# City of Moreno Valley
# Plan Check Manual

(Revised 10/31/2007)


## Public Works
## Land Development Division

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## PURPOSE STATEMENT

The primary purpose of this booklet and the plan review checklists are to provide an outline of the requirements for submissions and to accomplish uniform, comprehensive plan reviews. Consistent use of the information herein provided and the check lists, should help reduce a prolong Plan Check cycle for reviews and comments on submittals. These check lists are intended to be a supplement to published design criteria and the most current edition of the City of Moreno Valley Standard Plans that is available from the Public Works Department, Land Development Division. The design professional is required to obtain the City Standards prior to commencing any engineering design that will be submitted for review and approval by the City. The design professional shall contact Public Works, Land Development Division, for prior approval concerning any deviation from design standards or for any interpretations of design criteria. **This document will be revised and updated from time to time and we suggest that prior to starting a new project, the engineer of record check the cover sheet date to ensure that the most current version is being used.**

This document, when used in conjunction with a current fee schedule (available on the City's website at www.moreno-valley.ca.us), may be used to estimate the cost of processing a project through the Land Development Division. It will also serve as a guide to the developer and the engineer regarding the various requirements of the plan check process. It will also be of assistance in the preparation of a schedule.

## PROJECT PRE-SUBMITTAL GENERAL INFORMATION

## RESEARCH

Prior to a project being submitted for tentative approval or planning review, the developer, project engineer or some other representative of the developer, may need reference material regarding adjacent properties or improvements in order to determine if their proposed project is viable or to develop construction cost information. Research of available maps, street improvements plans, street ties, etcetera, may be obtained from Public Works, Land Development Division by submitting written request (form available on City's website or Land Development counter in City Hall) tabulating the information requested. The materials will be researched and if found to be on file, copies will be made available for a fee, or if requested, a copy of the original may be made after being retrieved from storage, by an authorized bonded blue print company engaged by the requesting party. For research charge, all City Staff time including reproduction costs must be paid/deposited by the requestor prior to the reproduction.

## FEES

The Community Development Planning Division collects fees during the Tentative Map approval process, including the services provided by Land Development Division during that process. Even though Land Development participates in the conditioning of projects and provides service early in the development process, generally the first fees collected by Land Development Division are due when the initial final map and/or improvement plans are submitted for plan check. Fees for special studies, i.e. traffic and drainage, required as part of the plan check review process are paid upon submission.

## PROJECT SUBMITTAL

## PROCESSING PLANS THROUGH LAND DEVELOPMENT

The map and all improvement plans and drainage soil studies, including traffic signal(s) and striping plans, are to be submitted for plan check at the same time. As a package submission, the engineer submits a plan check deposit of $800 per lot or an amount based upon an engineer's cost estimate for all improvements. A Land Development Division unit cost schedule spreadsheet may be obtained from the City web site for improvement plans. The fees are based upon the improvements' cost estimate and earthwork quantities. See the current fee schedule for deposit amounts. Plans will not be accepted separately without prior approval.

The initial plan check fee for commercial and industrial is based upon a percentage of the cost estimate. The plan check deposit amount will be determined from the current adopted City Fee Schedule. The target turn-around time for plan check for an average project is 21 working days. This may be validated with the Engineering staff at the time of submission. Prior to the approval and signature of plans, any remaining plan check fees are collected. The developer may request accelerated plan check service if resources are available to Land Development Division at an additional (25%) cost. Note: Expedited plan checks by Land Development Division do not include other City departments' expedited review.

Fees for processing Lot Line Adjustments, Vacations, or other documents, must be paid at the time of submission. Turn around time for plan check for these documents is also approximately 21 working days.

The Agreement for Public Improvements and the surety documents are prepared toward the end of the plan check process. Completion of these documents must be signed by the applicant/owner of legal record and submitted to the Land Development Division prior to signature of the final map. All Final Maps and associated documents must be processed through City Council, which authorizes the City Engineer and the City Clerk to sign maps. The cost of preparing and processing the Agreement for Public Improvements and the surety documents is a separate processing fee.

Improvement agreements and bonds must be approved and accepted by City Council. Any target date a developer has for final map recordation must consider agenda deadlines. This matter should be discussed with the Associate Engineer and the Management Analyst who prepares the Agreement for Public Improvements, the accompanying surety documents, and schedules the matter for City Council. A complete submittal of all signed mylar and (acetate) maps and/or plans, executed agreements and surety is required approximately **six weeks** prior to the Council agenda date for which approval is sought.

Any outstanding fees shall be collected by the Land Development Division prior to signature of the map, grading plans and/or improvement plans including the following fees:

Improvement Inspection Fee*
Monument Inspection Fee
Community Service District Landscape Inspection Fee
Advance Energy Fee (AEF)
Transportation Uniform Mitigation Fee* (TUMF)
Area Drainage Plan Fee** (ADP)
Development Impact* (DIF)

*These fees may be deferred to issuance of building permits or grading permit.

The Area Drainage Plan Fee is due at final map approval or issuance of grading permit, whichever comes first, or as noted in the Conditions of Approval. The Transportation Uniform Mitigation Fee is due prior to issuance of the first building permit. Improvement Inspection Fees are due prior to issuance of grading permit or construction permit. The written request to the City Engineer for deferral of said fees must be submitted during the plan check process. Deferral letters are considered to be part of the plan check process and are included in the plan check fees.

** The City does not collect the ADP fee, but the developer must provide proof of payment or letter of waiver from Riverside County Flood Control

## PLAN PREPARATION AND REVIEW PHASE

The City of Moreno Valley Standard Plans are available for purchase at the Public Works, Land Development counter or downloadable on-line. Other standards that apply to construction of public right-of-way improvements in Moreno Valley are the latest versions of the Riverside County Flood Control Specifications and Standards, Specifications for Public Works Construction (green book), CalTrans Highway Design Manual, CalTrans Standard Specifications, CalTrans Standard Plans, ADA Standards for Accessible Design, California Building Code, and MUTCD Standard Plans.

Land Development has recorded final maps, records of survey and public right-of-way improvement plans on digital file. A list of names, addresses and telephone numbers for this area's public utility providers is also available. Requests for research materials, you may need for your plan preparation, may be handled at the counter if they can be accomplished in approximately fifteen minutes or less. Request of this nature are provided at no research fee, however there is a copying fee (current fee per City Fee Schedule available on-line). A more

extensive request for research must be made in writing and payment must be made in advance for the estimated time. The time for completion of requests of this nature depend on existing work load and amount of plans requested. You will be informed of the expected date your materials will be available.

First submittal requirements are itemized in the "First Submission Package Requirements Checklist". The first submittal form includes the requirement for payment of fees. The goal for Land Development is to have a project ready for recordation and permits after three reviews of the final map, and improvement plan. Failure to respond to plan review comments may result in the necessity for additional plan reviews and for additional fees beyond the third plan check. An additional fee applies for plan checks beyond the initial three reviews.

## AGREEMENT AND BOND PHASE

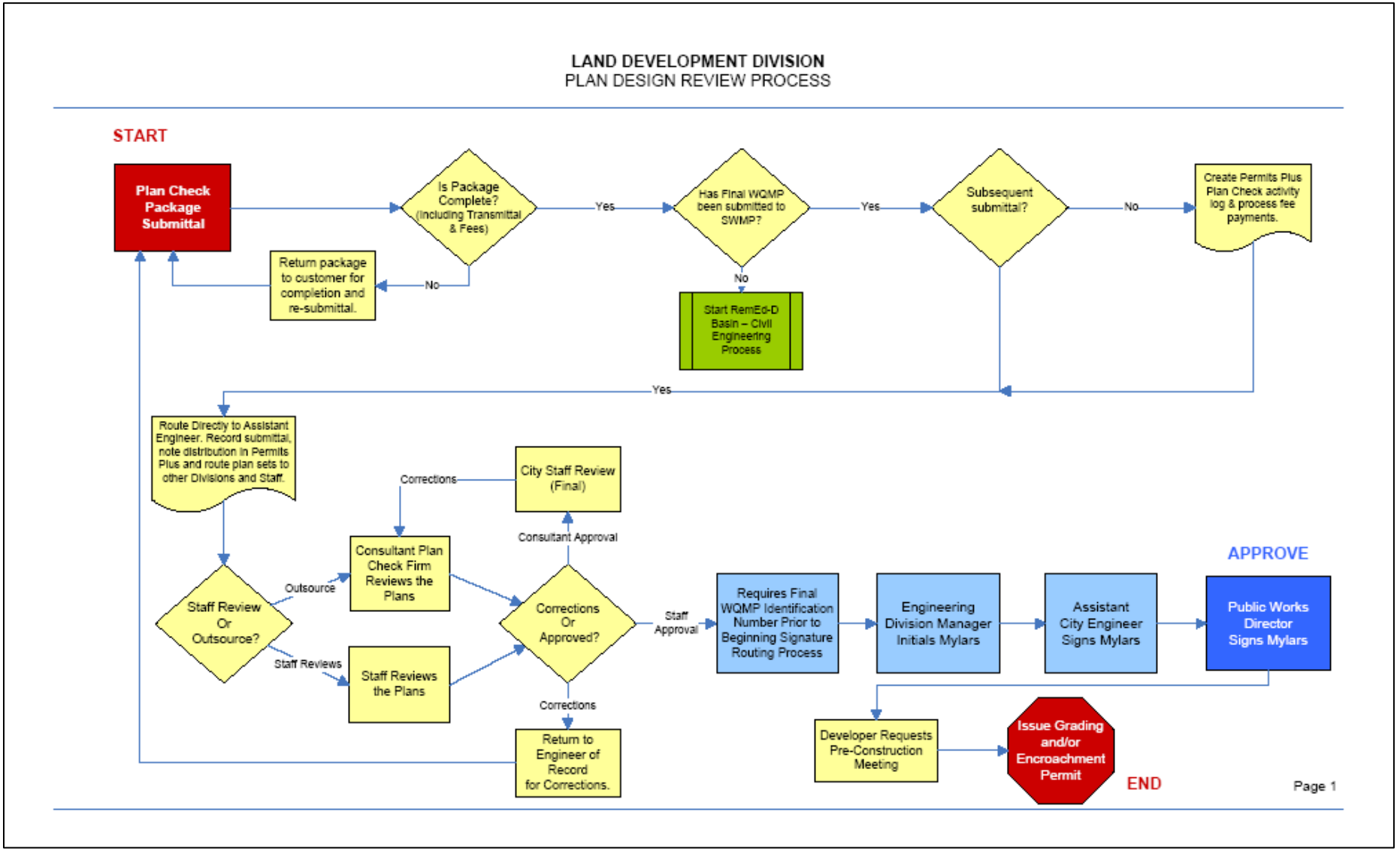
After the second plan review, if the plans appear to be in order for one final plan review, final quantities will be verified by the Engineering Staff. The estimate of cost will be forwarded to the Land Development division's Management Analyst for preparation of the Agreement for Public Improvements, the Faithful Performance Bond and Labor and Materials Bond. When those completed documents are returned, they will be reviewed to determine that they meet the City's requirements. If all documents are in order, they, and the final map (if applicable), will be scheduled for the next available City Council agenda.

If the plans are not expected to be in final form at the third check, the procedure described above will be delayed until such time as that condition is achieved.

## CONSTRUCTION PHASE

The first permit issued by Land Development is a mass or rough grading permit. The grading permit fee, grading security deposit, and erosion control fees are collected prior to issuance of the permit. Any previously deferred fees are due prior to applicable permit issuance. The pre-construction meeting with the Land Development Division Construction Inspector is scheduled at this time and a minimum of five working days prior to construction. Pre-construction meeting may not be scheduled until the City Engineer signs the applicable grading plan and the appropriate grading permit is ready to be issued (the grading permit can not be issued until after the pre-grading meeting has been completed). **The pre-construction meeting must be requested at least five working days prior to the requested meeting date.** The meeting will be held at City Hall to assure that all present discuss the issues with the appropriate person. A meeting in the field may follow the office meeting, if deemed necessary by the City Inspector.

# PLAN REVIEW FLOWCHART



# OUTLINE

The following outline is provided to assist the developer or his/her representative to create a realistic schedule.

## PLANNING PHASE

A. Proposed Project-Pre-Application Phase
   1. Meeting or counter meeting regarding proposal and possible requirements
   2. City Standards
   3. Plan and plan review requirements
   4. Research request

   (Approximate 2 weeks for written response to applicant)

B. Pre-project Review Staff Committee (Pre-PRSC)
   1. Tentative map application, with reference/supporting documentation (includes a Drainage Report)
   2. Discussion of project and preliminary conditions approval

   Representatives from the following departments /divisions:
   Planning, Building, Land Development, NPDES, Enterprise Services, Transportation, Police, Fire, Parks and Recreation

   (Approximate 2 Weeks for written response to applicant)

   Engineering preliminary comments will be submitted to the Planning Division

C. Project Review Staff Committee (PSRC)

   1. Project submittal process where Divisions comment, leading to the final conditions of approval.

      (Approximate 2 weeks for written response to applicant)

      a. Final Conditions of approval are drafted

         **PRSC and Pre-PRSC meetings will continue to be scheduled until ALL identified requirements of the PRSC staff have been satisfactorily addressed.**

      b. Final conditions of approval completed. Project scheduled for Planning Commission Meeting**.**
         **(Minimum** of six weeks after final PRSC meeting
         Engineers comments will be submitted to the planning Division)

D. Planning Commission

1. Tentative map approval, if applicable
2. Project approval
3. Preliminary soils report, preliminary drainage report and traffic report approved

This is the end of the Planning Phase, a period estimated to be 6-9 months.

## DEVELOPMENT PROJECTS- DESIGN PHASE

**A.** Design Standards:

1. City of Moreno Valley Standard Plans
2. Eastern Municipal Water District - (Sewer and water design standards)
3. Riverside County Flood Control and Water Conservation District - (Storm drain design standards)
4. California Department of Transportation Standards, Highway Design Manual and Traffic Manual with MUTCD supplement

B Map if applicable, and plans submitted to Land Development for review.

1. Map and improvement plans submitted for review, payment of fees due. (See "First Submittal Requirements Checklist" located in this manual)
   a. Average of three plan reviews at 21 working days each are provided for the initial plan review deposit. *Additional fee required for each plan review over three.*
2. Agreement for Public Improvements - Cost estimate supplied by engineer of record (per City format available on-line)
   a. Documents (bonds and agreement packet) prepared by the City based on the cost estimate and forwarded to developer usually after the second plan review.
   b. Completed agreement and bonds to City for review and approval. These documents must be submitted and approved **prior** to final map approval and/or improvement plan approval and signature by the City.
3. Improvement plan approval(s)
4. *Applicant is required* to have map Final Map Clearance roster signed by various Divisions noting map is ready of City Council.
5. Schedule agreement and bond documents for City Council with agenda for final map approval, if applicable, and to authorize signature and recordation of the Agreement for Public Improvements, and to accept the security for said improvements, including monumentation that have been completed and submitted by the developer.

(Scheduling for City Council requires approximately six weeks lead time. This should be taken into consideration when planning for the start of construction. It is the developer's responsibility to inquire about or be aware of the meeting schedule.)

C. City Council: Final approval of map, acceptance of Agreement for Public Improvements and bond documents (**Reminder:** Approximately six weeks lead time required for scheduling these items for City Council.)

1. City Engineer authorized to sign map, if applicable
2. Recordation of map, if applicable
3. Recordation of Agreement(s) and bond documents

## DEVELPOMENT PROJECTS-CONSTRUCTION PHASE

A. Permits: Grading Permits (on-site construction permits)

1. All outstanding applicable fees to be paid.
2. Grading Permit Application submitted along with the required number of copies of signed grading plan by the City Engineer
3. Grading Permit Application reviewed by Permit Technician for appropriate agreement, bond, license and insurance requirements, City Business License
4. Pre-grade Meeting
   a. Meeting to be held in City Hall a minimum of 5 days prior to Construction – further meeting in field if required
   b. Attendees: Developer or authorized representative, Project Manager, Design Engineer, Soils Engineer, Construction Superintendent, Utility Companies representatives, City Project Engineer and Construction Inspector, Surveyor, and Architect
5. Permit Issuance

B. Permits: Public Right-of –Way Encroachment Permits

1. All applicable fees are paid.
2. Public Right-of-Way Permit Application submitted along with required number of copies of approved improvement plans.
3. Public Right-of-Way Permit Application review by Permit Technician for appropriate agreement, bond, license and insurance requirements, City business license.
4. Pre-construction Meeting
   a. Meeting to be held in City Hall a minimum of 5 days prior to Construction – further meeting in field if required
   b. Attendees: Developer or authorized representative, Project Manager, Design Engineer, Soils Engineer, Construction Superintendent, Utility Companies representatives, City Project Engineer, Construction Inspector and representatives of any other City, County or State division or department affected or involved in the project.
5. Permit Issuance (contact the PW/LDD Counter Technician for additional information concerning Permit application and fees)

**Note:** City must be notified in writing of any changes or additions of job superintendents, developer representatives, contractors, insurance, etcetera and permits must be kept current. A request for extension of a permit must be made in writing, along with the permit renewal fee, prior to the expiration date of the permit.. Re-issuance after a permit expires results in an issuance fee. Non-compliance will result in construction delays and City fines.

C. Inspection Procedures

While some inspections are optional, certain inspections are required. Forty-eight hour notification must be provided to the Construction Inspector secretary for all inspections including special request. When work requiring inspection is cancelled, notification should also be provided in order to accommodate the Inspector's schedule. Failure to meet reasonable standards regarding required inspections may result in work not being accepted or additional inspection fees when the inspector's presence has been requested and work is not ready.

It is the developer's responsibility to keep the City informed regarding day and night or emergency telephone numbers for project related business.

1. Rough grading certification, Engineering fill certification, Final Soil Report and compliance of applicable Conditions of Approval are required prior to Building Permit issue able release by Land Development Division.
2. Precise grading certification and compliance with Conditions of Approval are required prior to occupancy release by Land Development Division.

D. Completion of Public Right-of-Way Improvements for 90% Bond Reduction
   1. Request for inspection of completion and acceptance of public right-of-way improvements.
   2. A final corrective punch list will be issue
   3. Re-inspection called for by developer once the corrective punch list items have been fixed or repaired to City approved standards
   4. Acceptance by Land Development for reduction process.

E. Acceptance of Public Right-of-Way Improvements: See City of Moreno Valley POLICY 2007-09: Security Reduction, Exoneration and Foreclosure.

# DEFINTIONS

**General Plan:** The General Plan of the City of Moreno Valley provides goals, objectives and policies for long term, orderly development

**Specific Plan:** A detailed plan which reviews economic, environmental and design impacts of development within a specific area and sets forth goals, objectives, policies and regulations for the development of a specific area.

**Notice of Official Filing:** Written notice issued by the Planning Department indicating that a project has received environmental clearance and is not considered as "Official" filed, providing that all submittal requirements have been met.

**Project Review Staff Committee (PRSC):** A group comprised of various City Departments and Divisions, County Agencies, and other autonomous agencies that review projects for consistency with adopted codes and standards, and make recommendations to the Planning Commission.

**Planning Commission:** In accordance with the Subdivision Map Act, the City's Planning Commission is designated as the advisory agency with respect to subdivisions and has final approval authority for tentative maps.

**Tentative Map:** A map made for the purpose of showing the design and improvements of a proposed land division and the existing conditions in and around it and need not be based upon an accurate or detailed final survey of the property.

**Final Map:** For all subdivisions creating five or more parcels, five or more condominiums, a community apartments project containing five or more parcels, or for the conversion of a dwelling unit to a stock cooperative containing five or more dwelling units.

**Parcel Map:** For all subdivisions creating four or less parcels, four or less condominiums, a community apartments project containing four or less parcels, , or for the conversion of a dwelling unit to a stock cooperative containing four or less dwelling units. Exception for Commercial/Industrial per Map Act.

**Subdivisions:** The division, by any sub divider, of any units of improved or unimproved land, or any portion thereof shown on the latest equalized county assessment roll as a unit or as contiguous units, for the purpose of sale, lease or financing, whether immediate or future, except for leases of agricultural land for agricultural purposes. Property shall be considered contiguous even if it is crossed and separated by roads, streets, utility easements or railroads right-of-way. "Subdivision" includes a condominium project, as defined in Section 1350 of the Civil Code, a community apartment project, as defined in Section 11004.

**Mass Grading:** Grading that is completed on a large scale over a large area prior to preliminary grading and which, when completed, is within two or more vertical feet of the site's final (rough) grade elevations.

**Precise Grading:** The stage which shows the precise structure location, finish elevation, and all on-site improvements.

**Rough Grading:** The stage at which the grade approximately conforms to the approved plans.

**Improvement Plan:** "Improvement" means any street work surveys and monuments and utilities to be installed, or agreed to be installed, by the land divider on the land to be used for public or private streets, highways, and easements as are necessary for the general use of the lot owners in the subdivision and local neighborhood traffic and drainage needs as a condition precedent to the approval and acceptance of the final map thereof. Improvement also means such other specific improvements or types of improvements, the installation of which, either by the land divider, public agencies, private utilities, by any other entity approved by the City of Moreno Valley or its designated officer or entity, or by any combination thereof, is necessary to insure consistency with, or implementation of, the general plan and any applicable specific plan.

## ABBREVIATIONS / ACRONYMS / DEFINITIONS

| | | |
|---|---|---|
| City/Agency | - | City of Moreno Valley |
| Standard Plans | - | City of Moreno Valley Standard Plans, current edition |
| NPDES | - | National Pollutant Discharge Elimination System |
| Caltrans | - | State of California Department of Transportation |
| County | - | Riverside County |
| EMWD | - | Eastern Municipal Water District |
| HOA | - | Home Owners' Association |
| RCFCD | - | Riverside County Flood Control and Water Conservation District |
| SARWQCB | - | Santa Ana Regional Water Quality Control Board |
| TUMF | - | Transportation Uniform Mitigation Fee |
| WDID# | - | Waste Discharge I.D. # |
| WQMP | - | Water Quality Management Program |

## PLAN REVIEW CHECKLIST MARKING DEFINITIONS

| | | |
|---|---|---|
| N/A | = | Not Applicable |
| ✓ | = | Complete |
| O | = | Incomplete or Unacceptable |

If an item is marked "Incomplete or Unacceptable", the plan reviewer will provide comments as necessary.

Plan will be highlighted yellow to indicate complete, red for needs correction.

## PLAN GENERAL REQUIREMENTS

A. Record Plans shall be prepared in ink on 24" x 36", 6 mil polyester film, with the City of Moreno Valley title block per City Standard Plan No. 628. The plans must be wet signed and stamped by the Engineer of Record (EOR).

B. The City of Moreno Valley title block shall be placed on the bottom of all improvements plan sheets, and shall contain the Planning Division Case Number (typically a **PA**XX-XXXX or **P**XX-XXX number), any underlying Parcel Map or Tract Map number, or the Assessor's Parcel Number, plan type, street name(s), and limits of construction. (See City STD Title Block #628, available in .pdf image format or .dwg ACAD drawing format or on the City's website.)

C. All improvement plans shall have a vicinity map, minimum 1" = 1,000'

D. All plans shall have a properly oriented north arrow. North arrow should point to top or right of sheet, if possible, with stationing having preference over direction of north arrow. (No downward north arrow.) All plans should be to appropriate scale with bar scale.

E. All sheets are to be numbered consecutively and include all sheets, "Sheet_of_" on the lower right hand corner.

F. Plans shall be drawn to the required scale for each type of plan, with a graphic bar scale on all sheets.

G. All lettering shall be 1/10", minimum.

H. General notes for grading and improvement plans shall be according to City's Standard Plans Section 7, latest edition.

I. Design of plans shall conform to the City's Standard Plans, latest edition

J. First submittal of plans shall be accompanied by a copy of the final Conditions of Approval for the project. Plans shall conform to those conditions.

K. Mylar Plans must be approved by the Engineer of Record (EOR). The signature, printed name, R.C.E. number, "wet" stamp with expiration date, and company address are to appear in the lower center space provided in the title block on all pages of all grading and improvement plans. (Signature required on all mylars.). Plans check bond plans do not require a wet stamp or to be signed, only the EOR name and RCE number is required.

L. Public Water and sewer plans are designed according to the standards of Eastern Municipal Water District, and submitted to both the City and EMWD. Required signature block are for: EMWD; the City of Moreno Valley Fire Department; Assistant City Engineer and the City Engineer. (Except for private/onsite W&S which will not include EMWD signature block)

M. All sheets shall contain a revision block. (Revisions shall be numbered from the bottom of the block to the top.)

N. Each mylar sheet must have hanging tabs attached to the right side of the sheet to enable hanging of plans in vertical files. These tabs are normally affixed by the bonded blueprint company when making final copies of plans. (Except for EMWD Water and Sewer Plans-**No tabs**)

O. The title sheet for all grading plans and improvement plans shall contain the following signed statement:

DECLARATION OF ENGINEER OF RECORD

I hereby declare that the design of the improvements as shown on these plans complies with professional engineering standards and practices. As the Engineer in responsible charge of design of these improvements, I assume full responsible charge for such design. I understand and acknowledge that the plan check of these plans by the City of Moreno Valley is a review for the limited purpose of ensuring that the plans comply with city procedures, applicable policies and ordinances. The plan check is not a determination of the technical adequacy of the design of the improvements. Such plan check does not, therefore, relieve me of my responsibility for the design of these improvements. As Engineer of Record (E.O.R.), I agree to indemnify and hold the City of Moreno valley, the Community Redevelopment Agency of the City Of Moreno Valley (RDA), and the Moreno Valley Community Services District (CSD), its officers, agents and employees harmless from any and all liability of claims, damages or injuries to any person or property which might arise from the negligent acts, errors or omissions of the Engineer of Record. I have read and informed the project applicant/developer that approval of these plans does not relieve them from the requirements of the conditions of approval (attached herein or in other approved improvement plans).

P. Plans requiring more that three plan checks will require payment of additional plan check fees before proceeding with further plan check services

Q**.** The Final Conditions of Approval for <u>all</u> Divisions are required to be included in the rough grading and street improvement plan sets.

## MAP GENERAL REQUIREMENTS

A. **Maps** (for final submittal) shall be prepared in ink on 18" x 26" polyester film (3 or 4 mil. thick)
   1. See the sample maps in the County's Map Preparation Manual booklet for additional information required and the placement of that information. Note any City's restrictions, additional requirements or changes herein this manual.

   2. All maps shall have a vicinity map, 1"= 1,000' minimum (or as pre-approved) included on the second sheet.

   3. Each sheet of the map shall have a properly oriented north arrow (pointing to the top or right of sheet). Not acceptable pointing down.

   4. All sheets of the map are to be consecutively numbered, "Sheet _of_," in the upper right corner.

   5. Maps shall be drawn to the required scale, with a graphic bar scale on all sheets.

   6. All lettering shall be 1/10", minimum.

   7. NO "paste-ons" or "sticky-backs" on originals. A photo mylar may be submitted for signature when the map review has been completed.

   8. At the upper left corner shall be noted number of lots, letter lots, and gross area of the project.

   9. The areas shall be noted on each street dedication.

   10. Submitted signed final mylar CAD drawn maps should have no hand lettered changes.

## IMPROVEMENTS PLAN GENERAL REQUIREMENTS

A. **Improvements** plans shall be prepared in ink on 24"x 36" polyester film, with the City of Moreno Valley title block and with a 1" border on all sides.

   1. A.2 through A.7 for maps (above) also apply to Improvement Plans.

      a. For improvement plans, the north arrow should point to the top or right of sheet, if possible, with stationing having preference over direction of north arrow. Downward pointing north arrows are not acceptable.

B. The City of Moreno Valley title block strip shall be placed on the bottom of all improvement plans sheets. The block shall contain the following information:

1. The Planning Division project number; and, if the project number is "PA or "P", the block shall also include this project's related or underlying Parcel or Tract (Final) Map number. If there is no related or underlying map number, the Assessor's Parcel Number shall be included.

2. Plan Type

3 Street name(s)
(When the plan is for street improvements or structures or improvements within the public right-of-way, the limits of construction shall also be included.)

4. Appropriate signature blocks for each type of plan, e.g., Eastern Municipal Water District on sewer and/or water system plans, Fire Department, County Health, etc.

C. Construction notes shall be according to city's Standard Plans, latest edition.

D. Design shall conform to the City's Standard Plans, latest edition. Any exception to these standards must be discussed with the appropriate staff in Land Development Division, for approval by the City Engineer, before proceeding with design of the project.

E. The final Public Works Department Conditions of Approval for the project must be applied to photo mylar, with the title block and all of it's required information. These Conditions of Approval will be considered a part of and included in the improvement plan set. The design of the project shall comply and conform to the Final Conditions of Approval.

F. Water and sewer system plans are designed according to the standards of Eastern Municipal Water District. These plans should be submitted to EMWD and the City for concurrent plan reviews. On-Site private Sewer and Water Systems are only reviewed by the City (Land Development Division, Fire Department and Building and Safety). Final approval by Building and Safety Division is required prior to construction.

G. Public Water and sewer plans are designed according to the standards of Eastern Municipal Water District, and submitted to both the City and EMWD. Required signature block are for: EMWD; the City of Moreno Valley Fire Department; Assistant City Engineer and the City Engineer. (Except for private/onsite W&S which will not include EMWD signature block)

H. Mylar Plans must be approved by the Engineer of Record (EOR). His signature, printed name, R.C.E. number, "wet" stamp with expiration date, and his address are to appear in the lower center space provided in the title block on all pages of all grading and improvement plans. (Signature required on all mylars.). Plans check bond plans do not require a wet stamp or to be signed, only the EOR name and RCE number is required.

I. When applicable, included space for signature and date of approval for other City departments or divisions, such as Fire, Parks and Recreation, Police, Special Districts Administration, Building and Safety or Transportation.

J. All sheets shall contain a revision block. Revisions shall be numbered from the bottom of the block to the top. (Leave space above the line in case of expansion.)

K. When originals are submitted for signature, each sheet of improvement plans must have hanging tabs attached to the left side of the sheet to enable hanging of plan sheets in vertical files. (Exception is the sewer and water for EMWD.)

L. The title sheet of each type of plan shall contain the following signed statement"

"Declaration of Engineer of Record"

I hereby declare that the design of the improvements as shown on these plans complies with professional engineering standards and practices. As the engineer in responsible charge of the design of these improvements, I assume full responsible charge for such design. I understand and acknowledge that the plan check of these plans by the City of Moreno Valley is a review for the limited purpose of ensuring that the plans comply with City procedures, applicable policies and ordinances. The plan check is not a determination of the technical adequacy of the design of the improvements. Such plan check does not, therefore, relieve me of my responsibility for the design of these improvements. As Engineer of Record (E.O.R.), I agree to indemnify and hold the City of Moreno Valley, the Community Redevelopment Agency of the City of Moreno Valley (RDA), Moreno Valley Community Services District (CSD), its officers, agents, and employees harmless from any and all liability of claims, damages or injuries to any person or property which might arise from the negligent acts, errors or omissions of the Engineer of Record. I have read and informed the project applicant/developer that approval of these plans do not relieve them from the requirements of the Conditions of Approval (attached herein or in other approved improvement plans).

M. Plans requiring more than three plan reviews will require payment of additional plan review fees before proceeding with further plan review services.

Project Number_____ Plan Reviewer_____

**INITIAL ENGINEERING PLAN SUMMARY CHECK LIST**

| No. | Document/Plan Submittal List | | Received | | Requested | | Comments |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | Transmittal with Project Plan Submittal Package | | | | | | |
| | Approved Plot Plan from Planning Div | | | | | | |
| | Street Improvement Plans | | | | | | |
| | Mass Grading Plans | | | | | | |
| | Rough Grading Plans | | | | | | |
| | Erosion Control Plan – part of the RGP | | | | | | |
| | Precise Grading Plans | | | | | | |
| | Right of Entry/Grading Easement/Grading Letter | | | | | | |
| | Storm Drain Plans | | | | | | |
| | Sewer and Water Plans | | | | | | |
| | Hydrology and Hydraulic Studies | | | | | | |
| | Drainage Studies | | | | | | |
| | Tract Maps (Tentative TM) | | | | | | |
| | Parcel Maps | | | | | | |
| | Parcel Mergers | | | | | | |
| | Title Report | | | | | | |
| | Deed Documents | | | | | | |
| | Vacation Documents | | | | | | |
| | Map Calculation Sheets | | | | | | |
| | Certificates of Compliance | | | | | | |
| | Certificates of Correction | | | | | | |
| | Lot Line Adjustments | | | | | | |
| | Easement Deeds/Dedications | | | | | | |
| | Soils Reports/ Compaction Reports | | | | | | |
| | Earthwork quantity calculation sheet | | | | | | |
| | Conditions of Approval packet | | | | | | |
| | Plan Check Fees Owed. | | | | | | |
| | WQMP Plan | | | | | | |
| | DIF/TUMF Agreements | | | | | | |
| | Traffic Plans – Signing and Striping | | | | | | |
| | Traffic Control | | | | | | |
| | Detour Plans | | | | | | |
| | Stockpile or Borrow Pit Plan | | | | | | |
| | Acquisition Agreement/Document | | | | | | |

Rev. 11/01/07

Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **GENERAL CHECKLIST DETAIL SHEETS-AS NECESSARY** | **1st Check** | **2ND Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title block per General Requirements, see Std 628 or City Web Site. | | | | |
| B. | Typical Street Section showing: | | | | |
| | 1. All Geometric dimensions | | | | |
| | 2. Existing pavement to be joined or removed | | | | |
| | 3. Level line from centerline crown to top of curb with vertical dimension. Cross fall shall also be shown | | | | |
| | 4. Street structural section to be determined in accordance with City Standards, Std. 100A. Show the City's minimum section until recommendation in the soils report has been accepted. In no event shall the structural section be less than the City's minimum section. | | | | |
| | 5. Parkway and sidewalks widths in accordance with City Standard Plans. | | | | |
| | 6. Rough grading lines, if applicable. | | | | |
| C. | General and Construction Plan notes (per section 7 of City Standard Plans) with quantities, as necessary. On Sheet 1. | | | | |
| D | Show Construction details not included in City Standards. | | | | |
| E. | Street intersection details at 1"=40', and 1"=20' for traffic signal intersection design. Show 0.10' design elevations in a grid @ 10'on center with contours | | | | |
| F. | Street name sign schedule, of applicable. | | | | |
| G. | Summary of quantities. Show on Sheet 1. | | | | |
| H. | Miscellaneous details as needed to clarify construction issues | | | | |
| I. | Note all easements within the details. | | | | |
| J. | Engineer of Records signature, stamp and date in appropriate block on originals when submitted for City signatures. | | | | |
| K. | Hanging tabs on originals after mylars are approved by the City Engineer. | | | | |

**GENERAL CHECKLIST DETAIL SHEETS-AS NECESSARY**



Check #1 _____ Check #2 _____ Check #3 _____

N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

**MISCELLANEOUS CHECKLIST**

| | **MISCELLANEOUS CHECKLIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Separate utility improvement or relocation plans, if required | | | | |
| B. | Cross-sections at 50' or 100' intervals for review of pavement widening join conditions and/or earthwork calculations, if requested. | | | | |
| C. | Traffic Signal Plans and details, if required. (See title sheet for Transportation.) | | | | |
| D. | EMWD Sewer and Water, Riverside County Flood Control District Storm and Drainage Plans. | | | | |
| E. | Quantity and cost estimate for bond preparation. | | | | |
| F. | All required permits, right-of-entry, ect. noted. | | | | |
| | 1. Permits, if any, to be obtained (list in space below to be submitted): | | | | |
| | 2. Rights(s)-of-entry required (list in space below to be submitted): | | | | |
| G. | Other possible project related documents (to be submitted): | | | | |
| | REFERENCE–See "Initial Engineering Plan Summary Check List" for possible documents required for submittal to the City. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**FIRST SUBMISSION PACKAGE REQUIREMENTS CHECKLIST**

| | **FIRST SUBMISSION PACKAGE REQUIREMENTS CHECKLIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | **NOTE: The Maps and improvement plans must be submitted together. Prior approval is required to process map or improvement plans separately. Discuss this matter with the Engineering Division Manager or Senior Engineer in Land Development if such approval is desired.** | | | | |
| A. | Final Map or Parcel Map | | | | |
| | 1. Transmittal letter | | | | |
| | 2. Nine Copies of map. | | | | |
| | 4. One copy of reduce TTM on 8 ½" x 11" as exhibit vicinity map | | | | |
| | 5. Two copies of current Title Report (less than 60 days old) | | | | |
| | 6. Two copies of closure calculations | | | | |
| | 7. One copy of reference materials (i.e., easement deeds, records of survey, etc.) | | | | |
| | 8. One copy of approved Tentative Final or Parcel Map | | | | |
| | 9. One full set copy of final Conditions of Approval | | | | |
| | a. Conditions of Approval are required on the rough grading plans and street improvement plans. | | | | |
| | 10. One copy of each utility company's non-interference letter: | | | | |
| | a. Adelphia Cable | | | | |
| | b. Eastern Municipal Water District | | | | |
| | c. The Gas Company | | | | |
| | d. M.V. Elect | | | | |
| | e. Verizon | | | | |
| | f. Southern California | | | | |
| B. | Grading Plan: Mass, Rough or Precise Plans | | | | |
| | 1. Eight copies (4 copies only for custom, model, and production home plan) | | | | |
| | 2. Six copies of Erosion Control Plan (Unless part of RGP) | | | | |
| | 3. Two copies of Final Soils Report ("wet" signed and sealed) | | | | |
| C. | Storm Drain Plan | | | | |
| | 1. Six copies of Storm Drain Plan | | | | |
| | 2. Two copies of Hydrology Study and Hydrology Map | | | | |
| | 3. Two copies of hydraulic Calculations (if separate than study) | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

| | **FIRST SUBMISSION PACKAGE REQUIREMENTS CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| D. | Street Plan Improvements | | | | |
| | 1. Seven copies of Street Improvement Plan | | | | |
| | 2. Two copies of proposed street name list, if applicable | | | | |
| | 3. Two copies of the Engineers cost estimate (signed and stamped) | | | | |
| E | Sewer System Plan | | | | |
| | 1. Two copies of Sewer System Plan | | | | |
| F. | Water System Plan | | | | |
| | 1. Two copies of Water System Plan | | | | |
| | (concurrent submission to Eastern Municipal Water District) | | | | |
| G. | Traffic Signing and Striping Plan | | | | |
| | 1. 4 Copies of Traffic Signing and Striping Plan (unless part of the street improvement plan)<br>**Note: Land Development will distribute all Traffic, Striping and Signal related plans to Transportation Division** | | | | |
| H. | Construction Traffic Control Plan, if required | | | | |
| | 1. 4 copies of Construction Traffic Control Plan | | | | |
| I. | Traffic Signal Plan, if required | | | | |
| | 1. 4 copies of Traffic Signal Plan | | | | |
| J. | Fees: Final fees will be determined and paid before final approval of map and/or plans | | | | |
| K. | Vicinity Map: 1 Polyester Film Vicinity Map, 8 ½" x 11" required after street names have been approved. Format sample to be obtained from Land Development per City standard. | | | | |
| L. | Phasing Plan: If conditioned, a phasing plan must be submitted for review of residential and construction access. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**MAPS - REVIEW CHECKLIST**

| | **MAPS - REVIEW CHECKLIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Map content | | | | |
| | 1. Conforms to General Requirements in regard to material, size, Placement of information, statements, etc. | | | | |
| | 2. Map number and subtitle legal description (includes section, township, range) | | | | |
| | 3. North arrow, properly oriented, scale, and bar scale | | | | |
| | 4. Vicinity Map | | | | |
| | 5. Sheets numbered, " Sheet _of_" | | | | |
| | 6. Community Development Department approval on file | | | | |
| | 7. Map conforms to approved tentative map | | | | |
| | 8. Number of lots | | | | |
| | a. gross/net areas | | | | |
| | b. Buildable lots numbered, highest lot number circled | | | | |
| | c. No duplicated lot numbers, no omitted lot numbers | | | | |
| | d. Unbuildable lots lettered, no duplications, no omissions | | | | |
| | 9. Dedications shown | | | | |
| | 10. Street names-lettered until approved by the City | | | | |
| | 11. Street names conform to approved street name list and names on on map agree with names on improvement plan | | | | |
| | 12. Street widths and center lines shown | | | | |
| | **13. Distinctive border line** | | | | |
| | 14. Basis of bearing | | | | |
| | 15. Symbols and City legend | | | | |
| | 16. Curve Data table | | | | |
| | 17. Environment Constraint Sheet (when required) | | | | |
| | 18. Shown at upper left hand corner number of lots, number of letter lots, and total gross acres | | | | |
| B. | Fees to be paid per C.O.A.'s | | | | |
| | 1. RCFCWCD Fee , Area Drainage Plan Receipt | | | | |
| | 2. Development Impact Fee (DIF) | | | | |
| | 3. TUMF Fee | | | | |
| | 4. Regulatory rate mail ballot proceeding | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

| | **MAPS – REVIEW CHECK LIST (Continued)** | **1st Check** | **2n Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| C. | Research | | | | |
| | 1. Vesting deed; of portion of lot, check for: | | | | |
| | a. Legality (deed prior to March 4, 1972) | | | | |
| | b. Certificated of Compliance | | | | |
| | c. Lot Line Adjustment | | | | |
| | d. Prior Rights | | | | |
| | 2. Title Report- Less than 60 days old | | | | |
| | 3. Adjacent properties | | | | |
| | a. Maps-Recorded or in checking process | | | | |
| | b. Record of Survey | | | | |
| | 4. Dedications by separate instrument | | | | |
| | 5. Utility company easements | | | | |
| | 6. Common access agreements | | | | |
| | 7. Other legal documents: | | | | |
| | a. Record Maps | | | | |
| | b. Unrecorded maps | | | | |
| | 8. Road dedications along MB 11/10 boundary (yes/no) | | | | |
| | 9. Corner record files/tie books | | | | |
| D. | Statements: | | | | |
| | 1. Owner(s) statement and title | | | | |
| | a. Dedications (street & drainage)- Check map book for status of existing right-of-way | | | | |
| | b. Easements – landscape, drainage, sewer, multi-use trails | | | | |
| | c. All parties having any record title interest in property (trustees, lessee) must sign under owner's certificate | | | | |
| | d. Verify that private easements and private lots are retained by the owner, for the future benefit of the owners assignees, beneficiaries, successors, etc. | | | | |
| | 2. Notary acknowledge and title (one for each of the above) | | | | |
| | a. Notary expiration date | | | | |
| | b. Name(s) same as above | | | | |
| | c. Correct type of acknowledgement | | | | |



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Project Number_____ Plan Reviewer_____

| | MAPS – REVIEW CHECK LIST (Continued) | 1st Check | 2nd Check | 3rd Check | Comments |
|---|---|---|---|---|---|
| D. | 3. Signature omissions and title | | | | |
| | a. Check against title report | | | | |
| | b. Reason for omission per Subdivision Map Act, Sec. 66436 | | | | |
| | 4. Trustee | | | | |
| | 5. Surveyor-RCE or LS number | | | | |
| | 6. City Engineers Statement | | | | |
| | 7. City Clerk Statement | | | | |
| | 8. Tax Collector Statement | | | | |
| | 9. Tax Bond | | | | |
| | 10. Auditor | | | | |
| | 11. Soils Report | | | | |
| | 12. County Recorder- Block upper right corner | | | | |
| | 13. Guarantee Title Insurance – upper right corner | | | | |
| E. | Conditions | | | | |
| | 1. Conforms to Community Development Department approval | | | | |
| | a. Roads | | | | |
| | b. Flood | | | | |
| | c. Health | | | | |
| | 2. Will serve letters from public utility companies received: | | | | |
| | a. Adelphia Cable | | | | |
| | b. Gas Company | | | | |
| | c. Eastern Municipal Water District | | | | |
| | d. M.V.E. | | | | |
| | e. Verizon | | | | |
| | f. Southern California Edison | | | | |
| | 3. Legal access: plot when practical; check for barrier strips | | | | |
| | 4. Fire protection (clearance received) | | | | |
| | 5. Improvements required-Yes/No | | | | |
| | 6. Public Right-of-Way Improvement Bond required-Yes/No | | | | |



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| | **MAPS – REVIEW CHECK LIST (Continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| F. | Miscellaneous | | | | |
| | 1. Adjacent subdivision and lot or parcel lines shown | | | | |
| | 2. Existing street names shown | | | | |
| | 3. Lettered lots on street, alleys, barrier strips and HOA common lots such as open space, vegetated swales, and water quality basins. | | | | |
| | 4. Locations maps shows approximate distance to publicly Maintained road/street | | | | |
| | 5. Recorded dimensions | | | | |
| G. | Survey Procedure: | | | | |
| | 1. Proper Control | | | | |
| | a. Basis of bearings and closures (placed in binder) | | | | |
| | b. Proper centerline control on all City/County roads | | | | |
| | c. Boundary surveyed per vesting deed | | | | |
| | d. All monuments set were established from sufficient monuments of record | | | | |
| | e. Procedure for all government corners restored | | | | |
| | f. Procedure for all lot and subdivision corners restored | | | | |
| | g. Procedure for all deed lines established | | | | |
| | h. Lot Closures | | | | |
| | i. Street Closures | | | | |
| | j. Overall boundary closures | | | | |
| | k. Overall bearings and distances | | | | |
| | l. Curve data | | | | |
| | m. Radial bearings | | | | |
| H. | References: | | | | |
| | 1. Monuments of adjoining surveys recovered | | | | |
| | 2. Proper ties and reference made to monuments of adjoining surveys | | | | |
| | 3. Found monuments ,if no reference used by surveyor, should be "Accepted as…….", and described as to position | | | | |
| | 4. If monument is untagged and used for control, it should be Tagged/Establish by a licensed land surveyor per Std. Plan 601. | | | | |
| | 5. Line used as the Basis of Bearing shall have two (2) know points (monuments). | | | | |



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| | MAPS – REVIEW CHECK LIST (Continued) | 1st Check | 2nd Check | 3rd Check | Comments |
|---|---|---|---|---|---|
| H. | References (continued) | | | | |
| | 6. Describe sectional location of all points when applicable | | | | |
| | 7. Proper ties and references for found monuments | | | | |
| I. | Computation: | | | | |
| | 1. Accumulative and total distance | | | | |
| | 2. Curve Data | | | | |
| | a. Radial bearings, to all intersecting lines | | | | |
| | b. Radius, length, delta, and tangent on centerline | | | | |
| | c. Delta and length on side lines | | | | |
| | 3. Corner cutbacks | | | | |
| | a. Out distances along centerline | | | | |
| | b. Cutback bearing and distance | | | | |
| | c. Right-of-way distances | | | | |
| | 4. Boundary closure Basis of Bearing closure/description of street closure /description report | | | | |
| | 5. Breakdown of larger area | | | | |
| | 6. Lot closures-numbered and lettered lots | | | | |
| | 7. Lot areas- all lots are to have square-footage showing | | | | |
| | 8. Total gross area, in engineer/surveyor notes | | | | |
| | 9. Monument inspection fees, if monuments have been set | | | | |
| | 10. If monuments not set, monument cost to be included in Estimate of cost for bond purposes | | | | |
| | 11. Improvements: | | | | |
| | a. Completed, or | | | | |
| | b. Bond required | | | | |
| J. | Submission of Original Map for approval and City signatures: | | | | |
| | 1. Original is free of erasures, spots, creases, stick-ons | | | | |
| | 2. Zone Change required? | | | | |
| | a. Approved prior to recording | | | | |
| | b. Application prior to recording | | | | |



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Project Number_____ Plan Reviewer_____

| | **MAPS – REVIEW CHECK LIST (Continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| K. | Submission of Original Map for approval and City Signatures: (continued) | | | | |
| | 3. Check signatures (proper ink?) | | | | |
| | a. Surveyor-LS or RCE number (check current roster for authorization) | | | | |
| | b. Owners, including trustee or beneficiary, of applicable, same as vesting deed | | | | |
| | c. Lessee or easement holder(of interest can ripen into fee), same as vesting document | | | | |
| | 4. Notary: | | | | |
| | a. Proper acknowledgement | | | | |
| | b. Signature | | | | |
| | c. Notary's expiration date | | | | |
| | 5. Area Drainage Plan Fee Paid | | | | |
| L. | Geological clearance, when applicable | | | | |
| M. | Health Department clearance, when applicable-data print submitted | | | | |
| N. | Caltrans clearance, when applicable-data print submitted | | | | |
| O. | Railroad clearance, when applicable | | | | |
| P. | "Final Map Clearance" roster signed off | | | | |
| Q. | Improvements: | | | | |
| | 1. Plans approved by City engineer and all other affected agencies or divisions | | | | |
| | 2. Agreements for Public Improvements and securities in standard format (or in special format approved by City Attorney) have been submitted | | | | |
| R. | Schedule final approval of map and acceptance of agreement and security for City Council agenda (Date:_____) | | | | |
| | | | | | |
| | | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**TITLE SHEET CHECKLIST**

| | **TITLE SHEET CHECKLIST - REQUIRED FOR EACH TYPE OF IMPROVEMENT PLANS SUBMITTED** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title block per General Requirements, Section 1, I. (per Std. 628) | | | | |
| B. | Vicinity map | | | | |
| | 1. North arrow (matching index map) and scale (N.T.S. ok) | | | | |
| | 2. Arterial streets shown and shown connecting to the nearest Hwy/Freeway. | | | | |
| | 3. Project location called out. | | | | |
| C. | Title sheet for each type of plan set shall have an Index map showing the following items: | | | | |
| | 1. North arrow, properly oriented | | | | |
| | 2. Street configuration within project limits | | | | |
| | 3. Map exterior boundary and lot boundaries, or single lot exterior boundary | | | | |
| | 4. Lot configurations | | | | |
| | 5. City limit and/or county limit lines, if adjacent to tract or parcel | | | | |
| | 6. Street name(s), | | | | |
| | 7. Street lights | | | | |
| | 8. Existing and proposed sewer, water and storm drain lines | | | | |
| | 9. Scale with bar scale (between 1" = 100' and 1" = 500') | | | | |
| | 10. Sheet coverage with sheet number shown. | | | | |
| C. | Title sheet shall contain basis of bearings (bearing and source) | | | | |
| D. | Benchmark - Riverside County Standard, description/location, date year of adjustment), and full elevation to three decimal places | | | | |
| E. | Title sheet shall contain the name, address and telephone number of the owner/developer | | | | |
| F. | Title sheet shall contain the name, address and telephone number of the soils engineer | | | | |
| G. | Title sheet shall contain the name, address and telephone number of the archeologist and the paleontologist firm(s), if applicable | | | | |
| H. | Title sheet shall contain the name, address, telephone number and the contact name for any and all public agencies involved in the project | | | | |
| I. | Title sheet shall contain utility company contacts and telephone numbers | | | | |
| J. | Title sheet shall contain all general notes (Stds. 700, 703, 704). Any additional note by the E.O.R. are to be labeled as "Special Notes". | | | | |
| K. | Title sheet shall contain the underground Service alert (USA) phone number | | | | |



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Project Number_____ Plan Reviewer_____

| | TITLE SHEET CHECK LIST -REQUIRED FOR EACH TYPE OF IMPROVEMENT PLANS SUBMITTED - CONTINUED | 1st Check | 2nd Check | 3rd Check | Comments |
|---|---|---|---|---|---|
| L. | Title sheet of each type of plan shall contain the "Declaration of Engineer of Record" | | | | |
| M. | Engineer of Record's signature, stamp and date in appropriate block on originals | | | | |
| N. | Mylar Submittal | | | | |
| | 1. Text height 0.10" minimum. | | | | |
| | 2. Sheet x of y (all sheets included and consecutively numbered) | | | | |
| | 3. Title/phase at top/center of sheet | | | | |
| | 4. Legend (include all used symbols, line types, and hatches) | | | | |
| | 5. Abbreviations | | | | |
| | 6. Include all construction notes with quantities. Separate out public and private. | | | | |
| | 7. Cubic yards of C/F for grading plans | | | | |
| | 8. City I.D. number in bottom right corner filled in. | | | | |
| | 9. Include sheet index | | | | |
| | 10. Include City planning case number (PAXX-XXXX, PXX-XXX), map number (TM or PM number, if applicable), type of plan (RGP, PGP, Street, Storm Drain, etc.), sheet purpose (ex. "title sheet"), APN/Address (if custom home). | | | | |
| O. | Hanging Tabs on approved/signed mylars (Except EMWD and Sewer Plans) | | | | |
| P. | Notice to Contractor per City Standard 628 | | | | |
| Q. | Legal description | | | | |
| R. | Owner's Name | | | | |



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Project Number_____ Plan Reviewer_____

**MASS GRADING PLAN CHECKLIST**

| | **MASS GRADING PLAN – PLAN REVIEW CHECK LIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title block per General Requirements, Section I | | | | |
| | 1. Storm Water Pollution Prevention Plan (SWPPP) must be submitted to the State Water Resource Control Board. Show WDID # on title sheet. | | | | |
| B. | Title sheet shall show the following items: | | | | |
| | 1. North arrow, properly oriented, vicinity map, index map | | | | |
| | 2. 4" bar scale, 1"=40' or larger for large project and 1"=20" for smaller project, unless otherwise prior approved. (No odd number scales.) | | | | |
| | 3. Show adjacent record map references | | | | |
| | 4. Map exterior boundary and lot boundaries, or single lot exterior boundary. (complete boundary information, lot numbers, easements, and lot line annotations) | | | | |
| | 5. Lot Configurations | | | | |
| | 6. City limit and/or county limit lines, if adjacent to tract or parcel | | | | |
| | 7. Dimension street and right-of-way widths, existing and proposed | | | | |
| | 8. FEMA flood zone designation and flooding boundary | | | | |
| | 9. Stamped and signed by Soils Engineer with soils statement | | | | |
| | 10. Show all earthwork quantities. Shall be shown: cut, fill, remedial, import, export. | | | | |
| | 11. Emergency Contact number Sheet 1. | | | | |
| C. | Detail Sheet(s) | | | | |
| | 1. Mass grade, depth and all changes in slopes. (Shown "not a part" areas) | | | | |
| | 2. Typical grading details | | | | |
| | 3. Show wall sections. Do not show rebar. (Add: "Walls Constructed under separate permit.") Submit wall designs to Building & Safety | | | | |
| | 4. Show proposed sub-drainage system, drain connection to underground facilities or acceptable drainage outlet. | | | | |
| | 5. Details of any on-site drainage structures, surface protections, etc., shall be shown on the plans | | | | |
| | 6. Details all structures not standard of Moreno Valley, RCFCWCD or Caltrans. For manufactured products, submit separate Specification literature. Include manufacturer's and model number's number on plans. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **MASS GRADING PLAN – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 7. Include construction notes and quantities. Show applicable "Notes" on each sheet where callout is used | | | | |
| D. | Plan Sheets | | | | |
| | 1. See design policy, Standard 706A and 706B | | | | |
| | 2. Existing contours shall be shown in screened and dashed line types at the following intervals: | | | | |
| | a. Show existing contours a minimum of 50' beyond all property lines, or as needed for daylight, or to show the connection to adjacent property supporting the design | | | | |
| | b. 2' maximum contour interval in flat areas and 10' maximum on steep slopes | | | | |
| | c. Show spot elevations in very flat areas to support contours | | | | |
| | d. Exist contour elevations and spot elevations in parenthesis | | | | |
| | 3. Show proposed contours in heavy, solid lines. Match contour intervals for the required existing contours | | | | |
| | 4. Show dirt elevations to the nearest 0.1' | | | | |
| | 5. Show pad elevations to the nearest 0.1' | | | | |
| | 6. Show spot elevations on existing structures near property lines, i.e. sidewalk, walls (TW/TF), building, etc. | | | | |
| | 7. Minimum rates of grade for earth or turf swales is 1.0% minimum. Show flow line grades at the beginning, end, and at 100' intervals | | | | |
| | 8. Join existing elevations/contours and show relationships to surrounding properties | | | | |
| | 9. Top of slope swales shall be a minimum of 4' wide and shall have a 12" high berm | | | | |
| | 10. Show limits of grading, daylight lines, and cut/fill transition lines | | | | |
| | 11. No drainage over slopes. See CBC A33 for terrace drainage requirements and the City grading ordinance | | | | |
| | 12. All slopes and fill areas shall be shaded | | | | |
| | 13. Mass Grading Plan's erosion control considerations to be shown on plan: | | | | |
| | a. Erosion control notes (See City Standard 615) | | | | |
| | b. Show details of all control measures | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **MASS GRADING PLAN – PLAN REVIEW CHECKLIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| D. | 14. Final Conditions of Approval are to be included on the last plan sheet(s). | | | | |
| | 15. All mitigation measures per C.O.A. shall be included in the submitted design | | | | |
| | 16. Show limits of grading | | | | |
| | 17. Max slopes are to be 2:1 unless recommended by the soils engineer and approved by the City Engineer. | | | | |
| | 18. Show existing and proposed easements. | | | | |
| E. | Geotechnical requirements: | | | | |
| | 1. Plans signed and stamped by Soils Engineer and Geologist (S.E. statement) | | | | |
| | 2. Plan conforms with recommendations of Soils Engineer | | | | |
| | 3. Up-date letter if soils report is more than one year old | | | | |
| | 4. Delineate areas of over excavation and re-compaction. Where depth exceeds 6', Soils Engineer to recommend compaction in the final report | | | | |
| | 5. Recommendation for shrinkage and subsidence | | | | |
| | 6. Plan delineated, and details provided, for rock disposal area as recommended by the Soils Engineer. City minimum 48" or larger at 6'deep in parking areas | | | | |
| | 7. Soils Report is required to have the "Geo or Soil Engineer" statement incorporated into said report | | | | |
| | **NOTE: A change in the soils engineering firm requires the following items:**<br>**1. Letter of acceptance from the replacement firm agreeing with all the information provided in the existing soils report(s), accepting all responsibility, and agreeing to continue providing compliance with the report**<br>**2. A letter from the original firm declaring that they are no longer the soils/geotechincal firm of record.** | | | | |
| F. | Design Requirements: | | | | |
| | 1. Drainage is conducted to a street, natural watercourse, retention basin or other approved location. | | | | |
| | 2. A notarized letter of permission/acceptance from adjacent property owner(s) required for slope encroachment acceptance of non-historic natural drainage or other off-site grading or work. Include legal description and Assessor's Parcel Numbers. Calculation shall be submitted for all structural fills and shown (high-lighted) on the grading permit | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

**ROUGH GRADING PLAN CHECKLIST**

| | ROUGH GRADING PLAN – PLAN REVIEW CHECK LIST | 1st Check | 2nd Check | 3rd Check | Comments |
|---|---|---|---|---|---|
| A. | Title block per General Requirements, Section I | | | | |
| | 1. WDID number has been issued and attached to the plans prior to permits, submit copy of NPDES permit, and apply WQMP ID number from the City (As applicable) | | | | |
| B. | Title sheet for each plan shall show the following items: | | | | |
| | 1. North arrow, properly oriented, vicinity map, index map (scaled) | | | | |
| | 2. 4" bar scale, 1"=40' or larger for large project and 1"=20' for smaller project, unless otherwise prior approved. (No odd number scales.) | | | | |
| | 3. Reference adjacent record maps | | | | |
| | 4. Map exterior boundary and lot boundaries, or single lot exterior boundary. (Complete boundary information, lot numbers, easements, and lot line annotations.) Phase boundaries, if applicable. | | | | |
| | 5. Lot configurations | | | | |
| | 6. City limit and/or county limit lines, if adjacent to tract or parcel | | | | |
| | 7. Dimension street and right-of-way widths, existing and proposed | | | | |
| | 8. FEMA flood zone designation and flooding boundary | | | | |
| | 9. Cubic yards of cut, fill, import, export, and remedial earthwork | | | | |
| | 10. Notes per standard 704 | | | | |
| | 11. Emergency contact numbers | | | | |
| C. | Details Sheet(s) | | | | |
| | 1. Rough graded street/drive isle sections and other details | | | | |
| | 2. Typical grading details | | | | |
| | 3. Show retaining wall sections. Do not show rebar. (Note: "Walls Constructed under separate permit.") (submit wall designs to Building & Safety) | | | | |
| | 4. Purposed sub-drainage structures , surface protection, etc., shall be shown on the plans | | | | |
| | 5. Details of any on-site drainage structures, surface protection, etc., shall be shown on the plans | | | | |
| | 6. Details all structures not standard of Moreno Valley, RCFC/WCD or Caltrans. For manufactured products, submit Specification literature | | | | |
| | 7. Include all construction notes and quantities, Sheet 1. Show applicable "Notes" on each sheet where callout is used. | | | | |
| | 8. Show all earthwork quantities. Shall be shown: cut, fill, remedial, import, export. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | ROUGH GRADING PLAN – PLAN REVIEW CHECK LIST (continued) | 1st Check | 2nd Check | 3rd Check | Comments |
|---|---|---|---|---|---|
| | 9. Typical Street sections showing rough cut. | | | | |
| | 10. Typical lot grading detail with side and rear sections. (Can forms with Standard 706B) | | | | |
| D. | Plan Sheets | | | | |
| | 1. WDID number has been issued and attached to the plans prior to permits, submit copy of NPDES permit, and apply WQMP ID number from the City (As applicable) | | | | |
| | 2. Existing contours shall be shown in screened and dashed line types at the following intervals: | | | | |
| | a. Show existing contours a minimum of 50' beyond all property lines or as needed for daylight or to show the connection to adjacent property supporting the design. | | | | |
| | b. 2' maximum contour interval on flat areas and 10' maximum on steep slopes | | | | |
| | c. Show spot elevations in very flat areas to support the contours | | | | |
| | d. Show existing contour and spot elevations in parenthesis | | | | |
| | 3. Show street centerlines and stationing at 100' intervals (minimum) and station tic marks at 50'. Show intersection stationing, BC, EC, PCC, TC's elevations. | | | | |
| | 4. Show underground drainage facility. Detail connection if necessary to make clear the construction. Show installations of French drain system per soils report along canyons/gorgs, and fills. Include at least, FL, HP & outlets. | | | | |
| | 5. No drainage over retaining walls. Use concrete "V"-ditch, down drains or other approved drainage design. | | | | |
| | 6. Proposed wall show elevations for the top of wall (TW), top of footing (TF) and ground. If other than 12" above the top of footing, show details. Cross sections shown. Include "per separate permit" note. Make sure wall and footing are outside right of way. | | | | |
| | 7. Locations of all existing and proposed structures, buried tank(s), well(s), or any other infrastructures, are to be shown with disposition notes. | | | | |
| | 8. Sufficient control and data to stake improvements has been provided | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **ROUGH GRADING PLAN – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 9. Pad elevations and grading concepts are in accordance with the approved tentative map/site development plan and Conditions of Approval. No pad elevation deviations from approved TM greater than 1' maximum. | | | | |
| | 10. "Wall construction by Separate Permit" has been placed on this plan (if applicable) | | | | |
| | 11. Pad elevations shown @ pad corner (front & rear) and at HP and GB along any drainage swales (H.P. to L.P.). Min. slope = 1%, | | | | |
| | 12. Slopes placed on downhill properties | | | | |
| | 13. Percentage of grades and flow line arrows shown in street (min. and max. per Standard 706A). | | | | |
| | 14. Show pad elevations. | | | | |
| | 15. Representative sections along all project boundaries. | | | | |
| | 16. Slope set-backs per latest City Code | | | | |
| | 17. Clearly label degree of slope with slope symbols. 2:1 Max, unless prior City and soils report approve otherwise. | | | | |
| | 18. Written permission from adjacent property owner for grading outside PL, cross-lot drainage, etc. | | | | |
| | 19. Exist easements shown with written permission from holder. | | | | |
| | 20. Show limits of grading, daylight lines, cut/fill transition lines, proposed contours match exist. | | | | |
| | 21. Offsite flows affecting tract addressed. | | | | |
| | 22. Provide min. 6' wide terrace at max. 30' vertical | | | | |
| | 23. No sheet flow allowed over slopes except in approved drainage device. | | | | |
| | 24. Interception drain at top of slope where drainage path to slope exceeds 40'. | | | | |
| | 25. Velocity reducers provided where drains discharge onto natural ground (If rip rap, specify class, thickness, size, etc.) | | | | |
| | 26. Details for all drainage facilities not provided in improvements plans | | | | |
| | 27. No cross lot drainage except within private easements and approval by the City Engineer. | | | | |
| | 28. Show flood plain. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

| | **ROUGH GRADING PLAN – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 29. Include erosion and sediment control plan. See Std. Plan No. 615A. | | | | |
| | 30. Set back dimensions per current City Code. | | | | |
| | 31. Approval of Storm Water Prevention Plan from the Water Quality Control Board prior to issuance of a grading permit (The Storm Water Prevention Plan shall be submitted concurrently to the City and to the Water Quality Control Board.) | | | | |
| | 32. Property line retaining walls must be approved by the Planning Division. This includes the height of a garden/retaining wall combination. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**PRECISE GRADING PLAN CHECKLIST**

| | **PRECISE GRADING PLAN – PLAN REVIEW CHECK LIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title Block per General Requirements, Section 2.1 | | | | |
| B. | Title sheet meets requirements: | | | | |
| | 1. North arrow, properly oriented | | | | |
| | 2. Vicinity map | | | | |
| | 3. Scale: 1"=40' | | | | |
| | 4. Standard Grading Notes shall be shown on the cover sheet. Refer to the current Std. Plan No. 704. Show all earthwork quantities. Shall be shown: cut, fill, remedial, import, export. | | | | |
| C. | Grading plans are in conformance with the City's design standards and as identified in the projects preliminary soils report | | | | |
| D. | Plan Sheet: | | | | |
| | 1. Stationing and elevations conform with street improvement plans | | | | |
| | 2. Stationing is from left to right or bottom to top. North arrow is oriented accordingly (no downward north arrows). | | | | |
| | 3. Construction notes are shown on the plan and clearly indicate the scope of work to be performed. Construction notes are referenced to the appropriate City Standard | | | | |
| | 4. Details of non-City of Moreno Valley standard drainage improvements, if any, are shown on the plan | | | | |
| | 5. Run-off water is detained and de-silted prior to release onto downstream properties or into the public right-of-way, or storm drain system. Appropriate detention and de-silting features shall be shown on the plan | | | | |
| | 6. Section details should be used to clarify areas where proposed site joins adjacent properties | | | | |
| | 7. The following shall be shown and dimensioned on the plan: | | | | |
| | a. Project property lines and right-of-way lines | | | | |
| | b. Centerline of adjacent street improvements and distance to nearest intersection | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **PRECISE GRADING PLAN – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 7. The following shall be shown and dimensioned on the plan: (cont) | | | | |
| | c. Existing utilities (water & sewer, or other appropriate utilities) and public improvements | | | | |
| | d. Proposed structures, buildings, parking lot pavement, curbs and gutters, drainage facilities, masonry block walls and retaining walls | | | | |
| | e. Proposed public improvements (curb, gutter, sidewalk, and driveway approaches) and street pavement areas | | | | |
| | 8. Typical x-sections for side and rear yards. X-Section at boundary line and adjacent streets. Typical lot detail. Typical street sections. | | | | |
| | 9. Installation of P.V.C., A.B.S. pipe, or other similar pipe, which is used to drain water from the site to approved City drainage facility, shall be used to handle nuisance water only. (curb drain) | | | | |
| | 10. Onsite drainage over A.C. pavement shall have a minimum grade of 1%. A minimum 2' wide concrete gutter, 6" thick, is required when concentration of drainage occurs within travel ways | | | | |
| | 11. Open earthen swales shall have a minimum slope of 1% | | | | |
| | 12. The proposed grades at the right-of-way lines shall conform to ¼" per foot (2%) parkway slope from top-of-curbs, including back of driveway approaches. Top-of-curb and flow line elevations at all property line projections, top-of-driveway "X" and drainage devices shall be shown. | | | | |
| | 13. Accurate contours and/or elevations of existing ground and finished grade shall be shown at 50' (maximum) grids. Show contours and/or elevations for adjacent properties within 25'of the property lines. | | | | |
| | 14. Proposed building with pad elevations and finished floor elevations shall be shown. Show finished floor elevations of existing buildings to remain, finished floor elevations of building on adjacent property with 25' of property lines, shall be shown. | | | | |
| | 15. Horizontal control plan for all commercial and industrial projects. Residential building foot print dimension and building plan controls. | | | | |
| | 16. Flow- line grades and elevations of all drainage swales, gutters or drainage structures shall be shown. | | | | |



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Project Number_____ Plan Reviewer_____

| | **PRECISE GRADING PLAN – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| D. | Requirements: (continued) | | | | |
| | 17. Elevations of existing grade shall be shown at each lot corner. | | | | |
| | 18. Details of drainage structures and masonry block walls shall be shown where applicable | | | | |
| | 19. Fills against existing block walls shall not exceed 1 foot and shall not block weep holes | | | | |
| | 20. Change of grade along project property lines shall not exceed 1 foot without installation of retaining walls, otherwise, off-site grading letters are required from adjoining property owners | | | | |
| | 21. Retaining walls shall be shown. Retaining walls and other non-standard walls require calculations and wall details prepared, signed, and stamped by Registered Civil Engineer to be submitted to the Building & Safety Division. A note shall be placed on the plans "Separate Permit Required". | | | | |
| | 22. Cut slopes shall be no greater than 2:1 vertical, unless otherwise recommended by the geotechnical engineer and approved by the City Engineer. Clearly label degree of all slopes and slope symbol. | | | | |
| | 23. All on-site drainage shall be conveyed toward the street or an approved drainage facility. Drainage may be directed over a driveway approach only with the City approval. For commercial and multi-family residential developments, nuisance water will not be allowed to drain over the driveway approach or sidewalk, and a parkway drain or similar structure shall be installed to convey nuisance water to the street. Standard 303. | | | | |
| | 24. Concrete curbs are required between planters and/or landscaped and paved areas and shall be shown on the plan with appropriate details. Slots may be provided to run nuisance flows through landscape areas | | | | |
| | 25. Plan shall agree with all other plans submitted to the Planning, Building, Fire, and Land Development Divisions, as to locations of buildings, planters, parking areas and fire services | | | | |
| | 26. Plan shall agree with the approved tentative map | | | | |
| | 27. The lot shall drain to the street at 1%. | | | | |
| | 28. The side swales between houses shall be a minimum of 1%. | | | | |
| | 29. Flow-line of swales for the rear yard of residences shall be a minimum of 10' from the house with a minimum slope of 2% away from pad elevation to the high point of the swale | | | | |



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Project Number_____ Plan Reviewer_____

| | **PRECISE GRADING PLAN – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 30. Proposed T.C. elevation at the P.L. extended and B.C. and E.C. | | | | |
| | 31. Pavement structural section for on-site areas shall be per City Standards and as recommended by the soils engineer. (Section 8.21.140, Moreno Valley Municipal Code) | | | | |
| | 32. All utility service connections shall be underground | | | | |
| | 33. Quantity of excavation and fills should be shown. Sheet 1. | | | | |
| | 34. For commercial, industrial and multi-family, on-site sewer on water plans are to be approved by the Building and Safety Division | | | | |
| | 35. ADA requirements are to be approved by the Building and Safety Division. | | | | |
| E. | Soils report completed as stated in the City's grading ordinance | | | | |
| | 1. Soils report has 'wet" signature and seal | | | | |
| F. | Erosion Control Plan, where applicable, shall accompany the precise grading plan. | | | | |
| G. | Graded areas to be landscaped and maintained by the City shall be 3:1 minimum outside the right-of-way, | | | | |
| H. | Approval of Storm Water Prevention Plan from the State Water Resource Control Board prior to issuance of a grading permit | | | | |
| I. | "Declaration of Engineer of Record" on plan | | | | |
| J. | Engineer of Record's signature, stamp and date in appropriate block on originals when submitted for approval. | | | | |
| K. | Notice to Contractor | | | | |
| L. | Final Soils Report with **Declaration of Soils/Geotechnical Engineer and Geologist of Record** | | | | |
| M. | Compliance with Conditions of Approval (C.O.A.) | | | | |
| N. | Water & Sewer plans require approval by the B&S Division. | | | | |
| O. | 12" Step-outs behind curb at all landscaped medians adjacent to parking stall (parking lots). | | | | |
| P. | Provide building set back dimensions (minimum distance building to PL). | | | | |
| Q. | Lot lines shown and dimensioned per map. Lot numbers. | | | | |
| R. | Street Names. | | | | |
| S. | Check for need of deepened footing. | | | | |
| T. | Cost estimate matches quantities (Sheet 1). | | | | |
| U. | TG elevation and IE elevations for all area drains and pipes. | | | | |
| V. | Check that Source Control/Treatment Control BMP's are per approved F-WQMP | | | | |
| W. | Review F=-WQMP vs. precise grading plan prior to approval | | | | |



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Project Number_____ Plan Reviewer_____

**DRAINAGE AND HYDROLOGY CHECKLIST**

| | **DRAINAGE AND HYDROLOGY – PLAN REVIEW CHECK LIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title block per General Requirements, Section 1 | | | | |
| B. | Drainage Plan Requirements | | | | |
| | 1. Criteria utilized for the hydrology and hydraulics shall be as stated in the hydrology and design criteria published by RCFCD. Frequency of design year storm shall be as stated in the hydrology manual. City systems are design for 100 yr Q's. | | | | |
| | 2. The use of underground storm drain systems shall be in accordance with the City's requirements and with RCFCD, if appropriate | | | | |
| | 3. Drainage acceptance agreement, if required | | | | |
| | 4. Improvement plans, hydrology and hydraulic calculations shall be stamped and signed by the engineer of record | | | | |
| | 5. Engineer of record signature, stamp and date in appropriate block on originals when submitted for approval. (Registration number correct and in effect) | | | | |
| C. | Hydrology Map | | | | |
| | 1. The hydrology map and street plans agree as to the grades and configurations of drainage areas | | | | |
| | 2. The hydrology map is on topographic map of sufficient scale and quality to allow for readability | | | | |
| | 3. All Q's shown (with time of concentration) flowing in the streets. Design year Q's to be designed to 10 yr and 100 yr | | | | |
| | 4. All street flow confluences shown with their calculations | | | | |
| | 5. All Q's approaching, entering and by pass from catch basins Shown. Q's shown at all point of concentration. | | | | |
| | 6. All Q's entering and leaving the project are shown with their time of concentration and verified with legible contours or other adequate means. If previous studies were used, they must be referenced. Need for comparative analysis for interim and ultimate flow rates for off-site drainage to be determined by the City. | | | | |
| | 7. Show storm drains with design year flow rates | | | | |
| | 8. Drainage areas acreage to be shown | | | | |
| | 9. Map to show existing and proposed contours. | | | | |
| | 10. Map to show drainage boundaries. | | | | |
| | 11. Scale and north arrow. | | | | |
| | 12. Show all proposed street, storm drain, and grading improvements. | | | | |
| | 13. Flow arrow and drainage paths shown. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **DRAINAGE AND HYDROLOGY – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| D. | Hydrology Calculations: | | | | |
| | 1. Time of travel, rainfall intensity, runoff coefficient, soil group, allowable flooded width, and catch basin interception requirements in conformance with the current edition of the manual published by RCFCWCD | | | | |
| E. | Hydraulic Calculations: | | | | |
| | 1. Design criteria for hydraulic calculations and format for presentation of the calculations shall be in conformance with the City's and the County's requirements (i.e., catch basin free board, catch basin interception, use of grate type catch basins, parkway culverts, etc.). Catch basin, street capacity, and storm drain pipe calculations provided. Appropriate program used WSPG for closed conduit, WSPG or HEC-RAS for open channel. For regional channels, a HEC-RAS for existing and proposed conditions shall be submitted for review and approval. | | | | |
| F. | Submittal to RCFCWCD for parallel processing where the S.D. system is larger than 36" pipe system, for RCFCWCD review and approval prior to the City's approval | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**STORM DRAIN PLAN CHECKLIST**

| | **STORM DRAIN PLAN – PLAN REVIEW CHECK LIST (SHOULD BE A SUBSET OF STREET PLAN)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title block per General Requirements, Section 2.1 | | | | |
| B. | Title Sheet (where not part of Street Plans) | | | | |
| | 1. Vicinity map per General Requirements, with north arrow properly oriented | | | | |
| C. | Scale-1"= 40' horizontal, 1"= 4' vertical | | | | |
| D. | Requirements | | | | |
| | 1. Storm drain alignment, grade and easement in conformance with the City's requirements (i.e., horizontal location relative to curb, minimum pipe size and depth of cover, manhole locations and spacing, minimum grades (.003 FOR ACP HDPE) and velocities (.005 for CIP), minimum radius, maximum velocities relative to requirements for additional steel clear cover, existing facility abandonment procedures, etc.) Maximum horizontal angle point 5 degrees. | | | | |
| | 2. Reinforced concrete box (R.C.B.), reinforced concrete channel (R.C.C.) improvement plans, details and reinforcing schedule in conformance with City's requirement | | | | |
| | 3. Hydraulic grade line plotted on profile | | | | |
| | 4. Prepare hydraulic elements table showing design year storm Q, Vn, Dn, Vc, n, slopes, pipe size and pertinent stationing and place on each relevant plan sheet. | | | | |
| | 5. All storm drain laterals shown in profile. Separate profile for each lateral and connection shown on main line. | | | | |
| | 6. D-loads for all pipes | | | | |
| | 7. Curve data and bearing for storm drain centerlines | | | | |
| | 8. Pertinent storm drain stationing and equations, including reference to street station at B.C., E.C., and manholes. Stationing shall increase from downstream to upstream (as applicable). Storm drain to have its own stationing. | | | | |
| | 9. Identification of existing facilities showing City's plan file numbers. Clearly note connection to exist. Disposition notes for existing. | | | | |
| | 10. Construction notes with quantities Sheet 1, applicable notes each sheet. | | | | |
| | 11. Catch basin type and size, including width and height, T.C. F.L .and Inv. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **STORM DRAIN PLAN – PLAN REVIEW CHECK LIST (SHOULD BE A SUBSET OF STREET PLAN)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| D. | Requirements: (continued) | | | | |
| | 12. Easement lines and widths shown and checked to make sure they conform with easement document(s) and are an adequate width for maintenance, as determined by the City (20 min) | | | | |
| E. | Storm Drain Plan shall be in conformity with the approved tentative map | | | | |
| F. | Show existing or proposed inlet and outlet head walls | | | | |
| G. | Show existing or proposed rip-rap, size and dimensions | | | | |
| H. | "Declaration of Engineer of Record" Statement for stand alone plans. | | | | |
| I. | Engineer of records signature, stamp and date in appropriate block on originals when submitted for signature. (Registration number correct and in effect) | | | | |
| J. | Show all other infrastructure that crosses the S.D. Show top of pipes for underling crossing, and bottom of pipes for over crossing structures | | | | |
| K. | When joining or extending existing structures a collar or access hole is required | | | | |
| L. | Concrete energy dissipater at exit velocities greater than 20 fps. | | | | |
| M. | Provide details for any construction other than City, County or Caltrans standards. | | | | |
| N. | List manufacturer name and model number for all manufactured products. | | | | |
| O. | Restricted access for open channel (wall/fence per separate permit) | | | | |
| P. | Maintenance access for open channel | | | | |
| Q. | Street stationing, width, depth, standard detail called out (via construction notes) for all catch basins. | | | | |
| R. | Combination side and grate inlet catch basin for street slopes equal to or greater than 5%. | | | | |
| S. | Dimension from storm drain center line to street center line. | | | | |
| T. | No flow through catch basins. | | | | |
| U. | Profile: Stationing and elevation at begin/end, change in grade, connections, match line, D-load, slopes, length, size, material, crossings, Q, V, HGL/WS, slope anchors for S greater than 0.20. Proposed and existing surface over 5.0, station and elevation grids with elevations and vertical scale. | | | | |
| V. | All structures shows, labeled (standard number, station, elevation) in and outs elevation check for minimum drop/floor slope. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | STORM DRAIN PLAN – PLAN REVIEW CHECK LIST (SHOULD BE A SUBSET OF STREET PLAN) | 1st Check | 2nd Check | 3rd Check | Comments |
|---|---|---|---|---|---|
| W. | Existing surface shown beyond outlet, beginning water surface shown correctly. | | | | |
| X. | Lateral inlets name, size, station and elevation shown. | | | | |
| Y. | Design HGL should be 6” below local depression lip of inlets, 12” freeboard for open channel | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

**WATER QUALITY BASIN PLAN CHECKLIST**

| | **WATER QUALITY BASIN PLAN – PLAN REVIEW CHECK LIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title Block per General Requirements, Sec. I. WQ Basin plan can be part of Rough Grading, Precise Grading or Storm Drain plans. | | | | |
| | 1. WDID number has been issued and attached to the Rough Grading, Precise Grading, and Storm Drain Plans, and F-WQMP has been submitted to LD Storm Water Management Group. The F-WQMP ID # is issued when the F-WQMP is approved and should be noted on each plan sheet. | | | | |
| | 2. The Water Quality Basin shall be designed for $V_{BMP}$ only in accordance with the City's Storm Water Quality Best Management Practice, Volume Based BMP Design Handbook (WQMP Manual) and in accordance with the Riverside County Water Quality Management Plan for Urban Runoff, dated July 24, 2006. | | | | |
| | 3. The Geometric Design shall follow the Water Quality Basin Civil Design Guidelines available on the City's website under the Grading section of "online forms." | | | | |
| | 4. The Planting and Irrigation Design shall follow the Water Quality Basin Planting and Irrigation Design Guidelines available on the City's website. | | | | |
| B. | Water Quality Basin design shall show, but not limited to, the following items: | | | | |
| | 1. North arrow, properly oriented | | | | |
| | 2. 4" bar scale, 1"=20' or larger for large project and 1"=10' for smaller project, unless otherwise prior approved. No odd # scales. | | | | |
| | 3. Include all construction notes and quantities on sheet 1. Show applicable "Notes" on each sheet where callout is used. | | | | |
| | 4. Complete boundary information, lot numbers, easements, POA/HOA Maintenance note and lot line annotations. | | | | |
| | 5. Show all applicable details and sections per design guidelines. | | | | |
| | 6. Dimensions and horizontal control. | | | | |
| | 7. Show grading elevations, slopes (3:1 max.), adjacent P.E.'s, and TC elev's. | | | | |
| | 8. Show pipe material, sizes, inverts, and on site drainage structures | | | | |
| | 9. Details of spillways, & outlet structures, forebay, headwalls, trash rack. Spillway shall be 12" lower than the berm between the aftbay and sand filter system. HGL of mainline storm drain shall not exceed outlet pipe invert. | | | | |
| | 10. Retaining walls are not allowed in Water Quality Basin. Show perimeter wall, access ramp (10% max. and 15' wide min.), and toe of slope protection details. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **WATER QUALITY BASIN PLAN – PLAN REVIEW CHECK LIST** | | | | |
|---|---|---|---|---|---|
| | 11. Show basin bottom elevation and water surface elevation based on $V_{BMP}$. | | | | |
| | 12. Provide details of all structures not standards of Moreno Valley, RCFC/WCD or Caltrans. For manufactured products, submit Specification literature and include applicable manufacturer's specifications and details on plan sheets. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

**STREET PLAN AND PROFILE CHECKLIST**

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Title block per General Requirements | | | | |
| B. | Show on the Street Improvement Plan, typical cross section width of each new street constructed and the width of additional pavement added to any existing street, plus 12' to 18' R&R construction per C.O.A or City Standards | | | | |
| C. | Vicinity map at 1:1000 with streets, street names, properly oriented north arrow | ` | | | |
| D. | Scale: both horizontal and vertical. Horizontal scale is to be 1"=40' in plan and profile sections, unless otherwise approved by the City. Vertical scales 1"= 4' | | | | |
| E. | Profile shall be on top half of sheet, and shall include: | | | | |
| | 1. Show 100' stationing along the profile with profile grid and datum elevations both sides. Line up plan and pro. | | | | |
| | 2. Show names and centerline station equation of intersection streets. | | | | |
| | 3. Label and show stations and elevations at the beginning and end of all curb returns, vertical curves, horizontal curves, transition sections, grade breaks, and beginning and end of improvements. Denote existing elevations with parenthesis | | | | |
| | 4. Label all profiles (i.e. L or R top of curb, S.D. invert, etc.). Name of street if more than one street. | | | | |
| | 5. Profile of existing centerlines. (Show elevations every 50-100', if applicable) | | | | |
| | 6. Profile of existing ground at property lines. (Show elevations every 50-100' if applicable) | | | | |
| | 7. For pavement match-up situations, show existing edge of pavement elevations every 50' | | | | |
| | 8. Profile and grades of finished centerlines | | | | |
| | 9. Profile and grades of all T.C.'s shown | | | | |
| | 10. Extend all profiles a minimum of 300' beyond limits of construction | | | | |
| | 11. Profile of future T.C. on both sides of street must be shown, even if only one side is being constructed | | | | |
| | 12. Show connection with, or future design to, existing improvements, along with existing elevations. Show grade of existing improvements (This may require going to nearest street intersections.) | | | | |
| | 13. Proposed finished center line surface through to center line of intersection street. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 14. Slopes through intersection maximum 6%. | | | | |
| | 15. Maximum superelevation rate called out and meets Caltrans requirements. | | | | |
| | 16. T.C. and flow line elevations on tie-in curb must be shown | | | | |
| | 17. Indicate length of curb return and true length of horizontal curves, ¼ delta points and BCR/ECR stations/elevations and in/out grades to be shown on all returns with elevations and P.I.'s are to be shown. | | | | |
| | 18. If curbs are variable height, show T.C. elevations, flow line profile with grade, including ¼ delta points on curb return and P.I.'s | | | | |
| | 19. The minimum street grade is 1.0% unless prior approval is obtained from the City Engineer | ` | | | |
| | 20. Maximum grade break is 0.50%. Vertical curves required for larger grade breaks including at-curb return (no non-symmetrical V.C.). Where grade break is required, a 50' V.C. minimum at 2% max or 100' V.C. above a 2% grade break shall be designed. V.C.s per C.T. HDM Figs. 201.4/.5. | | | | |
| | 21. Tangent grades and P.I. Elevations and stations for vertical curves must be shown and BVC, EVC, length. | | | | |
| | 22. Top of curb profiles, including curb return. Rate of grade shown on profiles to be based on centerline stationing rather than true length of curbs, except for curb returns, cul-de-sacs and knuckles | | | | |
| | 23. Vertical curves, including tangent grades, G1, G2, B.V.C., E.V.C., length P.V.I. station and elevation, and elevations every 25'. Indicate resultant design speed of the vertical curve. | | | | |
| | 24. Elevations of curb returns at E.C.R. and B.C.R. locations (only plan views) both TC's and F.L.'s | | | | |
| | 25. Identification of existing improvements showing City's plan file numbers | | | | |
| | 26. Utility line crossings and substructures type, size, station which could interfere with road and other underground construction with disposition notes. Indicate pot-holing for correct locations on the plan files. | | | | |
| | 27. Curb height transitions | | | | |
| | 28. Do elevations in profile and plan section match? | | | | |
| | 29. Do profiles match typical section? TC elevation correct delta (above or below) center line elevations. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 30. Have sufficient elevations been shown to verify that 'grade-to-drain" areas work, and are limits of grading shown? | | | | |
| | 31. Compare design to existing plans, if any | | | | |
| F. | Plan view shall include: | | | | |
| | 1. Existing improvements shown (dashed or screened) and included in legend. | | | | |
| | 2. Improvements to be constructed indicated with construction notes, dark/solid line type, included in legend. | | | | |
| | 3. Approved street names | ` | | | |
| | 4. Station equations at all intersections | | | | |
| | 5. Correct benchmark (verified by City) | | | | |
| | b. Bearings of all streets shown. Radial bearings on centerline of driveway approaches, all catch basins, etc., in horizontal curve. | | | | |
| | c. Each Street Improvement Plan shall have a construction traffic control plan and a striping and signing plan included and numbered as part of the Street Improvement Plan | | | | |
| | a. Refer to City Standards for Signing, Striping and Traffic Control requirements | | | | |
| | b. Plan review of Signing, Striping and Traffic Control portion of Street Improvement Plans will be performed by Transportation Division. However, plan submittal and distribution is via the Land Development Division | | | | |
| | d. Stationing to conform with stationing on any existing plans on file. New stationing shall increase west to east (north to south, per City Standard 706A), left to right, except where street ends in westerly or southerly dead-end or cul-de-sac. | | | | |
| | e. Identical stationing and elevations on consecutive sheets. (match lines clearly shown and sheet number referenced) (plan and profile). | | | | |
| | 10. Stationing all B.C.R.'s and E.C.R.'s, B.C. and E.C. of all curves, PRC, PCC | | | | |
| | 11. Stations at beginning and end of improvements and at center of driveway approaches, if applicable, catch basins, under sidewalk drains, etc., | | | | |
| | 12. Stations at each 100' marked on all construction centerlines and aligned with profile. Tick marks every 50'. | | | | |
| | 13. Curb return and radii (City Standard 706A) and property line | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

| | | | | | |
|---|---|---|---|---|---|
| | cut-backs (City Standard 208) to agree with City's standards and approved tentative map. | | | | |

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 14. Access ramps at all curb returns where sidewalk is required. (Must meet ADA standards.) Detail of ramp required for 2' differential between E.C.R. and B.C.R. | | | | |
| | 15. Curb return data (delta, tangent, radius and length). | | | | |
| | 16. Curb curve data table. | | | | |
| | 17. All dimensions shown in plan view (R/W to R/W, R/W to center line, curb to curb, curb to center line, sidewalk, parkway, etc.) | | | | |
| | 18. Smooth off-site improvement transitions to exist. Clearly label (station and elevations) all joins. | | | | |
| F. | Plan view shall include: (continued) | | | | |
| | 17. Existing storm drain lines, pipelines, irrigation lines or structures, power poles, trees or fire hydrants, etc., in right-of-way, or immediately adjacent to right-of-way, and notes as to their disposition, in encroaching, must be shown | | | | |
| | 18. Local Depression details showing top of curb elevations and curb height, width transitions and elevation's at each corner of pad | | | | |
| | 19. All existing and proposed utilities to be shown, labeled, legend and dimensioned | ` | | | |
| | 20. Show existing, proposed and future right-of-way improvement widths | | | | |
| | 21. Lot lines, frontage distances and lot numbers are the same as the record map. Label property and map boundaries lines. | | | | |
| | 22. All drawing references must noted on plan | | | | |
| | 23. Show details of all improvements if not per City standard or C.T., Riverside County, etc. For all standard improvements, show Standard Drawing number via construction note. Check standard drawings for those dimensions to match those shown on plan. | | | | |
| | 24. Show all water valves or manholes to be constructed and/or adjusted to grade | | | | |
| | 25. Show existing street lights in vicinity on both sides of the streets. New street lights to be located and stationed per City's design standards 500 and 501. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 26. Typical sections for all streets in conformance to City Standard. Show existing , future and proposed improvements on section as they would appear looking up-station from the street. Identify right-of-way lines. Give offsets from level line to crown and T.C. Show range of slopes on existing and match-in-paving. Provide traffic index, design speed, R-value. Label as private or public. Stations range if street section varies. Include and type/class of AC/AB. Show as full ½ street construction and one travel lane opposite street tie. | | | | |
| | 27. Cross-slopes computed to edge of pavement ( including City's standard 3/8" lip of A.C. paving) and within minimum and maximum ranges, as established by City standards 706A, to match existing roadway as being designed. Cross sections every 50' of existing streets (R/W to R/W) to a minimum of 300'; beyond project limits must be submitted. For street widening of existing streets provide on separate grid paper. Show existing center line elevations, existing elevations at join, existing cross slope proposed cross slope, lip and TC elevation. | | | | |
| | 28. Show flow line elevations on all B.C.R.'s and E.C.R's, and on the flow line of cross gutters at 3 points. | | | | |
| | 29. 100' tangent between reverse or compound curves (except local streets). | | | | |
| | 30. Minimum tangent distance at intersection (50' local, 100' collector). | | | | |
| | 31. Barricades for temporary dead end streets (per Standard 412). | | | | |
| | 32. 10' x 10' grid provided for major intersections. | | | | |
| | 33. Intersection spacing per Standard 113. Minimum intersection angle 90 degrees plus or minus 5 degrees, per City Standard 706A. | | | | |
| | 34. Any trench repair per City Standard 520. | | | | |
| | 35. Show top-of-curb and flow line elevations at begin/end of all improvements. Indicate existing elevations with parentheses | | | | |
| | 36. Dead end streets require special traffic control signing and access control | | | | |
| | 37. 2' wide at 0.10' deep grinding onto edge of pavement is provided where being matched, geo-grid to be placed 12" each side of overlap. | ` | | | |
| | 38. Limits of all paving removals or overlays, existing and proposed pavements shall be stationed and delineated via unique hatches as shown in legend. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 39. Pavement transitions for on-coming traffic per City or Caltrans taper and out-going traffic at 5:1 taper. Type L markers, 10' center to center along taper. Major streets may require longer taper | | | | |
| | 40. Show existing or proposed flows coming into or out of new improvements and show how these flows are to be directed | | | | |
| | 41. Drainage transitions shall be stationed. Typical cross-sections required. | | | | |
| | 42. 2" x 6" redwood headers required at edge of local or collector street with new pavement, 2 x 12 at all other street classifications. | | | | |
| | 43. Street signs located properly. (Street name signs conform to City's standard requirements) | | | | |
| | 44. Stop signs required at all major intersections with painted stop bar and "STOP", per Caltrans Standard Plan A24D, A24E, and City Standard Plan 405A and 410, and MUTCD. | | | | |
| | 45. Street sweeping "No Parking" signs indicated on plans. Refer to City Standard for sign and placement requirements | | | | |
| | 46. If cut or fill is necessary beyond project boundaries or at the end of a street, a letter of permission or slope easement from the adjacent property owner is required | | | | |
| | 47. Minimum 150' centerline radius on all local streets. Centerline radii for major and secondary arterials shall be based on City Standards No. 113 | | | | |
| | 48. Cul-de-sac dimensions shall conform to City Standards Nos. 123 and 124. Knuckles per Standard 122. | | | | |
| | 49. Street structural sections shall be determined by a soils test following rough grading unless otherwise determined by the City (Show City minimum on plans.) Minimum structural section per Standard 100A. Include on typical section. Include class of AC/AB. | | | | |
| | 50. Add note indicating traffic index on each street to be constructed. See traffic index per standard drawings | | | | |
| | 51. Show street center line station for all driveway locations. (Unless noted to be shown on the precise grading plan.) Driveway width shall be the same width of the garage opening. | | | | |
| | 52. No cross gutters across on major streets. | | | | |
| | 53. Do improvement plans conform with Conditions of Approval? | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **STREET PLAN AND PROFILE – PLAN REVIEW CHECK LIST (continued)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| | 54. Are improvement plans consistent with grading plans, map, etc.? | | | | |
| | 55. Cost Estimate – Do quantities match sheet 1? Current spreadsheet costs? | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**SEWER AND WATER SYSTEM PLAN CHECKLIST**

| | **SEWER AND WATER SYSTEM PLAN AND PROFILE – PLAN REIVEW CHECK LIST** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Plans shall be designed according to, and all construction shall comply with, the standards required by Eastern Municipal Water District | | | | |
| B. | Plan format shall comply with the requirements of the City, including the title block, per Standard 628. | | | | |
| C. | Vicinity map | | | | |
| D. | Properly oriented north arrow | ` | | | |
| E. | index map (multiple page plan set) | | | | |
| F. | "Declaration of Engineer of Record" | | | | |
| G. | Add Sewer and Water lateral note for driveway construction | | | | |
| H. | Water system plans will not be signed by the City until the signature from Eastern Municipal Water District has been obtained | | | | |
| I. | Engineer of records signature, stamp and date in appropriate block on originals when submitted for signature. (Registration number correct and in effect) | | | | |
| J. | Street name(s) and station range in title block, each sheet. | | | | |
| K. | Check all lines for conflicts and crossing separation elevations. | | | | |
| L. | Check for fire hydrant separation/distances to each hydrant. | | | | |
| M. | Check for excess water zone valves or lack of valves. | | | | |
| N. | Check to make sure the lines are not within medians. | | | | |
| O. | Check overall design to ensure consistency with acceptable City standard for street design. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**SIGNING, STRIPING AND TRAFFIC CONTROL CHECKLIST**

| | **SIGNING, STRIPING AND TRAFFIC CONTROL - PLAN REVIEW CHECK LIST (Shall be a subject of the street plans)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Number of sets submitted_____ | | | | |
| B. | Send copy to Transportation for review and approval (as necessary) | | | | |
| C. | Title block per City requirements, Standard 628. | | | | |
| D. | Index map (multiple page plan set) | ` | | | |
| E. | Vicinity map | | | | |
| F. | Properly oriented north arrow on all sheets of plan set | | | | |
| G. | Title page shall contain general notes and details: | | | | |
| | 1. City Standard Plans, Sections 4 and 5 | | | | |
| | 2. Signature block for City Traffic Engineer | | | | |
| | 3. Any other agency (i..e., Caltrans) to review or approve plan? | | | | |
| H. | Identify disposition of existing signs (i.e., remain, remove, salvage, etc.) via construction notes. | | | | |
| I. | Warning, guide and regulatory signs shall be in conformance with the latest edition of Caltrans Specifications. | | | | |
| J. | Temporary construction signing and striping in conformance with the most current edition of the MUTCD, OSHA requirements and Caltrans Specifications. | | | | |
| K. | Striping in conformance with the most current edition of Caltran Specifications, Section 84, “Traffic Stripes and Pavement markings”, as well as with City Standards. | | | | |
| L. | Identification of appropriate State Standard Detail for striping; show “Detail 9, etc.,” | | | | |
| M. | Label turn pocket lengths, flare lengths, transition rates and taper lengths. | | | | |
| N. | Identify B.C., E.C., and angle points in striping consistent with street improvement plans. | | | | |
| O. | Identify type, size, and location of street name signs with street station. | | | | |
| P. | Provide detail of non-standard signs that may be needed. | | | | |
| Q. | Bikeways, pedestrian trails and equestrian trails, if required, in conformance with the City’s master plan for those improvements. | | | | |
| R. | “Declaration of Engineer of Record” (if stand alone plans) | | | | |
| S. | Engineer of records signature, stamp and date in appropriate block on originals when submitted for signature. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
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Project Number_____ Plan Reviewer_____

**GENERAL SIGNAL DESIGN GUIDLINES CHECKLIST**

| | **GENERAL SIGNAL DESIGN GUIDLINES CHECK LIST (Traffic Signal Plan to be separate from Signing & Striping Plan but submitted together.)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| A. | Number of sets submitted_____ | | | | |
| | 1. Send copy to Transportation for review and approval | | | | |
| B. | Title block per City requirements | | | | |
| C. | Index map (multiple page plan set) | ` | | | |
| D. | Vicinity map | | | | |
| E. | Properly oriented north arrow on all sheets of plan set | | | | |
| F. | Scale-1: = 20’ | | | | |
| G. | Signature block for City Traffic Engineer (all sheets.) | | | | |
| | 1. Any other agency to review or approve plan? | | | | |
| H. | Signal phasing shall be phase 2 FNBT, Phase 4 FEBT, Phase 6 FSBT and phase 8 FWBT with appropriate left turn phasing correspond. | | | | |
| I. | Poles shall be 2.5’ behind curb: exact location to be determined by engineer in field. | | | | |
| J. | Exact location of utilities shall be determined prior to finalizing signal plans. | | | | |
| K. | Second check print will submitted with 3 copies. City staff will submit second check prior to all utilities and notify designer with results. | | | | |
| L. | Basic signal layout shall conform with Caltrans Chapter 9, except if otherwise noted. | | | | |
| M. | There shall be one pull box per pole. | | | | |
| N. | There shall be three major conduit runs (two across minor street, one across major street.) | | | | |
| O. | PV heads shall only be used if absolutely necessary, and only with the approval of the City Traffic Engineer. | | | | |
| P. | Signal controller cabinet and electrical enclosure shall be white. | | | | |
| Q. | Left turn lanes shall have four 6 x 6 loops and through lanes shall have two 6 x 6 loops each 10’ apart, 3’ into crosswalk. Advance loops for through lanes shall be 6 x 6. | | | | |
| R. | Illuminated street markers shall be Irvine Brown with City assigned address numbers, and shall comply with City Standards. | | | | |
| S. | The following schedules shall be furnished: Conductor, Sensor, Pole, and Phasing. | | | | |
| T. | Luminaries shall be HPSV, 250 watts. | | | | |
| U. | Designer to furnish notes as necessary. | | | | |



Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

Project Number_____ Plan Reviewer_____

| | **GENERAL SIGNAL DESIGN GUIDLINES CHECK LIST – (Continued), (Traffic Signal Plan to be separate from Signing & Striping Plan but submitted together.)** | **1st Check** | **2nd Check** | **3rd Check** | **Comments** |
|---|---|---|---|---|---|
| V. | City will furnish Standard Special Provisions. The engineer will be provided with a paper copy to use during the design process. | | | | |
| W. | All signal plans shall be designed using a CADD system and the City shall be furnished a copy on a CD. | | | | |
| X. | "Declaration of Engineer of Record" | | | | |
| Y. | Engineer of record's signature, stamp and date in appropriate block on originals when submitted for signature. | | | | |
| Z. | Signal & Striping Plans are part of the street improvement plan. (Unless approved to be submitted as separate plans) | | | | |

**NOTE: The forgoing are general guidelines. Additional requirements may be necessary as determined by the City's Traffic Engineer**



Check #1 _____ Check #2 _____ Check #3 _____
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