



County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

DEVELOPMENT ENGINEERING GRADING & DRAINAGE PLAN CHECKLIST

TO: _____

DATE: _____

FROM: _____

SUBJECT: _____

The primary purpose of a Drainage and Grading Plan is to guide the construction of permanent improvements within master-planned drainage areas and conformance with County Grading & Flood Ordinances. When a Drainage Report has not been submitted to show otherwise, such a plan is also appropriate to show how a project outside master-planned areas will not adversely affect adjacent properties.

Submission of this checklist at the time of initial plan-check will expedite review and approval, and subsequent issuance of desired permits. Failure to **comply with these requirements** will inhibit issuance of permits. **Please indicate by the appropriate mark whether the items below have been addressed.**
The following marks shall be used:

(√) OK / Satisfied

(N/A) Not Applicable

(TBD) To Be Determined

General

- () 1. Layout conforms to approved Site Plan and Conditions of Approval letter. This must be verified with property, right-of-way and site dimensions on the grading plans and in all applicable sections.
- () 2. Engineer's (RCE) stamp and wet signature with date of signing on each sheet of the plans.
- () 3. Engineer's Certification with stamp, wet signature and date signed on the cover sheet and grading and drainage plan sheets: "This plan will not impose a drainage, grading or flooding hazard to itself and surrounding properties."
- () 4. Review and approval of FMFCD (Check requirements in Conditions of Approval letter and/or FMFCD Notice of Requirements).
- () 5. Off-site grades conform to proposed road improvement plans.
- () 6. Engineering drawing and bar scales, north arrow, and property lines shown.
- () 7. County general notes, grading and drainage notes and preservation of existing monumentation. notes shown on plan. See County of Fresno Improvement Plan Notes.
- () 8. Estimated earthwork quantities of on-site and off-site excavation and fill shown including import and export of earth materials.

- () 9. Paving section shown per County Improvement Standards A-10 and A-11.
- () 10. Engineer's Construction Cost Estimate for improvements provided signed and stamped by RCE.
- () 11. Letter of Retention from Engineer of Record (E.O.R.) to provide inspection of proposed site improvements and certify completion of all related improvements for the site.
- () 12. Datum for all elevations and grades as shown on the improvement plans (County datum required except in extreme rural areas – use USGS contour with TBM where unavailable).
- () 13. Proposed and existing walls or fences and gates with location, typical section, height, material shown and labeled on plans. Include design where retaining more than 12" of soil with soil design parameters prepared by a licensed Engineer.

Drainage

- () 1. Sufficient existing and proposed elevations and slopes with dimensions.
- () 2. Sufficient cross-section details shown with dimensions.
- () 3. Roof drainage and drip lines shown.
- () 4. Drainage away from structures provided; 100-year event and 2022 CBC Section 1807 considered.
- () 5. Provisions for maintaining natural drainage from off-site.
- () 6. Hydrology and hydraulics calculations provided. Refer to Improvement Standards and Conditions of Approval letter for design criteria.
- () 7. Runoff Disposal / Basin Design Per County Standards (Max. Slope 3H:1V)
 - a. Setback provided – 2022 CBC, Section J108 as adopted and amended by Fresno County Ordinance Code Section 15.28.020-P&Q.
 - b. Erosion controls – 2022 CBC, Section J110
 - c. Six foot fence if potential depth is deeper than 18 inches.
 - d. Leach line or drain well design in compliance with Improvement Standard C-5 or C-8 and EPA Class V requirements for injection wells.
 - e. Drainage to natural channels shown (if permitted).

NOTE: Combinations of storage and percolation designs will not be permitted for the same tributary area without geotechnical analysis and maintenance covenant.

Grading

- () 1. Finish floor elevation to meet Code requirement of Fresno County Ordinance Code Section 15.08.020-O.
- () 2. Geotechnical Engineer certification of earth slopes steeper than 2H:1V.
- () 3. Grading authorization by adjacent property owner provided or executed and recorded slope easement.
- () 4. The finish floor (FF) elevation is to be above the crown of the adjacent street.
- () 5. Show the drainage patterns to the street or an approved drainage facility.
- () 6. Show and label on plan the slopes around the proposed structure.
- () 7. Provide actual/relative elevations for the building pad, lot corners and crown of adjacent streets.
- () 8. Show all existing or proposed terracing, swales, retaining walls and drainage patterns.
- () 9. For all foothill and mountain parcels with sloped grades, show all existing and proposed grade contours on the plan.
- () 10. Indicate the location of any required retaining wall(s) in excess of 4 feet from bottom of

footing to top of wall and any retaining wall(s) supporting a surcharge. Calculations, typical detail drawings and geotechnical investigations with soils properties must be provided for all retaining walls.

- () 11. Provide erosion control on all slopes where native vegetation is non-existent due to construction activities. Provide straw and seed (worked into soil to create a non-combustible surface), jute mesh or hydro-seeding as required to stabilize all slopes.

Flood Hazard

- () 1. The type of flood zone and/or plain determined.
() 2. The 100-year on-site flood level with supporting data. (Base flood elevation, BFE)
() 3. FEMA FIRM information listed as source.
() 4. Supporting documentation and/or data showing the following:
 () a. Compliance to Fresno County Flood Hazard Areas Ordinance Chapter 15.48 of Fresno County Ordinance Code Title 15 – Building and Construction.
 () b. Removal Determination Letter from FEMA effectively removing the proposed location being outside a Special Flood Hazard Area.
() 5. Plan shows pertinent data (i.e. finish floor elevation) matching that shown in supporting documents provided.

I hereby certify under penalty of perjury that the above information is complete, pertinent, true, accurate, verifiable and correct.

REGISTERED CIVIL ENGINEER
(Stamp required per PE Act)

Notes Required on Plan(s) Sheets as Applicable

GENERAL NOTES:

1. The work embraced herein shall be in accordance with the appropriate provisions of the specifications entitled "Improvement Standards, County of Fresno, State of California, October, 1966 and as amended, insofar as the same may apply.
2. The Contractor shall notify the Department of Public Works and Planning of the County of Fresno at (559) 600-4022 and 72 hours prior to the start of construction.
3. All work installed shall meet or exceed Fresno County Improvement Standards and current industry standards. Where work proposed is not addressed with these standards, the Contractor shall defer the latest adopted version of the Caltrans Standard Plans and Specifications for compliance.
4. Inspection request shall be within 24 to 48 hours prior to inspections by the County Engineering Inspector.
5. An Encroachment Permit is required for any work to be performed in the County of Fresno road right-of-way. Contact the County Permit Engineer at (559) 600-4240 to obtain permit. If an Encroachment Permit has not been obtained within 12 months of the approval date of these plans, additional review and revisions to the plans may be required before the permit is issued.
6. All Contractors are required to have a \$6,000.00 performance bond on file with the County of Fresno Maintenance & Operations Division prior to obtaining an Encroachment Permit.
7. The work embraced herein shall not be commenced until the Owner of the property or the Contractor has first been provided an inquiry identification number for subsurface installations as specified in Section 4216 of the Government Code.
8. Before commencing work, the Contractor shall notify all utility authorities or utility companies having possible interest in the work of the Contractor's intention to excavate proximate to existing facilities and the Contractor shall verify the location of any utilities in the work area. The Contractor shall notify Underground Service Alert (U.S.A.) two (2) days prior to beginning any excavation.
9. The Contractor shall obtain written authorization from any property owner giving him permission to enter his property for the purposes of constructing the improvements delineated on these plans and transitions thereto. The Contractor shall provide the County with a copy prior to start of any work.
10. The work embraced herein shall not be approved until such time as the Owner of the property or the Contractor has complied with all applicable State Responsibility Area (SRA) requirements as specified in Section 4290 of the Public Resources Code.
11. Where improvements are proposed that do not meet County Improvement Standards, a submittal shall be provided to Development Engineering and receive approval prior to installation.
Field revisions, for work proposed, shall warrant review and approval by the County Senior Engineering Technician or his authorized County Inspector/Representative prior to acceptance.*

12. Track out cobble platform required. Any dirt or debris tracked onto existing County roads from this project shall be cleaned off at the end of each working day to the satisfaction of the County Inspector.
13. The costs of all testing required for acceptance of work shall be fully borne by the Applicant. Copies of testing results will be given to the County Inspector.
14. All work performed "AT-RISK" without approval of these plans or any revisions thereafter is subject to revision, exposure, removal and replacement at the Applicant's cost.
15. Temporary erosion control shall be provided with the installation of straw waddles, silt fences or other means agreeable to the County of Fresno for projects that are not required to have a SWPPP.
16. Permanent erosion control shall be straw-and-seed, jute mesh netting, hydro-mulch, or other type of landscaping to prevent erosion of material. All work proposed shall comply with Sections 20 and 21 of the CALTRANS Standard Specifications.
17. Trench cuts in existing streets that are not to be reconstructed or overlaid shall have permanent trench resurfacing installed within seven (7) days after any initial street cut.
18. Permanent trench resurfacing to be per County Standard, or as detailed.
19. Temporary trench resurfacing to be a minimum 4" cold mix.
20. All work proposed not specifically identified or discussed in the County Improvement Standards shall be in compliance with the latest version of the CALTRANS Standard Plans and Specifications or current industries standard and approved by the County inspector prior to construction.
21. Subdivision Improvement Plans and Offsite improvement Plans shall comply with the Conditions of Approval for Tract # _____ and Millerton Specific Plan.*
22. A written clearance shall be obtained from State Department of Fish and Wildlife. The Contractor shall provide the County with a copy prior to start of work near or within designated stream/creek.
23. Any proposed fencing (e.g., subdivision perimeter walls), lighting and signage shall require approval of Architectural Review Committee (ARC) prior to construction/installation.*
24. Change of driveway locations as noted on plans, requires authorization of County Engineer.*
25. Major change from plans, specifications require written submittal from Engineer of Record for approval by County prior to change. Definition of major change will be determined by the County Engineering Inspector.*
26. All surveying / staking cut sheets shall be submitted to the County Inspector within 24 hours of work.*
27. A pre-construction meeting shall be conducted prior to any work beginning on a project.*
28. Street trees shall be planted in front of each lot. Corner lots shall have one tree each frontage. The minimum height shall be 6 ft in place. The type of tree shall be chosen from an approved tree list authorized by the Fresno County Tree Board. Trees planted by the developer shall be maintained and watered for one year after acceptance of works pursuant to County of Fresno Improvement Standards Section IIA.11.*

*Notes required to be added for Subdivision Onsite and Offsite Improvement Plans.

PRESERVATION OF EXISTING MONUMENTATION NOTES:

1. Pursuant to Sections 8771(b) and 8771(c) of the Government Code, any monuments that control the location of boundaries, or otherwise provide horizontal or vertical survey control within the construction area, shall be located and referenced prior to construction, and a corner record or record of survey of the references shall be filed with the County Surveyor.
2. Permanent monumentation shall be set to perpetuate the location of any monument which could be damaged or destroyed, and a corner record or record of survey shall be filed with the County Surveyor prior to the recording of a certificate of completion for the project.

GRADING & DRAINAGE NOTES:

1. The work embraced herein shall be done in accordance with the appropriate provisions of Chapter 18, Chapter 33, and Appendix J of 2022 California Building Code and/or California Residential Code as adopted and amended by Chapter 15.28 of the Fresno County Ordinance Code.
2. A grading permit or voucher shall be obtained from the County of Fresno Public Works and Planning Department, Development Engineering Section prior to any grading and paving work for this project.
3. This property has been identified as being within or adjacent to a known flood zone (SFHA) as identified on the Federal Emergency Management (FEMA) Flood Insurance Rate Maps (FIRM) for this area. Compliance with all aspects of the County Floodplain Ordinance Section 15.48 and completion of an Elevation Certificate or a map of survey is required. Elevation certificate prepared by a licensed engineer or land surveyor is required for development within a flood zone. For development near a flood zone, a map of survey stamped and signed by a professional land surveyor must be submitted if required by the Grading Official.
4. Approval by County Development Engineering of this site plan does not constitute approval of any off-site work in the public right of way that may be shown on this plan. Off-site work is shown on this plan for information and coordination purposes only and will require an Encroachment Permit from the County Roads & Maintenance Division's Permit Engineer. Call (559) 600-4240 for the Permit Engineer at least 72 hours prior to commencement of any work. All work performed in the County right-of-way shall be in compliance with Road Maintenance & Operations Division and/or Design Division requirements.
5. A Dust Control Plan to be submitted to San Joaquin Valley Air Pollution Control District at the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development. Construction activities shall not commence until the Air Pollution Control District has approved or conditionally approved the Dust Control Plan. Written notification shall be provided to the Air Pollution Control District within 10 days prior to the commencement of earthmoving activities. A copy of the written Notification shall be submitted to the County.
6. Dust Control, Notification: Earthmoving Activities on Small Construction Sites. Written notification to be provided to the Air Pollution Control District 48 hours prior to intent to

commence any earthmoving activities for residential construction sites ranging from 1.0 to less than 10.0 acres in area, or for non-residential development construction sites ranging from 1.0 to less than 5.0 acres in area.

7. A Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) are required to be filed with State Water Resources Control Board (SWRCB) before the commencement of any construction activities disturbing 1.0 acre or more of area. Copies of NOI and SWPPP shall be provided to Development Engineering prior to the approval of these plans.
8. A letter from the design engineer certifying that the existing or proposed basin is designed to capture and retain all storm water runoff associated with a 100-year wet year and can contain all storm water under all climatic circumstances shall be required **prior to final acceptance and/or occupancy issuance.**
9. Inspection of the rough graded pad/rough grading and finished grading is required prior to acceptance and release of the grading permit final.
10. Compaction reports are required to be submitted to Development Engineering for all fills. Areas within flood zones required 95% minimum compaction.
11. A "Hold on Occupancy" will be in effect until such time as the development is certified 'As-Built' by the Engineer of Record.
12. Maximum cut and fill slopes shall be 2H:1V or as allowed per an approved and filed Soils Report.
13. Maximum side slopes for ponding basins storage facilities shall be 3H:1V unless otherwise approved by the Grading Official or an approved soils report.
14. The ground around the structure shall be sloped two percent (2%) for a distance of five feet (5') to provide drainage away from the structure or **as approved by the Building Official.**
15. Benching shall be provided in accordance with 2022 CBC Section J107 Fills and Soils Report prepared by _____, Report Number _____, dated _____ where existing grade is at a slope steeper than 5H:1V (20%).
16. Any vertical cut or fill differential equal to or greater than twelve (12) inches between adjacent properties shall be supported by an approved retaining wall.
17. Any development proposing a bridge or road culvert crossing a stream shall require a streambed permit application and two copies of plans. The streambed permit application and two copies of the plans shall be submitted to Mr. Charles Walbridge of California Department of Fish and Wildlife for their review. Contact him via email on Charles.Walbridge@wildlife.ca.gov or at (559) 243-4014 ext. 352. Copies of permit application and LSA Agreement shall be submitted to the County.

DUST CONTROL NOTES:

1. A Dust Control Plan to be submitted to San Joaquin Valley Air Pollution Control District at the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development. Construction activities shall not commence until the Air Pollution Control District has approved or conditionally approved the Dust Control Plan. Written notification shall be provided to the Air Pollution Control District within 10 days prior to the commencement of earthmoving activities. A copy of the written Notification shall be submitted to the County.
2. Dust Control, Notification: Earthmoving Activities on Small Construction Sites. Written notification to be provided to the Air Pollution Control District 48 hours prior to intent to commence any earthmoving activities for residential construction sites ranging from 1.0 to less than 10.0 acres in area, or for non-residential development construction sites ranging from 1.0 to less than 5.0 acres in area.
3. Spray water on all exposed earth surfaced during clearing, grading, earth moving and other site preparation activities throughout the day to minimize dust. Use Tarpaulins or other effective covers on all stockpiled earth material and on all haul trucks to minimize dust. Sweep adjacent street frontages at least once a day or as needed to remove silt and other dirt which is evident from construction activities. Ensure that construction vehicles are cleaned prior to leaving the site to prevent dust and dirt from being tracked off site.
4. All exposed surfaces shall be watered a minimum of twice daily unless deemed unnecessary due to weather. Water shall be applied as provided in Section 10 of Caltrans Standard Specifications.
5. Dust palliatives may be substituted for watering upon the approval of the County Inspector/representative. Dust palliatives shall be applied as provided in Section 18 of Caltrans Standard Specifications.

ROAD IMPROVEMENT PLAN NOTES:

1. All underground utilities shall be installed and approved prior to paving.
2. Prior to the laying of the sub base or base material on the roadway, the Engineer shall certify in writing that the sub grade elevations are in conformance with the approved plans prior to placement of aggregate base.
3. Actual road section thickness (structural sections) shall be determined from final R-values taken when sub-grade is completed. Sub-grade scarification and re-compaction required.
4. All sanitary sewer, storm drain, water main valves (cap and lid) and utility manholes affected by this project shall be adjusted to grade as necessary and included in this work.
5. Prior to final acceptance of this subdivision or improvements, all centerline monuments shall be placed per County of Fresno Improvement Standard E-1.
6. Fog seal shall be applied to all asphalt concrete surfacing in compliance with Section 37 of the Caltrans Standard Specifications.

7. Brow ditches shall be provided in all areas to prevent erosion where significant cuts are made to adjust proposed road profiles. Brow ditch/Drainage terrace shall be required where ground slopes are steeper than 3 horizontal to 1 vertical (33%). Shall be at least 6 ft in width and constructed every 30 ft or less vertical intervals on all cut or filled slopes to control surface drainage. Permanent access shall be provided for maintenance activity.
8. All curb and gutter shall be water tested under the direction and in the presence of the County Inspector prior to any road operation.
9. Sidewalks shall not be poured until all water meter boxes and services have been inspected by the County and any necessary road signs have been installed.
10. The Contractor shall place a 4" diameter PVC sleeve over posts for road signs to aid in future removal and replacement outside of ADA path of travel (POT).
11. Contractor shall submit a traffic control plan to the County of Fresno and obtain an approval prior to the preconstruction meeting.
12. All existing irrigation pipelines within the road right-of-way shall be completely removed.
13. No County of Fresno Public Road shall be closed without prior approval from the County of Fresno's Maintenance Engineer.
14. No storage of equipment or materials will be allowed in the Public right-of-way.
15. No open excavation allowed after working hours. All excavation areas to be properly secured when work crews are away from site. All excavations in road and shoulder area shall be covered with steel plates to prevent accidental entry by traffic or the public.
16. Show and identify all existing and proposed signing, striping and markings a minimum of 300 ft beyond the limits of construction and show whether they are to remain, be removed or be relocated.
17. All signing, detouring and barricading shall conform to the latest edition of the California Manual on Uniform Traffic Control Devices (MUTCD) and the accepted Traffic Control Plan.
18. County sidewalk shall be a minimum thickness of four (4) inches and sidewalk through a driveway section shall be a minimum thickness of six (6) inches. Concrete driveway approaches shall be a minimum thickness of six (6) inches.

STORM DRAIN IMPROVEMENT PLAN NOTES:

1. Storm drain pipe shall be CMP or R.G.R.C.P. Class III or better unless otherwise approved. Rubber gaskets for concrete pipe shall comply with ASTM standards. All pipes shall be tested to appropriate LBS. rating as required for traffic and Fire equipment loading per County of Fresno standards. ADS [N-12] is allowed on-site only and per FMFCD standards.
2. All storm drain pipe shall have a minimum of 36" cover within County right of way and 24" for other applications as measured from top of the culvert to finished surface. Shallow pipe shall require a minimum 2 sack slurry backfill or steel casing for protection.
3. All storm drainage facilities are to be constructed in accordance with the County of Fresno Improvement Standards. Where within the jurisdiction of a community service district, all work shall conform to their requirements were exceeding those of the County.
4. Storm drain mains must be installed and tested per County of Fresno Improvement Standard requirements for gravity pipe and per the manufacturer's specifications.

5. Provide paddle markers at each end of culvert crossing where intersections roads. Use CALTRANS Type or approved equal with reflective facing. In snow areas, markers shall be at least 6 ft high as measured from finished grade.
6. All basins deeper than 18" shall be fenced with 6 ft tall chain link or approved equal as required by specific plan.
7. All storm drain work proposed within the Fresno Metropolitan Flood Control District (FMFCD) boundary shall be in compliance with their standards. Approval from the District is required prior to issuance of County permits and placement of their facilities.
8. All catch basins and SDMH (Storm Drain Manhole) lids within County right of way shall be able to withstand traffic loading and be compliance with ADA requirements.
9. All existing irrigation pipelines within the road rights of way and the lots shall be completely removed.
10. All storm drainage facilities are to be constructed in accordance with the County of Fresno Standard Specification, Standard Plans and approved plans.
11. Storm drain mains must be installed and tested per County of Fresno Standard Requirements for gravity pipe and the manufacturer's specifications including CCTV video pipe inspection at the Contractor's expense.
12. Storm drain pipe lines shall have a horizontal separation of 8 ft from sanitary sewer pipe lines or as allowed by the County.
13. The minimum inside diameter of SDMH shall be 60" with steps if the distance between the flowline of the SDMH and the finish grade of the lid is greater than or equal to 12 ft.

SANITARY SEWER NOTES:

1. Sewer mains must be installed and tested per County of Fresno Standard Requirements for PVC gravity sanitary sewer pipe including ball-flush, mandrel inspection, leakage test, and video inspection of pipes.
2. The Contractor shall mark the location of all wastewater laterals and water services with letters "S" & "W" at least 2" high engraved into the curb.
3. The sewer system shall be completed and accepted by the County and any affected Public Utility District prior to the issuance of a Certificate of Occupancy.
4. Sanitary sewer lines shall be internally inspected by television and recorded on DVD and submitted to the County Inspector at the Contractor's expense.
5. Stainless steel material for saddles, bolts, nuts, etc. connections for saddles on connection of sanitary sewer laterals to the sewer main.
6. All SSMH (Sanitary Sewer Manhole) lids within County right of way shall be able to withstand traffic loading.
7. A backflow prevention valve shall be installed on a service tap if the lowest finished floor elevation is below the upstream manhole rim elevation.
8. The minimum inside diameter of SSMH shall be 60" with steps if the distance between the flowline of the SSMH and the finish grade of the lid is greater than or equal to 12 ft.
9. The minimum inside diameter of SSMH shall be 60" when 3 pipes enter the SSMH and two of the flows oppose one another.
10. No gravity sanitary sewer main shall be less than 8" in diameter due to maintenance issues unless allowed by the County.
11. The sewerage system shall meet or exceed the minimum requirements of County of Fresno Improvement Standards Section II.D. Sewerage Systems.

WATER NOTES:

1. Water meter boxes shall be placed on 6" of Class II gravel or approved equal and with ¼" X ¼" stainless steel wire extended 6" beyond box location.
2. Water meter boxes shall be placed in planter strip. No water meter box shall be installed in sidewalk.
3. Water valve boxes shall be "Christy" G-5 with cast iron lid or approved equal. Double boxes may be required in Millerton New Town area. One for residence and one for sprinkler systems.
4. All water main valves shall be AVK with stainless steel shafts or approved equal. All water main valves (cap and lid) affected by this project shall be adjusted to grade as necessary and included in this work.
5. No water main shall be closed by the Contractor except in the case of a broken main. The Contractor shall notify the County and any affected Public Utility District immediately after a line is broken.
6. Water pipe shall be PVC, AWWA C900 Class 150 (DR-18) with rubber gaskets per ASTM D-1869 and F-477 or approved equal. A hydrostatic test shall be conducted on the entire pipeline for a period 2 hours at a hydrostatic pressure of 150 psi for Class 150 pipe and 200 psi for Class 200 pipe and chlorinated per County of Fresno requirements. In locations where there is a combination of Class 200 and Class 150 pipe, the system testing pressure shall be 150 psi. All valves in the pipeline shall be in the open position during system testing.
7. Gate Valves shall be AWWA C-509-80. Type of Gate Valve shall be approved by the County of Fresno. AVK with stainless steel stems or approved equal. AWWA C500-86, C509-87 latest addition epoxy coated with resilient wedge non-rising stem with 2" nut.
8. Fire hydrants shall be "Mueller" A-380-H or approved equal. Fire hydrants shall be constructed per the County of Fresno Improvement Standard W-1 and W-2 detail drawings, and shall be "dry barrel" type with a 36" x 36" concrete pad.
9. All fire hydrants are to be placed and working before "building" construction begins.
10. The Contractor shall mark the location of all wastewater laterals and water services with the letters "S" & "W" at least 2" high engraved into the curb.
11. Tracer wire # 10 gauge blue copper wire to be laid along top of non-metallic pipe and held in place of 5 ft intervals by duct or plumbers tape and connected to all valves and fittings. Wire connections shall be watertight with soldered connections.
12. Water pipe lines shall have a minimum 10 ft clear horizontal separation from sanitary sewer pipe lines.
13. The bottom of pressure water mains shall be one (1) ft vertically above any parallel pipelines conveying untreated sewage, primary or secondary treated sewage, recycled water, storm drainage, and hazardous fluids such as fuels, industrial wastes, and wastewater sludge when the clear horizontal distance between a water main and the said parallel pipeline is ten (10) ft or less per State of California Department of Health Services.
14. The bottom of pressure water mains shall be at least one (1) foot above the top of sanitary sewer and storm drain lines where these lines must cross.
15. The water system shall meet or exceed the minimum requirements of County of Fresno Improvement Standards Section II.C. Water Systems.

NON-POTABLE WATER NOTES:

1. Irrigation water meter boxes shall be placed on 6" of Class II gravel or approved equal and with 1/4" X 1/4" stainless steel wire extending 6" beyond the box.
2. Irrigation water meter boxes shall be placed in planter strip. No irrigation water meter box shall be installed in sidewalk. Notify the County of Fresno 24 hours prior to pouring.
3. All non-potable water main valves (cap and lid) affected by this project shall have marking designating "non-potable water" and shall be adjusted to grade as necessary and included in this work.
4. No non-potable water main shall be closed by the Contractor except in the case of a broken main. The Contractor shall notify the County and any affected Public Utility District immediately after a line is broken.
5. Non-potable water pipe shall be purple PVC, AWWA C900 Class 150 (DR-18) with rubber gaskets per ASTM D-1869 and F-477 or approved equal. All non-potable water pipes shall be tested to 150 PSI or 1.5x operating pressure whichever is greater for 2 hours.
6. Gate Valves shall be AWWA C-509-80. Type of Gate Valve shall be approved by the County of Fresno. AVK with stainless steel stems or approved equal. AWWA C500-86, C509-87 latest addition epoxy coated with resilient wedge non-rising stem with 2" nut.
7. The Contractor shall mark the location of all non-potable irrigation laterals with the letter "N" at least 2" high engraved into the curb.
8. Tracer wire #10 gauge purple copper wire to be laid along top of non-metallic pipe and held in place of 5 ft intervals by duct or plumbers tape and connected to all valves and fittings. Wire connections shall be watertight with soldered connections.
9. Non-potable water pipe lines shall have a minimum 10 ft clear horizontal separation from potable water pipe lines.

For **Subdivision Improvement Plans**, add the County Notes and Engineer's Certificate of Compliance below on the Cover Sheet:

COUNTY NOTES:

Project review by representatives of the County of Fresno is intended to complement and assist the Professional(s) in advancing a project that is in compliance with County of Fresno requirements, and is consistent with public benefit, health, safety, and welfare. Review is not an assurance of project feasibility, professional and technical accuracy, or conformance with special conditions, imposed by public agencies, including the County of Fresno Planning Commission.

Approval of these improvement plans and specifications is made based on the representations made by the Professional(s) in Responsible Charge pursuant to Section 6703 and 8703 of the Business and Professions Code that they have discharged their responsibilities and prepared complete documents which comply with County of Fresno requirements for construction of the improvements depicted herein.

During construction of the improvements the Engineer of Record shall be available for consultation on the general supervision of the various phases of the construction operation. He shall also be responsible for providing construction engineering and surveying to enable the work covered by the improvement plans to be completed pursuant to Fresno County Ordinance Code Title 17, Chapter 17.48, Section 17.48.430.

ENGINEER'S CERTIFICATE OF COMPLIANCE:

I certify that these plans and specifications comply with County of Fresno ordinances, standards, and design criteria, and that they include all improvement requirements of the Advisory Agency/District.

I am responsible for all calculations and drawings on these plans and any errors, omissions, or violations of those ordinances, standards, and design criteria shall be corrected during construction at no cost to the County.

Name of Engineer of Record, PE
License # _____ Exp. _____

Date

For **Bridge Plans**, use the County Notes and Engineer's Certificate of Compliance below **on the Cover Sheet** instead:

COUNTY NOTES:

Project review by representatives of the County of Fresno is intended to complement and assist the Professional(s) in advancing a project that is in compliance with County of Fresno and Caltrans requirements, and is consistent with public benefit, health, safety, and welfare. Review is not an assurance of project feasibility, professional and technical accuracy, or conformance with special conditions, imposed by public agencies, including the County of Fresno Planning Commission.

Approval of the construction drawings and specifications is made based on the representations made by the Professional(s) in Responsible Charge pursuant to Section 6703 and 8703 of the Business and Professions Code that they have discharged their responsibilities and prepared complete documents which comply with County of Fresno and Caltrans requirements for construction of the improvements depicted herein.

During construction of the improvements the Engineer of Record shall be available for consultation on the general supervision of the various phases of the construction operation. He shall also be responsible for providing construction engineering and surveying to enable the work covered by the construction drawings to be completed pursuant to Fresno County Ordinance Code Title 17, Chapter 17.48, Section 17.48.430.

ENGINEER'S CERTIFICATE OF COMPLIANCE:

I certify that these plans and specifications comply with Caltrans Standards and Design Criteria and County of Fresno requirements and that they include all improvement requirements of the Advisory Agency/District.

I am responsible for all calculations and drawings on these plans and any errors, omissions, or violations of those ordinances, standards, and design criteria shall be corrected during construction at no cost to the County.

Name of Engineer of Record, PE
License # _____ Exp. _____

Date