step process and checklist described in this section. To avoid a myriad of problems involved in redistribution when the original plans are deficient, a pre-screening of the plans is made immediately after they are received. The engineer is notified promptly if there are significant deficiencies to be corrected before distribution and checking of the plans.
- At the time check prints are submitted for County review, they must be accompanied by the engineer's cost estimate. A detailed estimate by bid items with current unit prices is required, including such items as equipment move-on, clearing and grubbing, Unit prices should properly reflect the location of the work and site conditions.
- All conditions of approval applicable at the time of final plan approval must be completed before they are signed by the County Surveyor. The original plans are returned to the private engineer after reproducible copies have been made for County records. Only copies signed by the County Surveyor should be used for soliciting bids for the construction work.

- To eliminate duplication and reduce processing time, conditional clearance forms are used for reports from affected departments and agencies to the County Surveyor regarding the acceptability of the plans. The method is effective only if private engineers conscientiously comply with the standards of the agency and the project conditions of approval. If there are significant problems, this should be resolved with the affected agency (s) prior to submitall or the plans for a plan check.
- The County Surveyor utilizes a three-step method for the final approval of improvement plans and grading plans which is instituted at the end of the plan check. The method, processing checklist and responsibilities of the various parties are described in an attachment to this section of the manual. The purpose of the three-step method is to reduce time and costs to both the applicant and the County.
- Copies of signed plans and permit must be retained on the job site at all times and the work performed in accordance with these plans. Any significant field changes must be shown on the plans and approved by the County before construction.
- After completion of the construction work, as-built plans are prepared by the County or any private engineer who is authorized by the County Surveyor to perform the inspection work. These plans are retained by the County as a public record.

Agreements

At the time of signing the plans, the developer and the County Surveyor, or his authorized representative, both sign an agreement (except the County Surveyor does not sign the agreement for major subdivisions) which specifies the time period and other requirements for satisfactory completion of the work. If the development is a major subdivision, the agreement, bond, tract map and pertinent papers are sent to the Board of Supervisors for signing and final approval. It normally requires a minimum of three weeks for the preparation and agendizing of this report. It is the policy of the County Surveyor not to sign the plans for a major subdivision until the Board of Supervisors approves the final map and agreement. The principal provisions of the typical agreement are:

- All work is to be completed in accordance with approved plans prior to occupancy of any new buildings or building additions, but not later than one year.
- The County Surveyor may, upon written request and submission of satisfactory evidence that the specified time limits are not appropriate or practical, give written authorization of an extension of time and modify the requirements for occupancy.
- The work includes (whether stated on the plans or not) the setting of construction stakes, monument boxes and survey monuments.

- The work may be completed by the County if the developer fails to perform. (NOTE: It is County policy to first sue the developer, if necessary, for specific performance.)
- The developer guarantees all work for a period of one year (except single sites and grading) from the date of completion and construction acceptance by County.
- In the event the work is not to be maintained by a public agency, the developer agrees to notify any purchaser regarding the property owner's responsibility for continued maintenance of the improvements in a manner consistent with the purposes of the County approval.
- The developer agrees to indemnify and hold the County harmless from any liabilities, claims, damages or suits for reason of death or injury arising out of the work performed, except for liabilities or claims arising out of the sole negligence of the County.
- The developer must maintain public liability and property damage insurance in the minimum amounts of \$300,000 for bodily injury, \$50,000 for property damage, single occurrence, and an aggregate limit of \$200,000. Evidence of such insurance may be required at any time.
- Upon annexation into any city, the developer agrees to fulfill all the terms of this agreement upon demand by such city as though he had contracted with such city originally. Any annexing city has the rights of a third-party beneficiary.
- Special provision pertaining to bonds and insurance as described below.

Bonds

- Performance bonds in the full amount of the estimated cost of the work are required for all projects except as noted below for certain discretionary types of grading and single building site development. Since bonds are for the purpose of assuring completion of the work in the event of failure of the developer to perform, they must include ancillary items such as equipment move-on.
- Bond amounts are determined by the County Surveyor using the private engineer's itemized cost estimate as a guide. One year inflation and ten percent contingency factors are added to the cost estimate. The County may use unit costs higher than the private engineer's on the basis that the County may have to get the work done under less favorable circumstances.
- Bonds must include the cost of any structural items shown on the plans that require a building permit, such as tanks and retaining walls. The bonds also must include all items of work that are required by other affected agencies to comply with conditions of approval or the agency's standards, such as drainage outfall improvements in the Water District's channels. County bonds are not required for items of work that are installed or guaranteed to the County by public utilities and special districts, electric distribution lines and sanitary sewers. The agencies responsible for those improvements require either a bond or full payment by developer prior to issuance of a clearance letter to the County Surveyor.

- The permittee has a choice of bond types that includes cash, certificates of deposit, letters of credit and surety company bonds. The latter generally are not viable for small projects. The County furnishes standard forms which must be used in all cases.
- If a labor and materialmen's bond is required and the developer chooses to post cash, or a form of cash such as certificate of deposit, the performance bond and the labor and materialmen's bond amount may be combined for a single bond 110%. The additional ten percent is for the purpose of securing the payment of County legal costs in enforcing the agreement, if necessary.
- Less than 100% bonds are allowed for projects where all or a portion of the work is discretionary on the part of the permittee. Discretionary work may include such things as the development of existing single building sites or the grading for tennis courts, playgrounds, etc. The bond amount is computed by the County based upon 100% of the estimated cost of any required items of work, plus the cost of potential remedial grading or restoration work (as determined by the County) that may be needed in the event of abandonment of a partially completed project.
- Third-party bonds (persons other than the developer, such as contractors or buyers) are not enforceable under the agreement with the developer and cannot be accepted.
- Performance bonds can be released by the County Surveyor in increments of 25 percent as the work progresses. The final 25 percent increment cannot be released until final completion and acceptance of the work. If a form of cash is posted and the project requires a labor and materialmen's bond, the maximum incremental release is 50 percent because the remaining 50 percent is the minimum labor and materialmen's bond required by State law.
- Labor and materialmen's bonds must be retained for a period of six months (State law) after completion of the work and claims, if any, have been settled.
- The agreement for single building sites provides that in the event the improvement costs are less than \$5,000, the County Surveyor may waive the bond requirements. In no case will occupancy approval of any new buildings or additions to existing buildings be granted prior to completion of all required work unless and until a bond in the full amount of the estimated remaining costs has been posted.
- The developer must request release of the bond upon completion of the work. The County Inspector initiates the administrative procedures for bond release upon request and final approval. It normally takes about ten days for the return of bonds. Bonds cannot be released until those portions of the work to be done under a building permit, such as tanks and retaining walls, or the work required by outside agencies which was included in the bond furnished to the County has been fully completed and approved.

- In the event a maintenance period is required for plantings and erosion control facilities, a separate maintenance bond must be posted, or the original bond retained for the prescribed period of time. The bond amount must be sufficient to cover both the potential remedial work and the normal maintenance express.

Bond Pre-emption Policy (Report approved by Board of Supervisors, 6/2/80)

- State and County regulations do not preclude a developer from constructing subdivision improvements (except grading) before the recording of the map and posting of bonds. He does run the risk, however, of not receiving final County approval—even with County inspection during construction. To help avoid some of the potential problems, a report was sent to the Board of Supervisors on June 2, 1980 (and approved) recommending certain policy guidelines to be followed in situations where developers request County approval to commence construction prior to the signing of the subdivision map or the posting of a full performance bond. The approved guidelines are:
 - (1) If the project is a major subdivision, the developer should make his request directly to the Board of Supervisors. If the project is a minor land division, the request is to be handled by the County Surveyor without a report to the Board. (See note below.)
 - (2) If the request is approved, the plans must be fully completed and signed by the County Surveyor. Concurrently, a modified land development agreement approved by the County Counsel covering the work and ancillary items is to be signed by the developer and the County Surveyor.
 - (3) All subdivision conditions of approval must be met prior to approval of the plans, except ones that are obviously inappropriate at that time. The requirements to be met in these cases typically would include (but not be limited to) payment of fees, posting of appropriate bond (not less than ten percent of the estimated cost of the advance work), signing an agreement and clearance letters from all affected County departments and outside agencies.
 - (4) If it is proposed to include in the advance work the improvement of an existing County road, the bond shall include the full cost of such work. Any exceptions to this requirement are to be approved by the Transportation Agency or the Board of Supervisors.
 - (5) Written acknowledgment by the developer that any advance construction work will not be a consideration with respect to future proceedings or final approval of the subdivision map.

NOTE: At the time of this report, County Counsel recommended that the conditions of approval for future subdivisions include basic requirements to be met prior to County approval of any construction work to be done in advance of final approval of the subdivision map. In the absence of such conditions being included when the Board of Supervisors approves the tentative map of a minor subdivision, the request for advance construction will be referred to the Board of Supervisors.

Permits

- Permits for the work are issued immediately after the plans and agreement are signed. The permits specify the responsibilities of the permittee for the conduct of the work, the time period (or restricted times, if any) and other significant matters not covered in the plan specifications or the agreement.
- Permits are not transferable and permittee's responsibility for completion of the work cannot be assigned to third parties (lot buyers, etc.).
- Building permits are required for structures, such as retaining walls and bridges, when they are located outside the right of way of a County maintained road, or road to be County maintained immediately after construction.
- The permit must be retained at the work site whenever work is in progress. In the event the work is not being performed in accordance with the permit (or plans), the permit may be suspended or revoked by the County Surveyor or his authorized representative.
- When the time limits may expire, without the work being completed, the permittee must request an extension of time. Time limit expirations in no way lessen the permittee's obligations to complete the required work. The County Surveyor may specify new requirements to be met when issuing an extension of time. In the event the permittee fails to complete the work in a satisfactory manner after due notice, (or time extension), the matter is reported to the Board of Supervisors for legal action.

Inspection

- All construction work must be inspected by the County. Private engineers may do the inspection for the County when authorized in writing by the County Surveyor. A standard three-part form (permittee/private engineer/County Surveyor) is used for this purpose.
- When private inspection is authorized by the County Surveyor, the applicant must obtain and pay for the services of a licensed private engineer or engineering firm (satisfactory to the County Surveyor) other than the one who prepared the plans.
- A notice of 48 hours to the inspector is required prior to commencement of work.

- Any significant changes in the work during construction must be shown as modifications on the original plans and reviewed and approved by the County prior to construction. If the inspector finds the work is not being done in accordance with the approved plans or the permit, he may order the work to be discontinued.
- Laboratory tests of certain materials may be required. Compaction tests of fills must be done in the manner and number described in the ordinance, or in the plans and specifications. Soils and/or geologic investigations and reports also may be required while the work is in progress or prior to acceptance. As-built plans are prepared for public record upon completion of the project.
- A field walk-through of the project is held with the inspectors, the developer and/or contractor, and a representative of any affected agencies near the end of the work schedule. Upon satisfactory completion of the work, and request from the developer, the County inspector initiates the final acceptance and bond release. Any unpaid County charges for laboratory tests, etc., must be paid prior to final acceptance and release of the bond.
- In the event an approved soils or geologic report (or correspondence) recommends that the engineer or geologist who prepared the report (or other qualified person) check the excavation or other work at some point during or after construction or that certain measures be taken contingent upon site conditions revealed after the start of work, the developer/permittee must carry out these recommendations and furnish written evidence of such from the engineer or geologist prior to final acceptance of the work and release of the bond.
- When the plans include a private water system, or separate fire protection facilities, they must be tested and approved in accordance with the methods and standards of the affected agencies—generally Environmental Health Services and Fire Protection districts.

Plan Check and Inspection Fees

- Plan check and inspection fees are set by Board resolution. The plan check portion (non-refundable) must be paid at the time prints are submitted for plan check. The amount of the fee is initially determined and paid on the basis of the private engineer's estimated cost of the work shown on the plans. After the plan check is completed, the final plan check fee amount and the inspection fee are computed by the County based on the method described above for determining the amount of the bond. Any unpaid balance for the plan check as well as the inspection fee must be paid prior to approval of the plans. If the initial plan check fee happens to be too much, the balance is applied to the inspection fee --or refunded.

- If a private engineer is authorized to inspect the work, only the plan check fee is paid to the County. It is the developer's/permittee's responsibility to make all necessary financial arrangements with the private engineer that he retains to do the work and to pay the costs of tests and reports. (NOTE: County inspection fees include routine tests of material and compaction of fills. Any special tests and investigations, or retesting necessitated by failure of the original tests to comply with requirements, are paid by the developer/permittee.)
- In situations where the plans show improvements that require a building permit (retaining walls, tanks, etc.), the amount of the Building Inspector's fee is deducted from the improvement plan and inspection fees.

Plan Content, Format and Standards

For clarity, storage and reproduction purposes, the County has adopted the following policies regarding the content, materials and format for improvement plans and grading plans:

- Use of high quality materials in sheets size 24" X 36" capable of producing good quality prints from standard ammonia process print machines.
- Drafting work suitable for microfilming. Light pencil lines and small lettering will not provide readable microfilm prints and cannot be accepted.
- A minimum of two sheets with consecutive numbers. The second and succeeding sheets should include plans and profile sheets as needed and the detailed design information. The first sheet (cover sheet) should contain the basic project identification, plan approval notes and general construction information described below. Use of a standard format is encouraged but not required, except for specific items as noted.

A. Cover Sheet

- A title block in the lower right-hand corner naming the project, the firm that prepared the plans, revision dates, County file number and the sheet number written (1 of 2 or 1 of 4, etc.).
- Standard notes on the left side of the sheet.
- Appropriate margin lines with adequate binding space on left side.
- Location/vicinity map and legend.
- Typical road cross sections.
- A sketch plan at appropriate scale indicating the extent and correlation of major elements of the work and their relationship to property lines, existing or proposed structures, etc.
- Notes and statements worded as follows:

(a) ENGINEER'S STATEMENT

I hereby state that these plans are in compliance with adopted County standards, the approved tentative map (or plan) and conditions of approval pertaining thereto dated _____, File (s) No. _____

Date _____ Signature _____ R.C.E. No. _____

COUNTY SURVEYOR'S NOTE

Issuance of a permit authorizing construction does not release the developer, permittee or engineer from responsibility for the correction of errors or omissions contained in the plans. If, during the course of construction, the public interest requires a modification of (or a departure from) the specifications or the plans, the County shall have the authority to require the suspension of work and the necessary modification or departure and to specify the manner in which the same is to be made.

Date _____ County Surveyor

(b) AS-BUILT PLANS STATEMENT

This is a true copy of the As-Built Plans. There (_____ were) (_____ were not) minor field changes—marked with the symbol (). There (_____ were) (_____ were not) plan revisions indicating significant changes reviewed by the County Surveyor and marked with the symbol ,

Date _____ Signature _____

NOTE: Mylar cover sheets pre-drafted by the County Surveyor's Office are available from commercial outlets (San Jose Blue Print Service and Supply company, and Valley Reproduction Services). These sheets save considerable drafting time. Their use is encouraged, but not required if the engineer's plans show all of the same notes and information.

NOTE: The above statement regarding as-built plans is to be signed by the county inspector or the private engineer authorized by the County Surveyor to perform the inspection work. A reproducible copy of the as-built plans must be furnished to the County Surveyor after construction.

(c) CONSTRUCTION/ENCROACHMENT/GRADE PERMIT

Permit (s) No (s) _____

File (s) No (s) _____

Issued by _____ Date _____

B. 2nd and Succeeding Sheets –

- Plan and profile sheet (s) showing the road centerline, curb lines, ditch lines, etc., and any underground pipes, wires, manholes, etc.
- Details as needed for construction and design evaluation.
- Cross sections of roads and channels sufficient for the computation of earthwork volumes with reasonable accuracy and for determining the suitability of the design with respect to property lines, structures and other improvements. Ground profile lines must extend an adequate distance beyond cut-and-fill lines to indicate the correlation with existing terrain features or constraints, such as property lines.
- Cross sections of all significant graded areas showing maximum cuts and fills and the silhouettes of major structures, such as tanks. (NOTE: the primary need for this information is for environmental assessment.)