



**IMPROVEMENT PLANS
REVIEW CHECK LIST**

COVER SHEET

- ____ 1. Vicinity map showing all adjacent streets and major streets and highways within one mile of project
- ____ 2. Show project identification number and name of project, if applicable
- ____ 3. Show key or index map if more than 3 sheets
- ____ 4. Show clearly delineated tract boundary and construction boundary
- ____ 5. City of Concord signature block on all sheets
- ____ 6. Flood zone
- ____ 7. Cut and fill volume
- ____ 8. Project sheet index
 - Cover sheet
 - Project notes and City of Concord General Notes
 - Conditions of approval
 - Detail sheet
 - Demolition plan
 - Horizontal control/site plan
 - If required, sections, plan and profiles
 - Grading plan
 - Utility plan
 - Erosion control plan
 - Erosion control notes and details
 - Storm Water Control Plan (SWCP)
 - Landscaping
 - Irrigation
 - Photometric
 - Joint Trench

GENERAL

- ___ 1. North arrow on each sheet
- ___ 2. Numerical scale
- ___ 3. Compliance with City and/or State Standards
- ___ 4. Size (24"x36")
- ___ 5. Monuments shown per final map
- ___ 6. Name of engineering firm preparing the plans, with seal and signature of Registered Civil Engineer on each sheet
- ___ 7. Each plan sheet to have a revision block, including number, description, drawn by, approved, and date
- ___ 8. Plans should include all applicable general notes
- ___ 9. Leave a minimum of 2"x1" blank space on the title block for the engineering stamp.

SITE PLAN / HORIZONTAL CONTROL PLAN

- ___ 1. All street names and lot numbers shown, and in agreement with final map
- ___ 2. All electroliers shown in plan view.
- ___ 3. Check for conflict between electroliers and line of sight between monuments.
- ___ 4. Sidewalks at intersections must abut the back of curb
- ___ 5. Location and elevation of City bench mark datum identified. If not on city system, give equation to covert, if possible
- ___ 6. Approximate area of locations in flood zones, areas subject to storm water or tide water overflow and areas covered by water courses
- ___ 7. Poles and other above ground utilities shown
- ___ 8. Verify recorded public easements for sanitary sewer and storm drain facilities where needed, otherwise City will not maintain
- ___ 9. Subdrains for roadway located with right-of-way of easements 1' off lot line
- ___ 10. Check finished grades of all structures within street or sidewalk (e.g. manhole, junction boxes)
- ___ 11. All existing structures and pertinent topo around extremities of subdivision shown where appropriate
- ___ 12. Construction staking on existing streets set from established centerline, rather than property line
- ___ 13. Location and type of fence around the property
- ___ 14. Property lines with bearing and distance
- ___ 15. Indicate sight visibility triangle per City of Concord detail S-36

STREETS

- ___ 1. Widths of right-of-way, pavement, and sidewalks
- ___ 2. Compliance with City and/or State Standards
- ___ 3. Curve data on centerline and curbs
Minor street: minimum horizontal curve center line $R = 75$ ft.
Bulbs and cul-de-sacs: face of curb $R = 33$ ft. minimum, property line $R = 40$ ft. minimum
- ___ 4. Horizontal and vertical curves and stopping sight distance per City of Concord Development Code
- ___ 5. Traffic signs and striping as required by the City of Concord
- ___ 6. Hydrant locations shown
- ___ 7. City standard ADA ramp at all returns and driveways
- ___ 8. Cul-de-sac maximum length 600 ft.
- ___ 9. Typical cross section shown for all streets
- ___ 10. Conform paving.
 - a. Typical cross sections shown, and cross sections at every half station, including existing paving, conform paving, new and existing curb and gutter, and existing and proposed center line and cross slope.
 - b. Cross slope of conform section between 1.5% and 5%.
- ___ 11. New streets or existing unpaved street with half street improvements – full depth pavement section extend one lane width beyond centerline. Provide for drainage at edge of pavement
- ___ 12. Dead-end street barricaded
- ___ 13. Structural roadway section shown. Design based on $R=5$ unless actual is known. Appropriate T.I. used per Traffic Department
- ___ 14. A. C. thickness = 4 inches minimum in public right-of-way
- ___ 15. All pavement fog sealed
- ___ 16. Minimum relative compaction under sidewalks and driveways 90%

CURBS

- ___ 1. Minimum slope 0.005
- ___ 2. Curb return radius at property line 20 ft. minimum
- ___ 3. Curb return minimum slope .008, profiles shown
- ___ 4. Vertical curve provided for grade break greater than 1%
- ___ 5. Vertical curve provided at curb return for drop greater than 2 ft.
- ___ 6. Use State Design Manual to check sight distance, sags and grade breaks
- ___ 7. Minimum relative compaction of subgrade 95%

MONUMENT LOCATION

- ___ 1. Streets without median islands
 - ___ a. 8 ft. off street centerline
 - ___ b. At all B,C. and E.C.
 - ___ c. At all street intersections
 - ___ d. Cul-de-sac radius point, 8-ft. offset
 - ___ e. At P.I. or curve midpoint when sight from B.C. and E.C. monuments is impossible
 - ___ f. Locate consistently on same side of street.

- ___ 2. Streets with median islands
 - ___ a. Locate within median area, with clear line of sight between
 - ___ b. Use consistent off-set from center-line
 - ___ c. 1-1/2 ft. behind median curb face minimum

GRADING PLAN - PLAN REQUIREMENTS

- ___ 1. Name of engineering firm which prepared the plans with signature and seal of Registered Civil Engineer and date
- ___ 2. Indicate Flood Zone
- ___ 3. If the new or replaced impervious area is greater than one acre, provide Waste Discharge Identification Number (WDID)
- ___ 4. Submit electronic copy of soils and geology report, if required
- ___ 5. Earthwork quantities indicated on plan:
Cut: ___ C.Y., ___ Fill: ___ C.Y. ___ Import ___ Export ___
- ___ 6. Grading permit number on plan, which will be provided once the permit fees are paid
- ___ 7. Submit calculations for drainage facilities, if required
- ___ 8. Vicinity map required or expanded, show all adjacent streets and also major streets or highways within one mile of project
- ___ 9. Provide title block for City signatures on every sheet
- ___ 10. North arrow
- ___ 11. Numerical scale
- ___ 12. Streets and lots conforms with tentative map or final map, if applicable
- ___ 13. Street names shown correctly

GRADING PLAN - PLAN REQUIREMENTS (Cont.)

- ___ 14. Bench mark
- ___ 15. Clearly delineated construction boundary
- ___ 16. Lots shall be numbered and dimensioned per final map or parcel map, if applicable
- ___ 17. Adjacent property to be labelled as to use: Agricultural, citrus orchard, pasture, existing homes or commercial property
- ___ 18. Existing and proposed storm drain line and structures: their location and disposition.
- ___ 19. Drainage swales and slope
- ___ 20. Elevations of high points and swales in side and rear yards shown
- ___ 21. Lot drain to fronting streets, or to lined ditch, pipe system or bio-retention
- ___ 22. Existing spot elevations of adjacent developments and natural drainage patterns around the perimeter of the proposed tract shall be shown in sufficient detail to be able to evaluate the proposed grading
- ___ 22. Generally show cross-sections along the perimeter of the tract at the following locations:
- ___ 23. Abutting an existing tract, and proposed tract is in fill. Fill slope is required to be on adjacent property, or retaining wall may be used
- ___ 24. Areas in fill on upstream side of tract; does tract receive and dispose of run-off? (Off-site or on-site ditch or drainage structure may be required)
- ___ 25. Areas in heavy cut upstream side of tract; does proposed grading result in one or more lots receiving concentrated flow
- ___ 26. Show typical lot section
- ___ 27. Streets discharging water (to an undeveloped property) should be ditched from end of gutter to daylight. Right-of-entry and/or easement may be required
- ___ 28. Streets receiving water should have swales graded to the gutters approximately normal to contours
- ___ 29. Show existing contours; also new ones, if applicable
- ___ 30. On hillside development or other unusual grading situations, roof drainage system must be piped to drain to the bio-retention or landscaping area
- ___ 31. A minimum of 3' of clear space, after deducting for any slopes, stoops, or fireplaces, should remain to carry drainage along narrow side yards. Otherwise design lot grading so that no water is conveyed to that side
- ___ 32. Tract continues to receive natural runoff from adjacent property/ies upstream
- ___ 33. If located in "Flood Zone", base flood elevation must be shown on improvement plan, with finished floor elevations and the City will require an elevation certificate
- ___ 34. Contour lines of existing ground having intervals of not over two (2) feet for ground slopes under five percent (5%), and not over five (5) feet for ground slopes over five percent (5%), extending 50 feet or more beyond subdivision property lines
- ___ 35. Within hillside/te development area, show contours for existing and proposed grading, including surrounding properties, and cross sections

GRADING PLANS - PLAN REQUIREMENTS (Cont.)

- ____ 36. Where valley gutters are used, street crown tapered to allow street flow into gutter
- ____ 37. Flowlines and centerlines identified with elevations and slopes
- ____ 38. If the new or replaced impervious area is greater than one acre, provide Waste Discharge Identification Number (WDID)
- ____ 39. City of Concord Grading and Erosion Control Notes

UTILITY PLAN

General:

- ____ 1. Identify the location, depth and size of all underground utility lines within the site
- ____ 2. All above-ground structures shall be installed within the private property

SANITARY SEWERS

Sanitary sewers shall be designed in accordance with the Central Contra Costa Sanitary District (CCCSD) design requirements.

- ____ 1. Minimum slopes and cover provided per CCCSD
- ____ 2. Where less than 48 inches cover, can abutting lots sewer
- ____ 3. Concrete jacket provided at crossings within one foot
- ____ 4. Lengths, slopes, pipe sizes and materials shown in profile
- ____ 5. Manholes provided at all grade breaks
- ____ 6. 10-ft. public service easement provided for non-roadway and off-site sewers
- ____ 7. Check lines to be extended for possible necessary upgrades or modifications
- ____ 8. Provisions included for future connections
- ____ 9. Cleanouts on all laterals on property line and building
- ____ 10. Backflow preventers at building
- ____ 11. Sanitary sewer manhole is required at connection to the trunk line

MANHOLES

- ____ 1. Maximum spacing 500 ft.
- ____ 2. M.H. to cleanout 200 ft. maximum
- ____ 3. M.H. located at centerline or lane lines
- ____ 4. On cul-de-sac, M.H. at end of line 10 ft. past center

MANHOLES (cont.)

- ___ 5. On dead end street, M.H. or cleanout located 10 ft. beyond last lot (if no extension planned), or at tract line (if to be extended)
- ___ 6. Off-site M.H. one foot above grade with bolt down lid
- ___ 7. M.H. provided at junction of main and lateral 6 inches or larger
- ___ 8. For deflection angle between incoming and outgoing lines less than 30°, need .01 ft. minimum grade drop. If greater than 30°, need 0.25 ft. minimum grade drop
- ___ 9. Deflection angle no greater than 90°

STORM DRAINS

- ___ 1. 15-inch diameter minimum
- ___ 2. New lines conform with Storm Drain Master Plan
- ___ 3. Designed for 10-year storm, using 17.5 inches precipitation
- ___ 4. Maximum cover/adequate pipe strength provided
- ___ 5. Cast-in-place concrete pipe – minimum radius per City Guidelines
- ___ 6. RCP Class III minimum
- ___ 7. Catch basin spacing 700 ft. maximum
- ___ 8. M.H. at every grade break
- ___ 9. Off-site M.H. 6 inches above grade with side opening
- ___ 10. Catch basins at returns where possible
- ___ 11. Valley gutters: 10 ft. wide; minimum slope .005; conform with Standard Plan S-16
- ___ 12. Length, slope, size and pipe material called out for every line on plan and profile

LANDSCAPING

- 1. No trees shall be installed within the storm and sewer line easement
- 2. No tree shall be installed over any proposed or existing utility line
- 3. Soils, plantings and irrigation for bio-retention facilities shall comply with Appendix B of the Stormwater C.3 Guide Book

STORM WATER CONTROL PLAN (SWCP)

If the project creates or replaces more than 2,500 sq. ft. of impervious surface, then it must comply with the [Stormwater C.3 Guide Book, 7th edition](https://www.cccleanwater.org/construction-business/development/stormwater-c-3-guidebook) at <https://www.cccleanwater.org/construction-business/development/stormwater-c-3-guidebook>

<https://www.cccleanwater.org/construction-business>

An operation and maintenance report will be required once the C.3 report is approved.

In addition to the C.3 Guide Book requirements, the following needs to be included in the SWCP:

- Drainage area
- Call out all DMAs & IMPs
- Project data table
- Proposed and existing grades
- Proposed and existing storm drain lines
- Rim elevation of all proposed and existing storm drain structures
- Bio-retention spot elevations
- Bio-retention detail
- Legends and abbreviations
- Drainage directional arrows
- Proposed and existing storm drain system