

CITY OF MILPITAS

Building & Safety Department
455 E. Calaveras Blvd.
Milpitas, CA 95035
408-586-3240
www.ci.milpitas.ca.gov



RESIDENTIAL ROOF CONVERSION

1. PERMIT INFORMATION:

- The conversion of roof structure and/or its configuration requires a building permit.
- All changes in roof configuration and roofing materials (including color of material used) must be reviewed and approved by the Planning Department and the permit will have to be obtained in person at the Permit Center, 455 E. Calaveras Blvd.
- Refer to the "Residential Re-roof" handout for requirements on installing the new roof covering including the energy code requirements.
- Home Owners Association:** If the property is regulated by a Home Owners Association, any exterior work must have written approval of the Association. It is the property owner's responsibility to obtain the approval.
- A Permit may be issued only to a State of California Licensed Contractor with the proper license classification or the Homeowner.
- If the work is performed by the Homeowner personally or by his/her workers, and an inspection indicates the work cannot be completed satisfactorily, then a licensed contractor must perform the work.
- If the Homeowner hires workers, State Law requires the Homeowner to obtain Worker's Compensation Insurance. Proof of this insurance is required prior to inspection.

2. PLAN REQUIREMENTS:

In order to expedite issuance of your permits, submit complete sets of plans, including all related disciplines. Incomplete submittals will cause delay in the approval of your project. If you have any questions, contact Building & Safety Department staff at City Hall or at the phone number above.

The following are guidelines for preparation and submittal of your plans. Specific plan requirements will depend largely upon the extent, nature and complexity of the work to be done. Some items listed below may not be required for your specific project. BE SURE TO INCLUDE ALL OF THE PERTINENT INFORMATION AND DRAWINGS:

- Plan Size:** Prepare plans on paper that is at least 22 inches x 17 inches in size.
- Sets of Plans:** Submit five (5) complete sets of plans.
- Clarity:** All plans shall be prepared to be sufficiently readable and clear for creating a digitized record. Plans shall be quality blue or black ink line drawings with uniform light (white) background color. Pencil drawings are not acceptable, but copies of pencil drawings can be submitted provided copies are readable with good contrast.
- Dimensions:** Plot Plans, Floor Plans and other plan view drawings shall be fully dimensioned and shall have a north arrow.

- Scale:** All drawings shall be drawn to an adequate scale with scale indicated. Recommended scales for drawings are:
Plot Plans: $1/8'' = 1'-0''$, $1''=10'$ or $1''=20'$ Floor and Roof Framing: $1/4'' = 1'-0''$ or $1/8'' = 1'-0''$
Floor Plans: $1/4'' = 1'-0''$ Building Cross Sections: $1/4'' = 1'-0''$ or $1/2'' = 1'-0''$
Foundation Plans: $1/4'' = 1'-0''$ or $1/8'' = 1'-0''$ Exterior Elevations: $1/8'' = 1'-0''$ or $1/4'' = 1'-0''$
- Existing (E) and New (N) Construction:** Throughout the plans, be sure to label all new (N) and existing (E) construction, components and fixtures to distinguish between new work to be done and the existing work.
- Completeness:** Please remember, the more complete and accurate the drawings and submittal documents, the sooner your permits can be issued.
- Signature:** The person who prepared the plans must sign each sheet. If any of the plan sheets are prepared by a licensed architect or engineer, that individual must stamp and sign at least two copies of each of the sheets he or she has prepared in accordance with the California Business and Professions Code prior to plan approval. Plans for elements of the structure designed by others must be reviewed and signed by the Engineer or Architect of record. [California Business and Professional Code 5536.1, 6735]

2. **PROJECT INFORMATION** - On the first sheet of the plans, provide the following information:

- Name of Architect, Engineer or Designer:** The printed name, address and telephone number of the person who prepared the plans.
- Address and Owner:** List the street address of the property and the name of the legal owner of the property.
- An Index of the Drawings:** List each sheet number and a description in an Index of the Drawings.
- Scope of Work:** State the complete scope of work to be performed under this permit.
- Building Area:** State the area in square feet of the existing house, the area to be added and/or remodeled, and the total of the existing and new area.
- Deferred Submittals:** List all proposed deferred submittals (e.g. roof trusses, prefabricated stairs, etc.). Deferred submittal documents shall be reviewed by the Architect or Engineer of record with a notation indicating that the documents have been reviewed and are in general conformance with the design of the building prior to being submitted to the City for approval.
- Building Codes:** All work must comply with the 2016 California Residential Code (CRC) or 2016 California Building Code, 2016 California Electrical Code (CEC), 2016 California Mechanical Code (CMC), 2016 California Plumbing Code (CPC), 2016 California Energy Code, 2016 California Green Building Code and 2016 Milpitas Municipal Code (MMC).

3. **ARCHITECTURAL PLANS** - The following are minimum architectural plan requirements for most projects:

- Site (Plot) Plan:** Show the location of the existing building.
- Roof Plan:** Show a plan view of the roof.
 - Indicate roof slope, roof slope direction, existing and proposed roofing materials and it's fire-resistive classifications.

- Show the location and construction details of all skylights. Include the skylights in the Title 24 Energy Compliance Reports. Refer to the “Residential Skylights” handout for additional information.
- Show the roof covering materials to be used. Refer to the “Residential Re-roof” handout for additional information.
- Show location and type of rain water gutters and down spouts. Show where water will be disposed. Water must be directed to landscaping.
- Show location and height of existing fireplace chimneys. If they need to be raised to be a minimum of 2 feet higher than any portion of the roof within a radius of 10 feet, but not less than 3 feet above where the chimney passes through the roof, detail how this is to be done. Refer to the “Brick, Masonry & Pre-cast Fireplace Reconstruction” handout for additional information. (CRC R1003.9)
- Provide cross ventilation calculations for enclosed attics and each enclosed rafter space. Ventilating area shall not be less than 1/150 of the area of the ventilated space, or may be 1/300 if at least 40% and not more than 50% of the required ventilating area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located no more than 3 feet below the ridge or highest point of space, measured vertically, with the balance of the required ventilation provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet below the ridge or highest point of the space shall be permitted. Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1 inch space shall be provided between the insulation and the roof sheathing and at the location of the vent. (CRC R806.3)
- Show location and size of the attic access. Buildings with combustible ceiling or roof construction shall have an attic access opening to attic areas that exceed 30 square feet and have a vertical height of 30 inches or greater. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members. The rough-framed opening shall not be less than 22 inches by 30 inches and shall be located in a hallway or other readily accessible location. When located in a wall, the opening shall be a minimum of 22 inches wide by 30 inches high. When the access is located in a ceiling, minimum unobstructed headroom in the attic space shall be 30 inches at some point above the access measured vertically from the bottom of ceiling framing members. See the California Mechanical Code for access requirements where mechanical equipment is located in attics. (CMC 304.4), (CRC 807.1)

Details and Notes: Include all construction details and notes to explain the planned construction.

4. STRUCTURAL PLANS:

- Foundation Plan:** If there are new posts added to support new roof beams and the new posts do not rest on existing foundation below, provide a foundation plan to show the new footing required. Indicate the type of the new footing, and size and depth of footings or piers and grade beams. Include a dimensioned foundation plan with sufficient details to clearly show foundation construction. New foundations must match the existing foundation type. For example, if the original foundation is a pier and grade beam type, the new foundation must also be a pier and grade beam type. Otherwise, the foundation must be an engineered system prepared by a registered engineer with a soils report, except additions to R3 occupancies without an available soils report and where the existing foundation system is a standard “T” type or a pier and grade beam type, may be constructed in accordance with MMC Section II-3-2.13 at the option of the property owner (refer to separate handout “Residential Concrete Foundation” for more information). All foundation designs in Hillside areas shall be designed and prepared by a civil or structural engineer licensed in the State of California and require a soils report.

- ❑ **Roof Framing Plan:** Show size and location of roof beams, roof rafter and ceiling joist span and sizes, overhangs and details and indicate any modifications of the existing roof plan. Indicate roof sheathing thickness and grade and nailing requirements.
- ❑ **Pre-Fabricated Roof Trusses:** If trusses are to be used, provide 2 copies of the truss shop drawings, layout plan and calculations with the engineers stamp and wet signature, reviewed and signed approved by the project architect or engineer. If shop drawings are not submitted for review prior to issuance of the building permit, it shall be noted on the first page of the drawings the truss shop drawings will be a deferred submittal. The deferred submittal will require payment for an additional two hours of plan check review time. Submit the truss drawings for review at least two weeks prior to fabrication of the trusses.
- ❑ **Structural Details and Notes:** Provide structural details such as how new roof is connected to the walls, connected to existing roof (if occurs), post-to-beam connections, framing details, shear transfer from roof to wall details, material notes and specifications.
- ❑ **Structural Calculations:** Structural calculations are required for building components, including for vertical load carrying members, which do not meet “Conventional Construction” rules as defined in the California Building Code and the Milpitas Municipal Code. If calculations are required, they must be stamped and signed by a California licensed architect or registered engineer. Calculations must be numbered by page and indexed for complex projects.

5. ENERGY REQUIREMENTS:

- ❑ **Insulation:** Show on the plans the insulation to be installed. Ceilings and rafter roofs shall be insulated between wood-framing members with insulation resulting in an installed thermal resistance of R-30 or greater for the insulation alone. **EXCEPTION:** Insulation of rafter roofs in an alteration shall be insulated between wood-framing members with insulation resulting in an installed thermal resistance of R-19 or greater. (CEnC 150.0(a)1)
 - 150.0(a)1 Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage.
 - 150.0(b) When loose-fill insulation is installed, the minimum installed weight per square foot shall conform with the insulation manufacturer's installed design weight per square foot at the manufacturer's labeled R-value.
 - 110.0 Insulation may be installed in a building only if the manufacturer has certified that the insulation complies with the applicable manufacturing provisions and installation provisions of Section 110.8.
 - 110.8(a) All insulation shall be certified by Department of Consumer Affairs, Bureau of Home Furnishing and Thermal Insulation that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24, Part 12, Chapters 12-13, Article 3, “Standards for Insulating Material.”
 - 110.8(b) Urea formaldehyde foam insulation may be applied or installed only if:
 1. It is installed in exterior side walls; and
 2. A four-mil-thick plastic polyethylene vapor retarder or equivalent plastic sheathing vapor retarder is installed between the urea formaldehyde foam insulation and the interior space in all applications.
 - 110.8(c) All insulating material shall be installed in compliance with the flame spread rating and smoke density requirements of the CBC:

R302.10 Flame spread and smoke-developed index for insulation shall be in accordance with Sections R302.10.1 through R302.10.5.

R302.10.1 Insulation materials, including facings, such as vapor retarders and vapor-permeable membranes installed within floor/ceiling assemblies, roof/ceiling assemblies, wall assemblies, crawl spaces and attics shall have a flame spread index not to exceed 25 with an accompanying smoke-developed index not to exceed 450 when tested in accordance with ASTM E 84 or UL 723.

Exceptions:

1. When such materials are installed in concealed spaces, the flame spread index and smoke-developed index limitations do not apply to the facings, provided that the facing is installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.
2. Cellulose loose-fill insulation, which is not spray applied, complying with the requirements of Section R302.10.3, shall only be required to meet the smoke-developed index of not more than 450.
3. Foam plastic insulation shall comply with Section R316.

R302.10.2 Loose-fill insulation materials that cannot be mounted in the ASTM E 84 or UL 723 apparatus without a screen or artificial supports shall comply with the flame spread and smoke-developed limits of Section R302.10.1 when tested in accordance with CAN/ULC S102.2.

Exception: Cellulose loose-fill insulation shall not be required to be tested in accordance with CAN/ULC S102.2, provided such insulation complies with the requirements of Section R302.10.1 and Section R302.10.3.

R302.10.3 Cellulose loose-fill insulation shall comply with CPSC 16 CFR, Parts 1209 and 1404. Each package of such insulating material shall be clearly labeled in accordance with CPSC 16 CFR, Parts 1209 and 1404.

R302.10.4 All exposed insulation materials installed on attic floors shall have a critical radiant flux not less than 0.12 watt per square centimeter.

R302.10.5 Tests for critical radiant flux shall be made in accordance with ASTM E 970.

- 110.8(d) Insulation installed in an existing attic, or on an existing duct or water heater, shall comply with the applicable requirements below. If a contractor installs the insulation, the contractor shall certify to the customer, in writing, that the insulation meets the applicable requirements.
 1. Attics. If insulation is installed in the existing attic of a low-rise residential building, the R-value of the total amount of insulation (after addition of insulation to the amount, if any, already in the attic) shall meet the requirements of Section 150.0(a).
EXCEPTION to Section 110.8(d)1: Where the accessible space in the attic is not large enough to accommodate the required R-value, the entire accessible space shall be filled with insulation provided such installation does not violate Section 1203.2 of Title 24, Part 2.
- 110.8(e) Insulation Placement on Roof/Ceilings. Insulation installed to limit heat loss and gain through the top of conditioned spaces shall comply with the following:
 1. Insulation shall be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in Section 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling; and
 2. When insulation is installed at the roof in nonresidential buildings, fixed vents or openings to the outdoors or to unconditioned spaces shall not be installed and the space between the ceiling and the roof is either directly or indirectly conditioned space and shall not be considered an attic for the purposes of complying with CBC attic ventilation requirements; and

4. Insulation shall be installed below the roofing membrane or layer used to seal the roof from water penetration unless the insulation has a maximum water absorption of 0.3 percent by volume when tested according to ASTM Standard C272.

NOTE: Vents, that do not penetrate the roof deck, that are designed for wind resistance for roof membranes are not within the scope of Section 110.8(e)2.

- Sealing:** All joints, penetrations and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather stripped, or otherwise sealed to limit infiltration and exfiltration (CEnC 110.7).
- Radiant Barrier:** Show on the plans that a radiant barrier is to be installed below the roof deck in the attic, and on the gable ends. The most common installation method is to use roof sheathing with a barrier bonded to it by the manufacturer. The sheathing is installed with the barrier facing down towards the attic. Alternatively, a barrier material can be draped over the top of the rafters or trusses before the sheathing is installed, or can be stapled between or underneath the rafters or top chords of the trusses after the sheathing is installed. A radiant barrier shall have an emittance of 0.05 or less, tested in accordance with ASTM C1371 or ASTM E408, and shall be certified to the Department of Consumer Affairs as required by Title 24, Part 12, Chapter 12-13, Standards for Insulating Material and shall meet the installation criteria specified in the Reference Residential Appendix RA4 [CNEC 110.8(j) and 150.1(c)2, Compliance Manual Section 3.8.2B]
- Title 24 Energy Compliance Reports:** Forms can be obtained on line at <http://www.energy.ca.gov/2015publications/CEC-400-2015-032/appendices/forms/>
 - The following forms must be filled out and submitted with the permit application
 - Certificate of Compliance form CF1R-ALT-01 Prescription Alterations
 - The following forms must be completed by the installer(s) prior to final:
 - Certificate of Installation form CF-2R-ENV-03 Insulation Installation
 - Certificate of Installation form CF-2R-ENV-04 Roofing-Radiant Barrier

6. **SMOKE ALARMS, CARBON MONOXIDE ALARMS & SPARK ARRESTERS:**

- In single family and multi-family residences (including townhomes, condominiums and apartments), installation of smoke alarms, carbon monoxide alarms and spark arresters is required prior to the final inspection as follows: (CRC R314 & R315 and CBC 907.2.11)

Smoke Alarms listed in accordance with UL 217, listed and approved by the California State Fire Marshal and tested & maintained in accordance with the manufacturer's instructions shall be installed in existing or new dwellings as follows: **in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms and on each story of the dwelling.** In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level. Alarms that no longer function shall be replaced. New smoke alarms that are solely battery powered must have a non-replaceable and non-removable battery capable of powering the smoke alarm for at least 10 years. Fire alarm systems shall be permitted in lieu of smoke alarms if they comply with the provisions of NFPA 72. The installation of smoke alarms and smoke detectors shall also comply with the following requirements:

1. Smoke alarms shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
2. Smoke alarms shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F or exceed 100°F.

3. Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, alarms shall be mounted on an inside wall.
4. Smoke alarms shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance, except Ionization smoke alarms with an alarm-silencing switch or Photoelectric smoke alarms shall be permitted to be installed 10 feet or greater from a permanently installed cooking appliance and Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 foot distances would prohibit the placement of a required smoke alarm or smoke detector. Smoke alarms listed for use in close proximity to a permanently installed cooking appliance can be installed in accordance with their listing.
5. Smoke alarms shall be installed not less than a 3 foot horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by the code.
6. Smoke alarms shall not be installed within a 36 inch horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
7. Smoke alarms shall not be installed within a 36 inch horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.
8. Where stairs lead to other occupied levels, alarm shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm by an intervening door or obstruction.
9. For stairways leading up from a basement, alarms shall be located on the basement ceiling near the entry to the stairs.
10. For tray-shaped ceilings (coffered ceilings), alarms shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 inch vertically down from the highest point.
11. Smoke alarms installed in rooms with joists or beams shall comply with the requirements of NFPA 72.
12. Heat alarms and detectors installed in rooms with joists or beams shall comply with NFPA 72.

Carbon Monoxide Alarms listed in accordance with UL 2034, or combination carbon and smoke alarm listed in accordance with UL2034 and UL217, listed and approved by the California State Fire Marshal and installed and maintained in accordance with the manufacturer's instructions shall be installed in existing or new dwellings having a fuel-fired appliance, fireplace or an attached garage with an opening communicating with the dwelling as follows: **outside each separate sleeping area in the immediate vicinity of bedroom(s) and on every occupiable level of a dwelling unit.** If there is a fuel-burning appliance located with a bedroom or its attached bathroom, an alarm shall be located within the bedroom.

Power supply: Smoke and carbon monoxide alarms shall receive their primary power from the building wiring and shall be equipped with a battery back-up. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection. Smoke and carbon monoxide alarms are permitted to be solely battery operated (carbon monoxide alarms can also be plug-in with battery back-up) in existing buildings where no construction is taking place; in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure unless there is an attic or crawl space available which could provide access for building wiring without the removal of interior finishes; where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck; or when work is limited to the installation, alteration or repairs of plumbing or mechanical systems or the installation, alteration or repair of electrical systems which do not result in the removal of interior wall or ceiling finishes exposing the structure.

Interconnection: Where more than one smoke or carbon monoxide alarm is required to be installed within an individual dwelling or sleeping unit, the alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit, except interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind; where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure unless there is an attic or crawl space available which could provide access for interconnection without the removal of interior finishes; where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck; or when work is limited to the installation, alteration or repairs of plumbing, mechanical or electrical systems which do not result in the removal of interior wall or ceiling finishes exposing the structure.

Spark arresters: When a permit has been issued and the value of the work exceeds \$1,000, a spark arrester must be installed on all fireplace chimneys if one does not already exist, per MMC Section II-3-2.06. Spark arresters shall be constructed in conformance with CRC Section 1003.9.2.

7. WATER CONSERVING FIXTURES:

- When required, all non-compliant plumbing fixtures must be replaced. Refer to the attached "Water Conserving Certificate of Compliance" handout for details on when this is required.

7. OTHER CITY DEPARTMENTS:

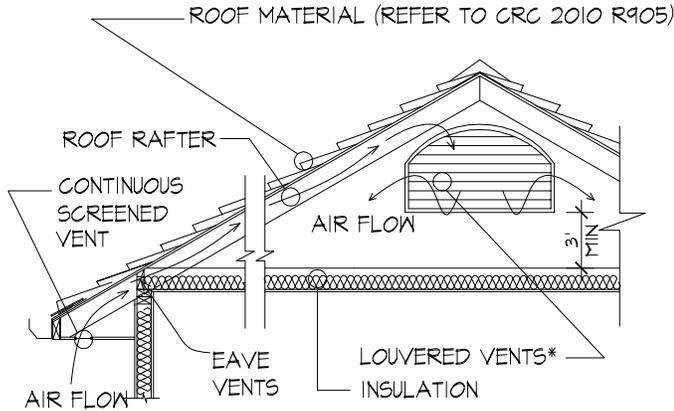
- Planning Division:** Prior to completion of any plans, the Planning Division should be contacted at (408) 586-3279 to find out the requirements due to the location and type of the proposed project.
- Fire Department:** Homes in "Hillside Areas" and all homes with fire sprinklers shall also be approved by the Fire Department. Contact the Fire Department for more information at (408) 586-3370.

Note: All plan submittals for the above Departments are made through the Building Department at the Permit Center with the building permit application.

NOTES:

- If one or more of the required items mentioned above are omitted from the submittal plans, the application may be considered as incomplete and not ready for checking or approving.

DIAGRAM A - VENTILATION FOR GABLE ROOF WITH ATTIC



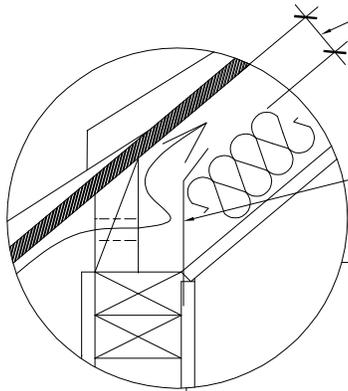
CRC 2010 Sec. R806.2 Minimum area.

The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling.

CRC 2010 Sec. R806.3 Vent and insulation clearance.

Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1-inch space shall be provided between the insulation and the roof sheathing and at the location of the vent.

1" MINIMUM AIR SPACE BETWEEN INSULATION AND ROOF SHEATHING



INSULATION Baffle

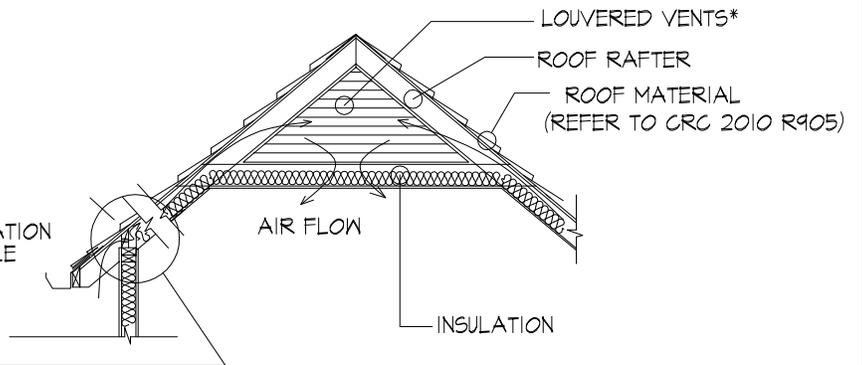


DIAGRAM B - VENTILATION FOR CATHEDRAL CEILING WITH PARTIAL ATTIC

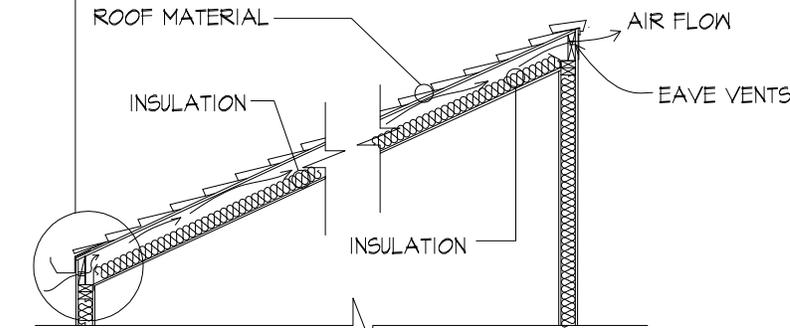


DIAGRAM C - VENTILATION FOR SHED ROOF

*VERIFY WITH ENGINEER FOR VENT LOCATION AS SHOWN

REV.	DATE	BY:	SCALE:
1	01/2011	EK	N.T.S
			DATE:
			JUN 2009
			DRAWN BY:
			Henry R
			REVIEWED BY:
			LEON SHEYMAN

City of Milpitas
 BUILDING AND SAFETY DEPARTMENT
 ROOF / ATTIC VENTILATION

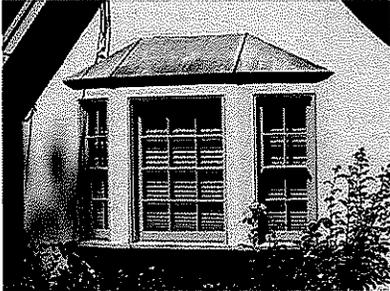
SHEET
1
 OF 1 SHEETS



Requirements for Copper Roofs and Other Architectural Copper

Protect water quality during installation, cleaning, treating, and washing!

Copper from Buildings May Harm Aquatic Life



Copper can harm aquatic life in San Francisco Bay. Water that comes into contact with architectural copper may contribute to impacts, especially during installation, cleaning, treating, or washing.

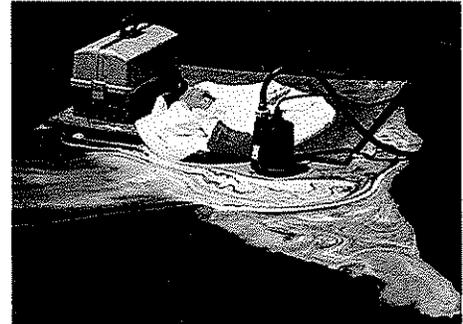
Patination solutions that are used to obtain the desired shade of green or brown typically contain acids. After treatment, when the copper is rinsed to remove these acids, the rinse water is a source of pollutants. Municipalities prohibit discharges to the storm drain of water used in the installation, cleaning, treating or washing of architectural copper.

Use Best Management Practices (BMPs)

The following Best Management Practices (BMPs) must be implemented to prevent prohibited discharges to storm drains.

During Installation

- If possible, purchase copper materials that have been pre-patinated at the factory.
- If patination is done on-site, implement one or more of the following BMPs:
 - Discharge the rinse water to landscaping. Ensure that the rinse water does not flow to the street or storm drain. Block off storm drain inlet if needed.
 - Collect rinse water in a tank and pump to the sanitary sewer. Contact your local sanitary sewer agency before discharging to the sanitary sewer.
 - Collect the rinse water in a tank and haul off-site for proper disposal.
- Consider coating the copper materials with an impervious coating that prevents further corrosion and runoff. This will also maintain the desired color for a longer time, requiring less maintenance.



Storm drain inlet is blocked to prevent prohibited discharge. The water must be pumped and disposed of properly.

During Maintenance

Implement the following BMPs during routine maintenance activities, such as power washing the roof, re-patination or re-application of impervious coating:

- Block storm drain inlets as needed to prevent runoff from entering storm drains.
- Discharge the wash water to landscaping or to the sanitary sewer (with permission from the local sanitary sewer agency). If this is not an option, haul the wash water off-site for proper disposal.

Protect the Bay and yourself!

If you are responsible for a discharge to the storm drain of non-stormwater generated by installing, cleaning, treating or washing copper architectural features, you are in violation of the municipal stormwater ordinance and may be subject to a fine.



Contact Information

Santa Clara Valley Urban Runoff Pollution Prevention Program, www.scvurppp.org, 1-800-794-2482



WATER CONSERVING CERTIFICATE OF COMPLIANCE

Project Address: _____ Permit Number: _____

If the Building Inspector cannot physically inspect all plumbing fixtures in the building or cannot verify compliance due to lack of product markings or data, this Certificate of Compliance may be signed by the property owner(s) and given to the Building Inspector. The Building Inspector must inspect and verify all plumbing fixtures or receive this Certificate prior to final inspection.

California Civil Code Section 1101 requires the following. **Note this law applies only to properties built and available for use or occupancy on or before January 1, 1994.**

On or before January 1, 2017, for any **one and two family** residential building, all non-compliant plumbing fixtures shall be replaced with water-conserving plumbing fixtures (regardless of whether property undergoes alterations or improvement).

As of January 1, 2014, for any **multi-family** (more than two units) residential building and any **commercial** building, all non-compliant plumbing fixtures shall be replaced with water-conserving plumbing fixtures in the following circumstances:

1. Additions, if the sum of concurrent building permits by the same permit applicant would increase the floor area of the building by more than 10%, all non-compliant fixtures must be upgraded throughout the building. This includes all common area plumbing fixtures as well as fixtures in private individual units or tenant unit owned by the same owner.
2. Alterations or improvements, if total construction cost in the building permit exceeds \$150,000, all non-compliant fixtures that service the specific area of the alteration or improvement will be required to be upgraded.
3. Any alteration to a room that contains non-compliant plumbing fixtures will require all fixtures in that room to be upgraded.

On or before January 1, 2019, for any **multi-family** (more than two units) residential building and any **commercial** building, all non-compliant plumbing fixtures shall be replaced with water-conserving plumbing fixtures (regardless of whether property undergoes alterations or improvement).

The requirements of this law shall not apply to any of the following:

1. The requirements of this law shall be postponed one year from the date of issuance of a demolition permit for the building. If the building is not demolished after one year, the provision of this law shall apply even though the demolition permit is still in effect or a new demolition permit has been issued.
2. Registered historical sites.
3. Real property for which a licensed plumber certifies in writing that, due to the age or configuration of the property or its plumbing, installation of water-conserving plumbing fixtures is not technically feasible.
4. A building for which water service is permanently disconnected.
5. The property was built and available for use or occupancy after January 1, 1994.

I/We, the owner(s) of this property, certify under penalty of perjury:

- All existing plumbing fixtures meet the minimum requirements of water-conserving as noted below.
- All non-compliant plumbing fixtures have been replaced with water-conserving plumbing fixtures in accordance with Civil Code Sections 1101.1 through 1101.8, the current California Plumbing Code and California Green Building Standards Code, and manufacturer's installation requirements, and that the water-conserving plumbing fixtures comply with the requirements as noted below.
- I/We are exempt for reason #____ listed above. If for reason #3, attached is a letter from a licensed plumber.

Signature of Property Owner(s)

Print Name(s)

Date: _____

The following non-compliant fixtures shall be replaced with water-conserving fixtures as noted: (CGBC 4.303 & 5.303)

- Existing water closets that exceed 1.6 gallons per flush shall be replaced with one that has an effective flush volume not to exceed **1.28 gallons per flush**. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type toilets. The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.
- Existing urinals that exceed 1.0 gallons per flush shall be replaced with one that uses not more than an average of **0.125 gallons per flush** (0.47 L) for wall mounted and **0.5 gallons** (1.89 L) for other types of urinals.
- Existing single shower heads that exceed 2.5 gallons per minute shall be replaced with one that has a maximum flow rate of not more than **2.0 gallons per minute** at 80 psi. Shower heads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
- When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed **2.0 gallons per minute** at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. A hand-held shower shall be considered a showerhead.
- Existing residential lavatory faucets that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed **1.2 gallons** (4.54 L) per minute at 60 psi. The minimum flow rate shall not be less than 0.8 gallons (3.03 L) per minute at 20 psi.
- Existing lavatory faucets in residential common and public use areas (outside of dwellings or sleeping units) and in commercial areas that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed **0.5 gallons per minute** at 60 psi.
 - Metering faucets shall have a maximum flow rate of **0.20 gallons per cycle commercial** or **0.25 residential**.
- Existing kitchen faucets that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed **1.8 gallons per minute** at 60 psi. Residential kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.
 - Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.