City of Sunnyvale
Department of Public Works, Engineering Division

Checklist for Off-site Public Improvement Plans

I. INTRODUCTION:

A. Purpose

This checklist applies to plans for the improvement of public infrastructure as required by City Code and Public Works Department policies and standards. The intent is to make this checklist available to aid the Applicant (APPLICANT) and their designers in developing complete and consistent off-site improvement plans. This checklist is to be used as a minimum standard as each development will have unique attributes. Using this checklist will expedite the application's review process.

B. Existing Utilities

1. Public Works will furnish the APPLICANT with any available block maps of existing water, sanitary sewer, storm drain, and recycled water.
2. Any documentation provided by the City (with exception to benchmarking information and Standard Provisions) is based on information furnished by others and the City does not guarantee the accuracy of the information.
3. The location and elevation of existing utilities and adjacent subsurface features shall be verified in the field by the APPLICANT prior to submittal of improvements plans.
4. The APPLICANT shall submit a separate encroachment permit application specific to the necessary pothole/utility verification work. Allow up to three weeks for the permit to be issued. (Link to encroachment permit application: http://sunnyvale.ca.gov/Departments/PublicWorks/EncroachmentPermits.aspx)

II. GENERAL REQUIREMENTS

1. Required sheet size is 24" x 36".
2. Standard borders for each sheet.
3. Minimum size lettering to be 1/10" high.
4. Provide stamp, license number, signature and date signed by responsible civil engineer on each sheet of the final submittal. Review submittals need not have original RCE signature & stamp.
5. Standard title block information for authoring company:
    a. Name
    b. Address
    c. Phone
    d. Email address
    e. Revision block
    f. Project information including development name, tract number, developer, street address
6. The minimum scale shall be 1"=20' for the horizontal and 1" =2' for the vertical.

7. City of Sunnyvale Construction General Notes including Abandonment Notes (available through the City web site).
8. Required Notes for Sanitary Sewer Systems Construction Plans (available through the City web site under Appendix A of the Sanitary Sewer Systems – Design Standards).
9. Bench mark location and information (see City Benchmark database). Use NAVD 88 only. It is not accepted to use NGVD 29 or other resource(s).
10. Do not include City Standard details. Reference to City Standard Details are acceptable.
11. Include non-City standards details. Deviations from City Standard Details shall be shown as “clouded” on the detail sheets.

III. GENERAL SHEET ORDER

A. Civil Plans

1. Title Sheet
2. General/Construction Notes
3. Existing Conditions
4. Demolition Plan
5. Layout Plan with Street Cross Sections
6. Grading and Drainage Plan
7. Composite Utility Plan with Profile
8. Construction Details (non-City standard details only)
9. Signing and Striping Plan
10. Traffic Control Plan
11. Erosion Control Plan
12. Best Management Practice Sheet
13. Off-Site Street Lighting Details
14. Off-site Street Lighting Site Plan
15. Photometric Analysis
16. Traffic Signal Details and General Notes (If applicable)
17. Traffic Signal Plans (If applicable)

B. Landscape Plans

1. Landscape Title Sheet
2. Landscape Notes & Details
3. Layout Plan
4. Planting Plan
5. Irrigation Plan

C. Joint Trench Plans (May be submitted after the first submittal)

1. Joint Trench Cover Sheet
2. Joint Trench General Notes & Details
3. Joint Trench Composite Plans
4. Joint Trench Details

IV. PLAN SHEET DETAIL

1) Title Sheet

a) Project title including development name, tract number, developer's name, street address of the project.
b) Civil Engineer/firm information.
c) Property owner/developer information.
d) Preparation date.
e) Geotechnical engineer information.
f) Sheet index.
g) Vicinity map with north arrow.
h) Legends for abbreviations and symbols (existing & proposed) used in the plan set.
i) Key map for plans with more than 3 sheets of plan view coverage.
j) Benchmark reference - NAVD 88 only.
k) Basis of Bearing reference.
l) City signature approval block (Provided by City).
m) Underground Service Alert (USA) Logo and information.

2) Existing conditions plan sheet(s)

a) Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b) Property information (property lines & easements).
c) Street names.
d) All existing physical objects in symbol and notes.
e) Existing utility information, including flow direction, pipe size and material (i.e. 12" RCP SD, 6" VCP SS, 6" CI W), manhole ID (i.e. SSMH 312-215, SDMH 396-103).
f) Existing trees with tree diameter and species information.
g) Topographic data on adjacent property within at least 20 feet of the subject property.
h) One-foot contours.
i) Existing flowline slope and direction information.
j) Existing cross-slope and direction information.
k) Centerline with stationing at 50-foot interval.

3) Demolition plan sheet(s)

a) Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b) Street names.
c) Property information (property lines & easements).
d) Existing condition information faded and legible.

e) Symbols, shading, cross hatch, cross-out and notes as appropriate to indicate demolition work.
f) Legends and special notes related to demolition.
g) Centerline with stationing at 50-foot interval.

4) Grading and drainage plan sheet(s)

a) Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b) Street names.
c) Adjacent property information (property lines & easements). Include property owner, APN, etc.
d) Existing condition information faded and legible.
e) Distinctive line work to indicate limits of grading.
f) Proposed drainage system structures with distinctive symbol.
g) Final grades for top of curb at key points (i.e. high points, low points, curb returns, grade breaks, slope direction and information) and 50 foot stations, utility structures, flow lines.
h) Cross slopes and axial slopes at key points and features, including direction and information.
i) Call for cross sections and details.
j) Centerline with stationing at 50-foot interval.

5) Street improvements – plan view sheet(s)

a) Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b) Existing conditions faded into background.
c) Adjacent property information (property lines & easements with segment lengths). Include property owner, APN, etc.
d) Street names.
e) Distinctive line work and labels for all proposed improvements.
f) Shading/hatch for proposed paving.
g) Radius of all centerline and top of curb curves (provide curve table for additional information per California Design Manual requirements – beginning of curve (BC) station/offset, end of curve (EC) station/offset, delta, length of curve, radius).
h) Driveway dimensions (see standard details for requirements).
i) Centerline with stationing at 50-foot interval.
j) Right of way width.
k) Street width to face of curb and to property line.
l) Station utility structures (storm drain & sanitary sewer manholes, water valves, etc., including off-set from centerline, and rim and invert elevation as appropriate).
m) Monument boxes.
n) Cross section locations and identification.
o) Reference call out for standard details.
p) Lot / parcel numbers.
q) Surface drainage with direction indicated.

r) Top of curb elevation at maximum 50-foot interval and other key location (i.e. high points, low points, curb returns, grade breaks, slope direction and information).
s) Curb ramps, including top of curb and flowline information.
t) Traffic signal and street light poles.
u) Public street cross sections every maximum 50 feet and at critical areas.
v) Shown signing and striping linework.

6) Street improvements – profile sheet(s)

a) Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b) Existing conditions faded into background.
c) Adjacent property information (property lines & easements with segment lengths). Include property owner, APN, etc.
d) Street names.
e) Distinctive line work and labels for all proposed improvements.
f) Centerline stationing for beginning, end, and points of intersection for vertical curves.
g) Centerline slopes for approach to vertical curves.
h) 6% maximum gradient at intersections.
i) 1% minimum grade (new street). 0.5% minimum grade (existing street)
j) Refer to City standard details for typical cross slope.
k) Vertical curve information with tick marks (BC, EC, PI, delta, length, transitions if appropriate).
l) Finished grade elevations at maximum 50-foot interval and critical points.
m) Top of curb grades at maximum 50-foot interval.
n) Super-elevation as required by the Caltrans Highway Design Manual.

7) Wet utilities (water, recycled water, sewer, storm drain) plan sheet(s)

a) Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b) Existing conditions faded into background.
c) Adjacent property information (property lines & easements with segment lengths). Include property owner, APN, etc.
d) Street names.
e) Distinctive line work and labels for all proposed improvements.
f) Provide plan and profile views showing water, sanitary sewer and storm drain and other existing and proposed utilities (i.e. gas, electric, etc.).
g) Show proposed utilities with dimensioned & clear distance between structures.
h) Show proposed water meters and backflow preventers and label the size of the meters.
i) Show proposed sewer laterals with cleanouts/manholes.
j) Show existing utilities in all views.
k) Provide reference call out to City standard details where appropriate.

l) Provide elevation for existing and proposed storm and sanitary manhole rims and inlets. Provide elevation for existing and proposed storm and sanitary inverts (in and out).
m) Call out pipe size, pipe slope (exclude water) and material type (be specific as to pipe class) for water, sanitary, and storm. See City design guidelines for permissible pipe material types.
n) Use different pipe symbols/lines for sanitary, storm, and water.
o) Show and call out all water system appurtenances including size and manufacturer/model. See City design guidelines for requirements.
p) Refer to City design guidelines for wet utilities.
q) Centerline with stationing at 50-foot interval.

7. Signing and striping plan

a. Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b. Existing conditions faded into background.
c. Adjacent property information (property lines & easements with segment lengths). Include property owner, APN, etc.
d. Street names.
e. Distinctive line work and labels for all proposed improvements.
f. Provide thermoplastic legends and striping as required by City standard specifications & details.
g. Refer to Transportation & Traffic Division Traffic Control Guidelines and Checklist for additional details.
h. Centerline with stationing at 50-foot interval.
i. Proposed signs/striping shall be overlaid over existing using different grayscales and different linetypes.
j. Signing and striping plans shall comply with all the requirements of the California Manual on Traffic Control Devices (CA_MUTCD), the Caltrans Standard Plans and Specifications, and the City of Sunnyvale's Standard Details and Specifications; all latest revision.

8. Joint trench plans

a. Provide joint trench plan by registered civil engineer and single line diagrams by electrical engineer.
b. Show and call out all fixtures, junction boxes, conduits – both existing and proposed. PGE approval required.
c. Centerline with stationing at 50-foot interval.

9. Public street lighting plan / Photometric Analysis

a. Standard information (north arrow orient to point to top of sheet, scale, plan sheet title block notes and symbols).
b. Existing conditions faded into background.
c. Adjacent property information (property lines & easements with segment lengths). Include property owner, APN, etc.
d. Street names.

e. Provide special fixture types where required.
f. Distinctive line work and labels for all proposed improvements.
g. Provide single line layout.
h. Show and call out all fixtures, pull boxes, junction boxes (including size, conductor sizes, conduit size, type and configuration), conduits, field wiring (existing to be removed and new).
i. Show trees (propose and existing to remain).
j. Provide detail for conduit trench.
k. Include City standard notes for street lights.
l. Provide City standard detail reference call outs as appropriate.
m. Fixtures to be LED type as approved by the City.
n. Centerline with stationing at 50-foot interval.
o. Service point based on PG&E approved plan (include PG&E approved design plans.
p. Summary table showing photometric values per Condition of Approval (COA). If values deviate from COA, a justification shall be provided.
q. Light fixture table indicating fixture type, quantity, LED wattage and distribution type.
r. Load and Voltage Drop calculations.
s. Pole types and locations, clearly show existing and new ones, including cut sheet of fixtures.
t. Foundations details. If foundation deviates from City Standard plans, designer shall submit a new detail signed and approved by applicant's Structural Engineer for acceptance by Department of Public Works.

10. Street landscaping plans

a. Provide plan view of all street landscaping.
b. Plant materials to be as specified by Street Landscaping Division of Public Works.
c. Provide City standard detail reference call outs for street landscaping as appropriate.
d. Utilize recycled water for irrigation in areas where available.
e. Provide separate landscape water service and meter. Label the size of the meter.
f. Landscape water services shall be provided with reduced pressure backflow prevention device.
g. Provide irrigation plan; show point of connection to domestic or recycled supply with controller location & information.
h. Centerline with stationing at 50-foot interval.

11. Traffic signal plans

a. Show service point based on PG&E approved plan (include PG&E plan).
b. Show pavement signing and striping.
c. Right-of-way and roadway geometrics and utility locations.
d. Detector locations (FLIR and inductive loops).
e. Signal head locations with phasing assignment.
f. Show Emergency Vehicle Preemptions (EVP), communications equipment, CCTV system, and APS system locations.

g. Pull boxes, conduit runs and bores/trench with associated call out per conductor and equipment schedules.
h. Conductor and Equipment Schedules.
i. Sidewalks and ADA curb ramps.
j. A Phase diagram shall be shown.
k. Controller cabinet and service cabinet foundation details.
l. Traffic Signal plans shall comply with all the requirements of the California Manual on Traffic Control Devices (CA_MUTCD), the Caltrains Standard Plans and Specifications, and the City of Sunnyvale's Traffic Signal and Roadway Lighting Details and Specifications; all latest revisions.

12. Miscellaneous

a. When necessary, submit soils report, legal description, letters from utility companies or other public agencies affecting proposed work.
b. Address any special impacts to bus and/or light rail service, relocation of existing bus stops, temporary service/bus bridge information, or the need of temporary bus stop locations during construction.
c. Indicate any special work hours or windows of operation on the plans, i.e. school districts.
d. Submit detailed engineer's estimate for all off-site and on-site work for fee calculations and bond purposes.
e. Indicate soil compaction and other geotechnical requirements on all applicable sheets.
f. Recycled water is available in some areas of the City. Developments located within the recycled water service area will normally be conditioned to use recycled water for irrigation and/or dual plumbing of structures. When such conditions occur requirements of California Title 22 and City of Sunnyvale regarding recycled water should be addressed.