



# CITY OF RANCHO MIRAGE

## PUBLIC WORKS

ENGINEERING DIVISION

69-825 Highway 111, Rancho Mirage, CA 92270

General: 760.770.3224

### Precise Grading Plan Checklist (Updated 10-1-2021)

#### PROJECT INFORMATION

Owner/Developer: \_\_\_\_\_

Design Engineer: \_\_\_\_\_

Street Location: \_\_\_\_\_

Legal Description: \_\_\_\_\_

Date of Plan Review: \_\_\_\_\_ R.C.E.: \_\_\_\_\_ Exp: \_\_\_\_\_

Consultant Project No.: \_\_\_\_\_ City Permit No.: \_\_\_\_\_

#### SEE MUNICIPAL CODE CHAPTER 15.64 FOR DETAILS OF GRADING CODE

Check box if ok, circle or comment if there are any questions or issues.

#### ENGINEER SIGNATURE REQUIREMENTS

The R.C.E. signature may be waived if the grading entails little hazard to any property and project meets criteria for:

Stockpile or agricultural grading permit, or

Grading does not exceed 100 c.y. (cut and fill combined) and all the following are true:

- Grading upon a single lot or parcel.
- Project does not necessitate construction of extensive drainage structures, erosion control facilities or other facilities.
- Project does not interfere in any way with existing natural or improved drainage courses or channels

#### ALL SHEETS

Only unmodified, current, City of Rancho Mirage or CVWD Standards may be referenced without including a copy on the plans. If other "standard details" (CalTrans, Riverside County, etc.) are needed for special situations, you must copy them onto the plans or draw an independent detail. The City reserves the right to modify or reject any standards that do not satisfy its criteria.

Plans done per Drafting Standard 614: especially 24" X 36" format, using standard title block format, mylar (3mil+) for signature, lettering 0.08" minimum, with no "stick on" decals on final mylar. Smudging or flaking may be grounds for rejection of the final mylar.

Standard Title Block (Available in electronic format or "hard" copy, or see Drafting Standard 614)

Plan Name ("Grading Plan", "Rough Grading Plan", "Precise Grading Plan", "Finish Grading Plan", etc.)

Assessor Parcel Number (9-digit code)

Site Address (Usually assigned by Planning Department on new projects)

Brief Legal Description (Tract and Lot, Map Book/ Page Number, note any lot line adjustments or parcel mergers completed or pending)

Section, Township, Range

Engineering Department Permit Reference Number E \_\_\_\_\_ assigned during plan check process)

Approval block for City Engineer, Leland E. Cole, R.C.E. 47159

TRANSPARENCY NOTICE: Some or all of the content contained in this application and its attachments may be subject to disclosure pursuant to the California Public Records Act (Government Code section 6250, et seq.)

Approval block and stamp area for Plan Checker

Revision block (1.5" x 4" minimum)

Preparer's company name, address, and phone number, or name, address and phone number of Design Engineer

Design Engineer's block ("Prepared Under the Supervision of:")

Engineer's signature (on final mylar, unless waived under criteria shown above)

Engineer's stamp (on final mylar, unless waived under criteria shown above)

Soil Engineer's approval block (Signature required for slopes over 2:1, or if over-excavation or other special procedures are required by the preliminary soil report)

USA Dig Alert note with texting DIGALT (344258) or calling 811 ("NO DIG" symbol may be added if desired)

Standard cautionary notes to contractor. (More notes to contractors may be added if so desired) See Standard Detail 614.

## TITLE SHEET (Contents may be on Plan sheet if there is room)

Standard City Title Block (see "All Sheets" above for content details)

General Notes (CRM Standard 700)

Grading Notes (CRM Standard 702, includes blanks to fill in with applicable soil report, either new or previously done)

Preliminary Soil Report (waived if cut and fill <500 c.y. and not in soil problem area, at discretion of City Engineer. All projects must perform compaction tests on building site and provide a wet-signed, wet-stamped compaction report to Engineering Division prior to Building Permit issuance.)

Vicinity Map with site position relative to freeway and major arterial roads for deliveries, "not to scale" okay if the map is clear.

Legend of symbols used includes Construction Note symbols, typical abbreviations, special lines, etc.

Earthwork Quantities: include cut, fill, shrinkage, stripping, and import/export estimates; or the "raw" cut and fill estimates along with a statement that the soil will be balanced on site. Over excavation or other non-standard procedures required by the Preliminary Soil Report should be mentioned and estimated here.

Other Quantity Estimates: lot acreage and disturbed acreage (required), drainage device items or other things (optional)

FEMA/flood insurance rating information if construction is in an "A" designated area. Show map number and date. Lowest floor must be one foot plus the designated flood depth above crown of the adjacent street, typically.

For Projects over an acre, the WDID number from the SWPPP submittal to the State Water Board shall be placed on the Grading Plan as confirmation of filing.

## PLAN SHEET, GENERAL GRADING REQUIREMENTS

Standard City Title Block (see "All Sheets" above for content details)

Benchmark blank in standard title block should be filled in on this sheet or on all sheets. Describe what was really used to get the sea level reference for the site topo, either an official City Benchmark, or a reference point on a concrete structure, such as a curb, with the elevation assumed to be per the plans that put it in. If no curb exists near the project, contact the Public Works Department to discuss options.

Basis of Bearing blank in standard title block should be filled in on this sheet or on all sheets. The preferred Basis of Bearing for all lots that were created by Parcel Map or Tract Map is to reference the line between two monuments that were found per said Map.

North arrow (up, right, or left preferred).

Scale (Engineering scales preferred: 10, 20, 30, 40, 50, 60, 100, etc., Non-standard scales may be rejected.)

Graphic Scale, 4" long minimum, (Plans are eventually scanned, and this is needed for reference on reproductions.)

Building setback dimensions, 25' for front and rear, 10' side yards, and 15' street side yards for corner lots, unless modified by Planning Department. Show specific dimensions used at closest points; enough to define building footprint location.

Building "Footprint" showing building outline, also outline any depressed or raised slab areas and garage floor.

Roof overhang line or notation if no eaves are planned.

Original and proposed contours, flowlines, and structures to 15' outside project area.

Finish pad and floor elevations of adjacent properties (note if vacant).

Lot/parcel numbers and Assessor's Parcel Numbers of adjacent properties (legal reference).

Location and spot elevations on existing structures near property line, such as walls, hedges, trees, buildings, etc.

Existing and proposed spot elevations at key locations, such as flowlines, property corners, prolongations of property line to top of curb, retention basins, planters, and concrete surfaces.

Pad elevation and finished floor elevation, including elevation of any depressed or raised slab areas (The Proposed Pad Elevation should be at or below the Pad Elevation from the Tract or Parcel Map Grading Plan, or shall be at or below the average of the adjoining property pad elevations, unless otherwise approved in advance by the Planning Department).

Lots > 1.0 acre located north of the Whitewater River shall retain 100-year storm runoff for the worst-case duration of the 1, 3, 6, or 24-hour 100-year storm. Use the Riverside County Hydrology Manual, Shortcut Unit Hydrograph method or a similar approved program for retention volume calculations. Hydraulic Calculations, based on 100-year peak flows, may be required for piped or channelized drainage systems if said pipe or channel is the only safe route for the water.

Lots < 1.0 acre or south of the Whitewater River may drain to an acceptable drainage carrier, such as a street with curb and gutter, a storm drain, a channel, or as otherwise designed with the Tract or Parcel Map Hydrology Plans that apply to said lot. Permission from the Coachella Valley Water District must be obtained for any concentrated flows into its storm drain facilities. "Nuisance water" to the volume defined by the Whitewater Design from Riverside County Flood Control must be intercepted as a minimum condition.

Lots in areas designated as "Special Flood Hazard Areas" A, AE, AH, AO, A1-A30, and A99 on Flood Insurance Rate Maps shall comply with Municipal Code chapter 15.28. Show flood map designation on the Title Sheet if the project is in one of these areas.

Flowlines around house (see footnote on pg. 7):

2% minimum sheet flow away from house to a "swale" or to a piped drainage system.

Dirt "swales" shall be at least 0.5' below the dirt elevation next to the building, with a slope of 0.5% or better, 0.5' deep relative to lot perimeter, and located at least 3' away from buildings. Slopes over 20% require erosion control material approved by the City Engineer, to be noted on the plans.

Where swales go to walls or other obstructions make clear notes about how water gets through. Recommended opening in block walls is a half block. Omitted head joints are not sufficient in swales since they clog easily.

Concrete "swales" shall be at a slope of 0.5% or better, at least 3' away from buildings.

In piped systems, flow shall be 2% minimum in 3" pipes or 1% minimum in 4" to 6" pipes, Pipes 8" or larger go at lower slopes. Hydraulic calculations and material specifications may be required.

Show ground elevations to nearest 0.1'.

Show hard surface elevations to nearest 0.01'.

If used, show area drain systems with top of grate and flowline invert slopes and elevations. Pipes must flow downhill; "bubbler box" uphill flow outlets are not allowed unless provision is made for percolation of any remaining piped water into a percolation device acceptable to the City Engineer. (Core drilling of curb faces for pipe outlets may be done per City Standard 308 with a separate Encroachment Permit).

Drywells shall be designed and built per City Standard 306 or 311. If used, all drywells must show top of grate elevation, intermediate slab elevation and bottom elevation and invert elevations of any pipes coming into or out of the drywell. If the drywell is not built per City Standard 306 or 311, full construction details must be included on plans and prior approval of the City Engineer should be obtained. Drywell construction does not require a separate permit if it is included in plans linked to either an onsite Construction/Grading Permit or Encroachment Permit.

If used, show roof main drain locations and their connection to any underground system. The roof emergency overflow drains must be on independent lines per the UBC, not included with the main drains or area drains.

If used, retention basins shall be designed/built per City Standard 310. Note that basins shall retain the "worst case" of the 1,3,6 or 24hr., 100-year storm, with a 1' min. freeboard below pad elevation. Any slopes over 5:1 (20%) must have erosion control material identified on the plan. Gravel > 1" diameter, 3" deep, or continuous ground cover like grass, are typical acceptable erosion control materials.

The percolation rate for retention basins shown in City Standard 310 as 1"/hour shall be used for drywells and any other similar percolation devices unless percolation tests run by a Geotechnical Engineer show different actual rates at the site. With supporting data, the percolation rate may be brought up to half of the test rate, to a maximum rate of 5"/hour.

Drainage easements are required for drainage into any other private lots, including golf courses or common areas.

Slopes:

2:1 maximum cut and fill slopes, unless approved by the City Engineer, and the plans are signed by a Geotechnical Engineer.

A "berm" 1' high and 4' wide shall be provided at the top of all cut or fill slopes steeper than 5:1 unless approved erosion control is used on the slope faces.

Any project proposing cut or fill slopes over 6' high and steeper than 5:1 shall be reviewed by the City Council or Planning Commission.

A 5' minimum horizontal distance shall be maintained from the face of the slopes to the bottom of the footings for any building or wall structure.

Within the street parkway distance from the curb, (17' for "local" and "collector" streets, 25' or 32' on "arterials" (per Municipal Code Section 17.20.040) the landscape slopes must not exceed 20% (5:1), and mounds must not exceed 3 feet in height.

Garage floor must be a minimum 1% slope with spot elevations shown at edge, unless otherwise approved by the City Engineer. Top elevation of "stem wall" along sloped edges of garage floor shall be noted.

Location, elevations, and slopes of walls, slabs, "stem walls", deep footings, and other concrete items.

Location, elevations, of major landscape items such as: trees, mow strips, mailbox pedestals, edging, etc., that may interfere with drainage.

6" minimum from finish floor or top of stem wall to dirt. (See 2010 Calif. Residential Building Code, Section R317).

2" minimum drop from finish floor or top of stem wall to concrete (unless covered by three feet or more of roof overhang).

Residential driveways, per City Standard 211, or attached to "wedge curb" such as Standard 222, or with no curb, shall be designed with 10% maximum slope, 1% minimum slope. (Per Municipal Code 15.68.030 a recorded driveway approach covenant is required for all driveways built within the public right-of-way. Colored concrete, with moderate textures that are ADA compatible, and ADA compatible concrete pavers are now allowed, as well as the standard gray concrete).

17' minimum width to garage, 30' maximum width.

14' minimum width for "circular" driveway leg, with 20' separation between the two driveway approaches. Grass pavers may be used for circular driveway, if approach to garage is solid concrete.

A 3' min. landscape strip shall be provided between private driveways and walls.

Any sidewalks shall be routed behind the curb depression portion of the driveway approach, or the driveway shall be designed as if it was a handicap access ramp, per City Standards 215 or 223.

Property line label on sides and/or Right-of-Way label on street side must be shown.

Accurate lot bearings, distances, and arc data from record information or from new Record of Survey or Corner Record must be shown. A copy of said document may need to be submitted to City if requested.

Note property corner monuments that were found on-site. If corner monuments are missing, note that and show at least two found monuments that have been used to establish where the property lines are. Any corners previously monumented are expected to be reset prior to occupancy. Copies of filed "Corner Records" may be required prior to Final Occupancy to document any corners that have been re-established or replaced due to loss before or during construction.

Concrete "stippling", shading, or other indicator at sufficient intervals to make concrete areas clearly different from others.

Retaining walls cross section detail (dirt differential >6"). Whether or not they are designed by the same person doing the Grading Plan, the retaining walls detail must show:

Retaining height range

Footing orientation

Weep holes or "French Drain" location (piped wall drainage must be shown in plan view also).

Submit wall design calculations to Building and Safety Division for wall permits, if not on standard handout.

Freestanding Block Walls (dirt differential <6") per Building and Safety Handout or show detail.

Existing and proposed utilities shown and dimensioned relative to property line. (Sewer and Water mandatory, others recommended.) Any new service connections that involve street cutting require a separate permit. Note that sewer connections are now required for resale of buildings as well as for new construction, if they are within 200' of a sewer main.

The rim elevation of the nearest upstream sewer manhole shall be shown on the plans. A note shall be added at the sewer lateral location calling for a sewer backflow valve if any building plumbing drain levels are below that manhole rim elevation.

Septic tank and leach field or seepage pit locations, if applicable.

Water meter in driveway NOT ALLOWED unless permission is obtained from CVWD.

Sewer lateral under driveway NOT ALLOWED unless permission is obtained from CVWD (See CVWD Standard S-44 or S-45 for typical alternative).

Show easements, if any.

Street centerline label.

Construction Notes, if needed.

Demolition or Removal Notes, if applicable.

Pool rear setback, 5' unless otherwise approved by Planning Department.

Roof/patio column: 10' minimum setback from property line in backyard setbacks, otherwise the same as the building setback.

Roof overhang: 2' minimum setback from property line.

Separate Encroachment Permits are required for all driveways, curb cuts, or any street-related construction, within the public right of way.

Plans shall conform to Conditions of Approval set by Planning Department.

## PARKING LOT REQUIREMENTS (See Municipal Code Chapter 17.26)

A.C. slopes 1% minimum except at crest situations, 5% maximum in all general parking areas. Driveways may be up to 10% if alternate ADA accessible routes are provided.

Concentrated flowlines shall be in P.C.C. gutters @ 0.50% min. (see Valley Gutter Standard 220).

Striping per City Standard 408 and/or most current ADA Standards.

Typical parking stalls shall be 9' wide by 18' deep, per City Standard 408.

Landscaped areas to be 6' wide minimum, (10' minimum between public streets and parking) or as otherwise approved by Planning Department.

6' minimum landscape strip area between parking lot driveways and walls.

6" curbs around all landscape areas.

Wheel stops for protection of vertical elements.

Handicap stalls @ 2% slope or less in all directions.

Access ramps per City Standard 502 or per Caltrans Standard detail sheets A88A and A88B and/or current ADA Standards. (The current Caltrans standards got rid of the minimum slope and the 1/2" lip, but now require a 3' wide "truncated dome" panel at all ramps or sidewalk-to-drive-area connections. The truncated dome pattern is now parallel with the direction of travel.)

Access ramps must not stick out into driving areas, or into parking areas (See Caltrans ramp standards).

0.50% maximum for grade breaks in direction of travel.

Curb returns per City Standard 209, 210, or 215.

3" of A.C. over 4" of Class II aggregate base minimum structural section.

0.1' minimum A.C. overlay will require grinding for surface match at joints, no "feathering" of A.C. allowed.

Conformance with Conditions of Approval.

All drainage shall be designed so it does not go over any sidewalk.

Parking lot design shall provide for one tree for every five (5) parking spaces with no more than 30' between trees.

Minimum aisle width in parking lots shall be 24' per City Standard 408.

Parking lots shall be designed to handle the largest truck traffic that is allowed into the lot. (Approved truck turning templates should be used.)

## LOCAL AIR QUALITY MANAGEMENT PLAN (PM10 DUST MITIGATION PLAN)

Local Air Quality Management Plan (LAQMP) sheet (24" x 36" form, available on city website, shall be filled in and signed by the owner and Authorized Dust Controller prior to Grading Permit issuance.) For projects over ten acres, an 8.5" x 11" Air Quality Plan shall be prepared and submitted to the City and to SCAQMD per their guidelines in the "Fugitive Dust Control Handbook". The preparer of these documents and the Authorized Dust Controller signing these documents shall be certified in a SCAQMD Fugitive Dust Control Class. These documents should be submitted for City review by the time of the second Grading Plan Check so that any required temporary structures can be noted on the Grading Plans.

## CHECKLIST SUMMARY

Plans are acceptable as submitted. Please send stamped and signed mylars to Plan Checker or City for approval. Return check prints and this checklist with mylar drawings (no stick-ons).

Plans are not yet acceptable. Please return check prints, checklist, and two corrected copies for further review.

Please also send the following additional information or materials: \_\_\_\_\_

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### Footnote:

The 2018 International Building Code section 1804.4 Site Grading states that "The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5% slope) for a minimum distance of 10 feet (3048 mm) measured perpendicular to the face of the wall. If physical obstructions or lot lines prohibit 10 feet (3048 mm) of horizontal distance, a 5% slope shall be provided to an approved alternative method of diverting water away from the foundation. Swales used for this purpose shall be sloped not less than 2% where located within 10 feet (3048 mm) of the building foundation.

Impervious surfaces within 10 feet (3048 mm) of the building foundation shall be sloped not less than 2% away from the building. Exceptions 1. Where climatic or soil conditions warrant, the slope of the ground away from the building foundation shall be permitted to be reduced to not less than one unit vertical in 48 units horizontal (2% slope). 2. Impervious surfaces shall be permitted to be sloped less than 2% where the surface is a door landing or ramp that is required to comply with section 1010.1.5, 1012.3 or 1012.6.1, 1010.1.5 involves slope of landings at doorways, which cannot exceed 2% in any direction. 1012.6.1 states that landings for ramps cannot exceed 2% slope in any direction.

Based on the exceptions noted above, the City of Rancho Mirage is staying with our existing policy of allowing drainage on our typically sandy soil to be 2% minimum until the grade is 6" below the pad elevation, then it can be 0.5% minimum slope in the "swales" running roughly parallel with the buildings. Drainage away from buildings on concrete surfaces can be 1% minimum for the sake of ADA rules, then 0.5% minimum in concrete "swales" running roughly parallel with the buildings.