ENGINEERING DIVISION - IMPROVEMENT PLAN CHECKLIST

PLEASE TYPE OR PRINT:

<table>
<thead>
<tr>
<th>PROJECT ADDRESS</th>
<th>APN(S)</th>
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</thead>
<tbody>
<tr>
<td>PROJECT NAME</td>
<td>CITY OF NAPA PROJECT NUMBER</td>
</tr>
<tr>
<td>APPLICANT/AGENT</td>
<td>PHONE</td>
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<tr>
<td>MAIL ADDRESS</td>
<td>FAX</td>
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<tr>
<td>PROPERTY OWNER</td>
<td>CITY</td>
</tr>
<tr>
<td>IF OTHER THAN APPLICANT</td>
<td>STATE</td>
</tr>
<tr>
<td>ENGINEER</td>
<td>ZIP</td>
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<tr>
<td>RCE NUMBER</td>
<td>PHONE</td>
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<td>MAIL ADDRESS</td>
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</tbody>
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☐ FINAL MAP (Associated with these plans)
☐ PARCEL MAP (Associated with these plans)
☐ NO MAP (Associated with these plans)

1. GENERAL

☐ 1 Sheet drawing size. 24”x36” (Architectural size is not allowed for engineering drawings)

☐ 2 Title Block:
  ☐ a. Engineering firm name, address, and telephone number
  ☐ b. Title of project
  ☐ c. Engineer’s signature block in accordance with PE Act requirements
  ☐ d. Date prepared
  ☐ e. Sheet numbers

☐ 3 North arrow pointing to the top of the sheet or to the right

☐ 4 Engineering Scale (All sheets)
  ☐ a. Minimum Horizontal Scale 1”=40’
  ☐ b. Minimum Vertical Scale 1”=4’

☐ 5 Clear delineation of project boundaries

☐ 6 Clearly delineate City limit if adjacent to project site

☐ 7 Type and dimension of existing and proposed easements (PUE for Joint Trench not required)

☐ 8 Substantial compliance with the approved tentative map and conditions of approval

2. COVER SHEET REQUIREMENTS

☐ 9 Title of project

☐ 10 Vicinity map (with North arrow)

☐ 11 Reduced site plan (showing general layout of project with North arrow and scale

☐ 12 Sheet index to plans

☐ 13 Symbols Legend (include all symbols used on plans and reference to standard plan numbers)

☐ 14 Abbreviation legend (include all abbreviations used on plans)

☐ 15 Benchmark (use benchmark listed in the City of Napa Control Network - Phase 1 & 2 Report 5-6-12 and Post-Earthquake Control Review 4-10-15)

☐ 16 City Engineer/Fire Depart. approval block. Napa Sanitation, if applicable

3. NOTES AND DETAILS

☐ 17 General Notes
  ☐ a. Include all City STD notes (as listed in City of Napa Standard Specs.)
  ☐ b. Include all Water Division Notes (as per STD detail W-12)
  ☐ c. Project Specification Notes. Keep these under a separate heading.

4. TYPICAL STREET SECTIONS

☐ 18 Typical street sections:
  ☐ a. Provide overall ROW width and curb-to-curb. Also show location of property line, planter, curb, gutter, and sidewalk.
  ☐ b. Crown and centerline location
  ☐ c. Pavement section and including base type and thickness. Include R-value and Traffic Index.
  ☐ d. Street cross slope (maximum 6%)
  ☐ e. Cut and fill slopes.

5. STREETS

Plan View:

☐ 19 Centerline and each face of curb curve data. (BC STA, EC STA, Radius, Delta, Arc length)
5. STREETS (CONTINUED)

- Street names (new street names require approval by Fire Department and U.S. Post Office.)
- Street widths (including right-of-way widths)
- Property line and lot numbers
- Centerline stationing:
  - a. Conform to existing stationing if previously set by adjacent project
  - b. Station all BCs, ECs, curb returns, grade breaks, driveway centerlines, utilities, etc.
- Gutter slopes including curb returns, knuckles and cul-de-sacs and flow arrows
- Top of curb elevations and stationing at curve points and grade breaks
- Required sidewalk and handicap ramps
- Monument locations at all ECs, BCs, and street intersections
- Length and location of all transitions in curb and gutter
- Redwood headers and barricades
- Show all existing monuments with reference to protect or replace

Profile View:
- Existing ground at centerline (100' beyond improvements, 200' for major and collector streets)
- Finished grade profile at centerline:
  - a. Stationing and elevation at all grade breaks
  - b. Vertical curve data (PIV, BC STA, EC STA, Radius, Delta, Length). Minimum Vertical Curve 100'. Also, dependent upon sight distance.
- Street centerline slope
- Station equation at street intersections
- Scale: vertical – minimum of 1'-4", horizontal – minimum 1'-40'

Cross Sections:
- Cross sections every 50 feet for all half streets
- Stationing
- Existing and proposed grades (centerline TC, EP, grade breaks)
- Existing and proposed cross slopes (maximum 6%)
- Centerline, existing edge of pavement (conform) and top of curb elevations
- Scale: vertical – minimum of 1'-4", horizontal – minimum 1'-40'

6. UTILITIES

- Existing utilities, shown dashed or screened (if known). Including but not limited to:
  - a. Joint trench
  - b. Gas mains and valves
  - c. Electric
  - d. Telephone and Cable TV
  - e. Utility poles
  - f. Fiber optic cables and conduit structures
  - g. Water
  - h. Sewer
  - i. Storm drain

- Existing and proposed utilities (sewer, water, etc.)
  - a. Location
  - b. Type, size, length, class, and slope
  - c. Material (can specify in a general note for proposed)
  - d. Clear delineation between public and private utilities

- Potholing
  - a. Joint trench
  - b. Gas mains and valves
  - c. Electric
  - d. Telephone and Cable TV
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7. SEWER SYSTEM

Plan View:
- Manhole/cleanout numbers corresponding to profile view and type and size of manholes
- Stationing and offset of structures
- Direction of flow arrows
- Lateral locations (include invert at upstream end of lateral)

Profile View:
- Existing and finished surface grade at the sewer line
- Invert elevations (in and out)
- Check min. 0.10' drop between inverts in and out
- Pipe size, length, and scope
- Manhole/cleanout numbers corresponding to plan view

8. WATER SYSTEM

Plan View:
- Horizontal alignment and size of both existing and proposed mains
- Size and location of surface laterals
- Valve locations
- Fire hydrants and service lateral

Profile View:
- Existing and finished surface grade at the sewer line
- Verify sewer is below water line

9. STORM DRAIN SYSTEM

Plan View:
- Invert elevations/flowlines at all drainage structures
- Existing ground surface and finished grade
- Pipe diameter and length
- Pipe slopes
- Utility crossings (possible conflicts)
- Profile and cross-sections of open channels (as necessary)

10. GRADING

- Existing and finished contours (and spot elevations at all grade breaks)
- Grades for all improvements (minimum slope is 1% over asphalt and landscape and 0.5% over concrete)
- Existing and proposed structures (i.e. houses, wells, septic systems)
- Flow arrows
- Existing trees noted as to whether to be saved or removed (base elevations for trees to be saved with drip line shown)
- Topographic information will extend a sufficient distance beyond project boundaries to determine existing drainage patterns
- Erosion and sediment control plan
- Creek cross-sections to establish setback per City ordinance
- Provisions for any lot-to-lot drainage
- Provisions for accepting off-site drainage
- Top of curb elevation and stationing at property lines
- Retaining wall details and engineering calculations (two copies)
- Soil Engineer signature block
- Lot drainage with spot elevations
- Pad elevations and finish floor elevations
- Driveway slopes
- Overland drainage release route
- Open channels and swales:

All forms and handouts are available on www.cityofnapa.org
10. GRADING (CONTINUED)
   - b. Slope of swale
   - c. Typical cross sections
   - d. Existing and proposed improvements clearly delineated as such

11. SIGNING AND STRIPING
   - 89 Compliance with City Standard Specifications and Caltrans Traffic Manual
   - 90 Required signing and striping with callouts

12. STREET LIGHTING
   - 91 Street Lighting:
     - a. Compliance with City Standard Specifications
     - b. Light locations and stationing
     - c. Pull box locations (including conduit and conductor sizes)