



Sunnyvale

CITY OF SUNNYVALE PUBLIC WORKS DEPARTMENT/ENGINEERING DIVISION Construction General Notes

1. **ENCROACHMENT PERMITS:** Obtain an encroachment permit from Public Works Department for all off-site improvements shown on this plan. See web-site link herein for permit application details.
<http://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23558>
2. **STANDARD DETAILS AND CONSTRUCTION GUIDELINES:** All work shall be performed in accordance with the latest Caltrans Standard Details and Specifications, California Manual on Uniform Traffic Control Devices (CA MUTCD) and the City's latest Standard Details and Specifications, Design Standards and, Design and Construction Guidelines, unless otherwise approved by the City. See web-site link herein.
<http://sunnyvale.ca.gov/business/planning/permit/standards.htm>
3. **NOTIFICATIONS:** Notify City Public Works Inspector at (408) 730-7415 before 4 pm a minimum of 24 hours in advance of starting work and for each inspection request, including the final inspection. Street light & traffic signal inspection shall require a minimum of 72 hours.
4. **UTILITY LOCATION VERIFICATION:** It is the contractor's responsibility to verify the location of all existing utilities with the appropriate agencies.
5. **UNDERGROUND SERVICE ALERT NOTIFICATION:** Contractor shall contact Underground Service Alert (USA) at (800) 227-2600 or 811 at least 48 hours prior to starting work. Contractor shall retain documentation to verify USA contact.
6. **TRAFFIC CONTROL:** Traffic control shall be per City-approved traffic control plan. Short term and/or long term traffic control plans are required to be submitted and approved by the Division of Transportation and Traffic prior to the start of any work impacting the public right-of-way. Traffic control plans shall be submitted at the same time as the encroachment permit application. Traffic control plans must be prepared and stamped by person trained/certified to prepare traffic control plans and to comply with California Manual on Uniform Traffic Control Devices (California MUTCD), latest edition A completed traffic control check list shall also be submitted with the encroachment permit application.
7. **ELEVATION DATUM:** All elevations shown are based upon City of Sunnyvale datum, unless otherwise noted on the plans.
8. **SURVEY MONUMENT PRESERVATION and RESTORATION:** All standard street monuments, lot corner pipes, and other permanent monuments disturbed during the process of construction shall be replaced and a record of survey or corner record per section 8771 of the professional land surveyor's act filed before acceptance of the improvements by the City. Copies of any record of survey or corner records shall be submitted to the City.

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9. **ERRORS and OMISSIONS:** Approval of plans does not relieve the contractor/owner of the responsibility for the correction of mistakes, errors or omissions.
10. **RECORD DRAWINGS:** Contractor shall keep up-to-date a complete record set of prints of the contract drawings showing every change from the original drawings made during the course of construction including exact location, sizes, materials and equipment. A complete set of corrected and completed record drawing prints (as-builts) shall be submitted to the City Public Works Inspector prior to final acceptance for review and approval by the City.
11. **UTILITY INSTALLATION COORDINATION:** Contractor shall coordinate utility information shown on the plans with utility owners, including but not limited to PG&E, water, cable, telephone and/or joint trench facilities, for layout and details of installation, relocation, adjustment and abandonment.
12. **WATER SERVICE INSTALLATION:** Construction of water services shall be per section 306 and per City of Sunnyvale Standard Details. All wet (live) taps 12" and smaller shall be performed by the City and require a minimum 48 hours written advance notification to the City Public Works Inspector. All existing valve operations shall be operated only by the City.
13. **WATER METERS and METER BOXES:** Water meters and meter boxes shall be furnished and installed by the City upon acceptance of a water service lateral line, and the property owner has assumed responsibility for the connection on the discharge side of the meter. Meters furnished by the City are as follows: 2" water meters are disc only (2" compound meters are prohibited). Meters 3" and larger are compound meters only.
14. **BACKFLOW PREVENTION DEVICES:** Backflow prevention devices shall be required on all non-single family residences for irrigation, domestic, and fire lines, per City standard detail drawings and as shown on City approved plans. No meter shall be turned on until there is full compliance with the cross-connection control program.
15. **WATER SERVICE SADDLES, VALVES, and PIPE:** The contractor is responsible for furnishing the service saddle or tapping sleeve and tapping gate valve. A list of water valves and appurtenances can be found in the City standard specifications, section 208-7. Water main ductile iron pipe appurtenances can be found in section 207-9.2.1.2 of the City specifications.
16. **WATER VALVE LOCATION MARKING:** The location of all valves in the street shall be marked with an incised arrow on the top of the nearest curb pointing to the gate valve and the distance in feet to the valve marked with incised roman numerals on the face of the curb, all in 2" high characters.
17. **WATER SYSTEM DISINFECTION:** New water pipelines, valves, fittings, and appurtenances shall be disinfected, tested by the contractor, and shall pass all bacteriological and other water quality requirements before being put into service. Contractor shall supply all materials, labor and equipment required to disinfect and test the pipelines and appurtenances. Water main disinfecting and flushing shall be per section 306-1.4.7 of the City standard specifications, and shall be witnessed by the City inspector.

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18. **WATER PRESSURE:** Water pressure test shall be performed per section 306 of the City standard specifications.
19. **WATER SERVICE SHUTDOWNS:** It is the contractor's responsibility to notify affected residents and businesses 5 calendar days and 48 hours in writing prior to the start of a water main shutdown. A water main shutdown will be done by City crews only.
20. **WET UTILITY INSTALLATION:** Wet utilities (sanitary, storm, water) pipe materials and appurtenances shall be per section 207 of the City of Sunnyvale standard specifications and in accordance with the latest City Design Standards. All water mains north of the CALTRAIN railroad tracks shall be AWWA C-900 Class 200 PVC or be poly wrapped and taped ductile iron pipe

All work for storm and sanitary sewer installation shall begin at the downstream connection point. This will allow for any necessary adjustments to be made prior to the installation of the entire line.

If the contractor fails to begin at the downstream connection point and work upstream, contractor shall proceed at contractor's own risk and be responsible for any adjustments necessary. Contractor shall verify location of sanitary sewer lateral with owner prior to construction. The re-use of any existing City utility service lines and appurtenances is subject to City's review and approval. Contractor shall expose the existing facilities during construction for City's evaluation or provide video footage of the existing pipe condition. Contractor shall replace any deficient facilities as deemed necessary by City Public Works Inspector.

21. **SEWER AND STORM DRAIN ELEVATION DATA:** Contractor shall verify all existing invert elevations for storm drain and sanitary sewer construction prior to commencement of any work.
22. **UTILITY PROTECTION:** Contractor to protect all existing utilities and service laterals from damage due to contractor's operations. Any and all utility service laterals that are damaged during construction shall be repaired or replaced to the satisfaction of the City Public Works Inspector.
23. **UTILITY LOCATION POTHOLING:** It is the contractor's responsibility to pothole and/or uncover and expose existing utilities at crossing locations. Backfill, compaction, and pavement repair of potholed locations shall be done to the satisfaction of the City Public Works Inspector.
24. **UTILITY CROSSINGS:** The existing utilities crossing the new pipeline are shown according to the best available information. The contractor shall verify the type, size, location and depth of all the utility crossings (both mains and laterals) are correct as shown. No guarantee is made that all existing utilities (both mains and laterals) are shown.
25. **UTILITY CROSSING SEPARATION:** Contractor shall maintain a minimum 12 inch vertical and 4 feet horizontal clearance to other existing utilities. Five feet horizontal clearance must be maintained when working near natural gas lines. Where 12 inch vertical minimum clearances cannot be maintained, use the following:

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- a. Install concrete saddle either on the upper or lower pipe in accordance with applicable standard details and as approved by the City; and
 - b. Place new pipeline joints at a minimum 5 feet from the centerline of the existing pipe. The two joints on either side of new pipeline are to be restrained. This method applies to the new pipeline crossing below an existing water line or above an existing sewer; and/or
 - c. Place new pipeline joints at a minimum 9 feet from the centerline of the existing pipe. The two joints on either side of new pipeline are to be restrained. This method applies to the new pipeline crossing above an existing water line or below an existing sewer.
 - d. Blanket protection for pipes or encasement for pipes may be required as directed and approved by the City Engineer.
26. **UTILITY VAULTS and PULLBOXES:** All existing utility vaults and/or pull boxes that are loose and/or broken shall be re-secured and/or replaced to the City Public Works Inspector's satisfaction. All existing and new utility structures shall be adjusted to finish grade.
27. **VEHICLE and PEDESTRIAN ACCESS:** Vehicle and pedestrian access in accordance with Americans with Disabilities Act (ADA) standards must be provided at all times to all abutting properties, except as approved by the City Public Works Inspector. 48 hours written notice must be given to the affected property owner(s) when access is affected.
28. **TEMPORARY TRENCH PAVING:** Trenches deemed by the inspector to be correctly backfilled but not permanently paved may be temporarily paved with cutback asphalt until the next working day.
- Trenches deemed by the inspector to be correctly backfilled but not permanently paved may be temporarily paved with high-performance patching material until permanent paving is installed. Due to the instability of cutback asphalt, it is not allowed as interim paving while waiting for permanent paving unless permanent paving is done the following workday.
29. **FINISH PAVING STANDARDS:** All paving – temporary or permanent – must installed in a manner that provides an acceptable safe passageway for traffic and pedestrians (including ADA).
- Asphalt concrete shall conform to section 203 of the City standard details. Asphalt concrete shall not be placed when the atmospheric temperature is below 10°C (50°F) and falling or during unsuitable weather, as determined by the inspector.
30. **CRACK SEALING:** Contractor shall hot-apply crack seal emulsion to all cracks in pavement prior to any slurry seal application.
31. **TRENCH PLATES:** Steel plates may be used per the City Public Works Inspector's approval and when in compliance with CALTRANS specification TR-0157, which addresses required plate thicknesses, edging design, placement, and anti-skid surfacing.
32. **TRENCH BACKFILL:** Typical trench backfill shall be per applicable City standard numbers 16a-1, 16a-2, 16a-3, 16a-4, and 16a-5.. For CDF or CLSM, the 28-day

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compressive strength shall be a minimum of 50 psi and a maximum of 100 psi Typical trench backfill for water shall be sand 6" below the pipe up to the spring line of the pipe for bedding. Class 2 AB shall used for the remainder. Class 2 AB to be dampened and compacted with a rammer or vibration plate to 95% compaction every 6" lift.

33. **WARRANTY PERIOD:** The contractor is responsible for maintenance and repairs to trenches and pavement for a one-year warranty period after acceptance of the work by the City. One year after acceptance, the City will make a final inspection. If repairs have to be made, the contractor or developer will be notified to make repairs.
34. **GRADE BREAK DETAILS:** Grade breaks on curbs and sidewalks to be rounded off (while concrete finishing work is in progress) in form work and finished surfacing.
35. **TRAFFIC STRIPING:** Contractor shall replace existing curb markings and paint (or thermoplastic) after installation of new curb and gutter.

Contractor shall replace existing traffic striping/legends and detector loops that are disturbed by construction operations to the City inspector's satisfaction. All pavement markings are to be thermoplastic material.

Cat tracking must be approved by the City Transportation Engineer prior to final installation of the striping. 72 business-hours advance notice is required for traffic inspections. Inspection shall be coordinated through the public works inspector.

36. **JOBSITE MANAGEMENT:** Contractor is required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property. This requirement shall be made to apply continuously and not be limited to normal working hours.

All construction materials, equipment, storage, stockpiling, and staging must be done on-site and the public right-of-way/street must be kept clear and free of debris.

37. **EMERGENCY CONTACT INFO:** The contractor shall provide 24-hour/7-day contact information to the City inspector.
38. **STORMWATER BEST MANAGEMENT PRACTICES:** Contractor shall familiarize himself with the State of California best management practices handbook for applicable stormwater runoff control measures and employ its provisions throughout all construction.
39. **STENCILS FOR CATCHBASINS and STORMWATER INLETS:** Contractor shall stencil all new or repaired catchbasins and stormdrain inlets with the non-point-source "No Dumping" message as shown on the City-approved plans. The stencil is available from the City's Environmental Services Department at (408) 730-7260.
40. **REMOVAL OF USA MARKINGS:** All underground service alert (USA) markings on concrete and asphaltic pavement or other structures shall be removed when they are no longer required. Acceptable means of removal include high pressure water blasting.

STREET LIGHTING NOTES

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1. **MATERIALS LIST SUBMISSION:** A list of the materials proposed by the contractor to be used on this project for street lighting including, but not limited to, luminaires, poles, conduit, conductors, pull boxes and service equipment shall be submitted to the City's Traffic and Transportation Division for review prior to the start of work. The list shall include the manufacturer's specifications for all applicable products.
2. **ELECTRICAL SERVICES:**
 - a. Install a 240v service next to each PG&E secondary box used for streetlight service, unless specified otherwise.
 - b. All electric service points shown on these plans were determined by PG&E and are tentative and shown for reference only. The actual service point(s) must be confirmed with PG&E prior to construction of electrical work. All additional costs incurred for work modifications required due to final service point locations/adjustment shall be borne by the permittee. If the final service point location(s) differ from the tentative service point location(s) as shown on the plans, the permittee shall revise the plans and notify the Public Works inspector of any changes and shall obtain City approval of changes prior to installation of electrical work.
3. **EQUIPMENT SALVAGE:** All equipment to be salvaged shall be delivered to the City of Sunnyvale corporation yard at 221 Commercial Street in Sunnyvale. Contact City Public Works Inspector prior to delivery for further instructions.
4. **OVERHEAD LINE CLEARANCE:** Permittee is responsible for providing clearance for electroliers and traffic signal standards from overhead utility lines. Clearance must be a minimum of 10 feet from high voltage lines, 3 feet from secondary lines, and 1 foot from communication lines. No electrolier or traffic signal standard shall be installed until proper clearance is obtained. All expenses associated with providing these clearances must be borne by the developer.
5. **ELECTROLIER LOCATIONS:** All electrolier locations shall be staked in the field by the permittee.
6. **ELECTROLIER SPECIFICATIONS:** All new electroliers shall be City of Sunnyvale standard per City standard specifications (section 209) and details (numbers 1d through 5d).
7. **PULLBOXES:** All new pull boxes shall be #3-1/2 unless noted otherwise.
8. **GROUNDING CONDUCTOR(S):** A continuous #8 AWG grounding conductor shall be installed for each new luminaire on new or re-wired electroliers. The grounding conductor shall be terminated in the luminaire housing and connected to the grounding wire in base of the pole.
9. **POLE REPLACEMENT SPECIFICATIONS:** Any existing "San Jose Octoflutes" (metal poles) shall be replaced with City of Sunnyvale standard Marbelite poles.
10. **TESTING:** Contractor shall test all street lights before and after the project to ensure all work as expected.

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11. **IN-LINE FUSE:** Install In-line fuse for each street light in the nearest pull box using correct amp rating.
12. **IDENTIFICATION:** Install street light number on each pole using metal plates per Caltrans standard plan ES-7B for decorative poles or stencil for Marbelite poles.
13. **CONDUIT SPECIFICATIONS:** Refer to city specifications for street light conduit depth, sealing and material type.
14. **CONDUIT SCHEDULE:** Install schedule 80 PVC when the conduits are going under the roadway schedule 40 PVC when conduits are under the sidewalk, and rigid conduit (GRC), wrapped in 10 mil tape when going from the pole or pedestal foundation to the nearest pull box.

**RECYCLED WATER NOTES
(PROVIDE THE FOLLOWING STANDARD NOTES AS APPLICABLE)**

1. **NOTIFICATIONS:** Forty-eight (48) hours before starting any excavation for off-site improvements, the CONTRACTOR must notify the City of Sunnyvale, Environmental Services Department, Reclaimed Water Use Section at telephone number (408) 730-7900.
2. **CONSTRUCTION GUIDELINES:** All work is done in accordance with City of Sunnyvale Rules and Regulations for Reclaimed Water Use and Distribution within the City of Sunnyvale.
3. **SHIELDING:** All public facilities such as comfort stations, drinking fountains, outdoor eating areas, etc., must be prevented or shielded from spray and/or misting by recycled water.
4. **OVERSPRAY PREVENTION:** No ponding, runoff, misting or overspray is permitted. Relocate or adjust all irrigation heads to prevent overspraying onto sidewalks, streets, private lots, and nondesignated use areas.
5. **NON-DESIGNATED USE:** Non-designated use areas shall be protected from contact with recycled water, whether by windblown spray or by direct application through irrigation or other use. Lack of prevention, whether by design, construction practice, or system operation, is strictly prohibited.
6. **HOSE BIBS:** Hose bibs are prohibited on recycled water systems.
7. **CROSS-CONNECTIONS:** Off-site cross-connection between recycled water pipelines and potable water pipelines is strictly prohibited.
8. **QUICK COUPLING VALVES:** Quick coupling valves used in recycled water systems conform to the following:
 - a. Quick coupling valves can be 1-inch or 3/4-inch nominal size Nelson #7645 with brass construction and a normal working pressure of 150 psi or equal.
 - b. The valve cover must be permanently attached to the quick coupling valves. The valve cover is rubber or vinyl colored purple.
 - c. Locking covers are required.
9. **PIPE SUBSTITUTIONS:** No substitution of pipe materials from those specified is allowed without prior approval by the City of Sunnyvale Public Works Department.

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10. **STENCILS:** Install approved, non-metallic backed and stenciled warning tape over all pressure recycled water pipelines. Stencil and color code (purple Pantone 522) all irrigation pipe. Orient the stenciling to the top of the trench.
11. **MINIMUM COVER:** Provide a minimum cover of all pipe and wire in accordance with City of Sunnyvale Standard Detail Drawings.
12. **UTILITY CROSSINGS:** When potable water pipelines and recycled water pipelines cross, the recycled water pipeline is installed within a protective sleeve. The sleeve extends 10-feet from each side, from the centerline of the potable line, for a total of 20-feet.
13. **UTILITY CROSSING SEPARATIONS:** Maintain separation between potable water, recycled water, and/or sewer pipelines according to Standard Detail Drawings. Install a sewer pipeline below a recycled water pipeline and a recycled water pipeline below a potable water pipeline.
14. **VERTICAL SEPARATION:** Provide a minimum of 12-inches of vertical separation between potable water, recycled water, and sewer pipeline so that the potable water is on top of recycled and sewer pipelines and sewer pipelines are the bottom utility pipeline, in accordance Standard Detail Drawings.
15. **WATER SYSTEM:** All public and private potable water mains, including fire mains and any water wells and water courses within the recycled water project, are shown on the plans.
16. **IRRIGATION:** The site irrigation systems shown on these documents use potable water until the City of Sunnyvale makes recycled water available to the site.
17. **IRRIGATION FACILITIES:** Install purple-colored Pantone 522 material for all aboveground irrigation facilities per American Water Works Association (AWWA) Guidelines and Section 116815 of the California Health and Safety Code.
 - a. Valve and other on-grade boxes – integral color
 - b. Sprinkler heads – integral color plastic
18. **TAGS:** Tag all valves and other below-grade facilities in boxes with permanent recycled water labels that identify the facility as —RECYCLED WATER — DO NOT DRINK— in English and —AVISO: AQUA IMPURA — NO TOMAR— in Spanish. Attach the label with either stainless steel wire or self-locking plastic ties.
19. **CROSS-CONNECTION TESTING:** The Customer or Contractor shall conduct a successful cross-connection control shutdown test and coverage test as directed by the City of Sunnyvale Water Division before the site shall be approved for the use of any recycled water.
20. **SIGNS:** The design and location for RECYCLED WATER – DO NOT DRINK signs must be called out on the drawings.
21. **CROSS-CONNECTION INSPECTION:** An annual cross-connection inspection is conducted by the City of Sunnyvale subject to approval.
22. **EMERGENCY CONTACT INFO:** Before a pipeline is converted to recycled water, an off-site supervisor shall be designated in writing. This individual shall be familiar with plumbing systems on the property, the basic concepts of backflow and/or cross-connection protection, and the specific requirements of recycled water systems. The designated site supervisor shall attend the county water authority class for recycled

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water site supervisors. Copies of the site supervisor's certificate with 24-hour contact telephone numbers in the form shown below must be provided to the City of Sunnyvale.

In case of emergency, contact _____ at _____

After hours, contact _____ at _____

- 23. **MAINTENANCE NOTIFICATIONS:** Educate all maintenance personnel continuously of the presence of recycled water. Personnel must be informed that recycled water is meant for irrigation purposes or any CDPH-approved nonpotable use only, and is not approved for drinking purposes, hand washing, cleaning of tools, etc. Given the high turnover rate of employees in the landscape industry, it is important this information be disseminated almost daily.
- 24. **PHYSICAL SEPARATION:** A physical separation shall be provided between adjacent areas of irrigation with recycled water and potable water. Separation is provided by concrete mow strips, chain fences, or other means approved by the City of Sunnyvale.