



City of Milpitas

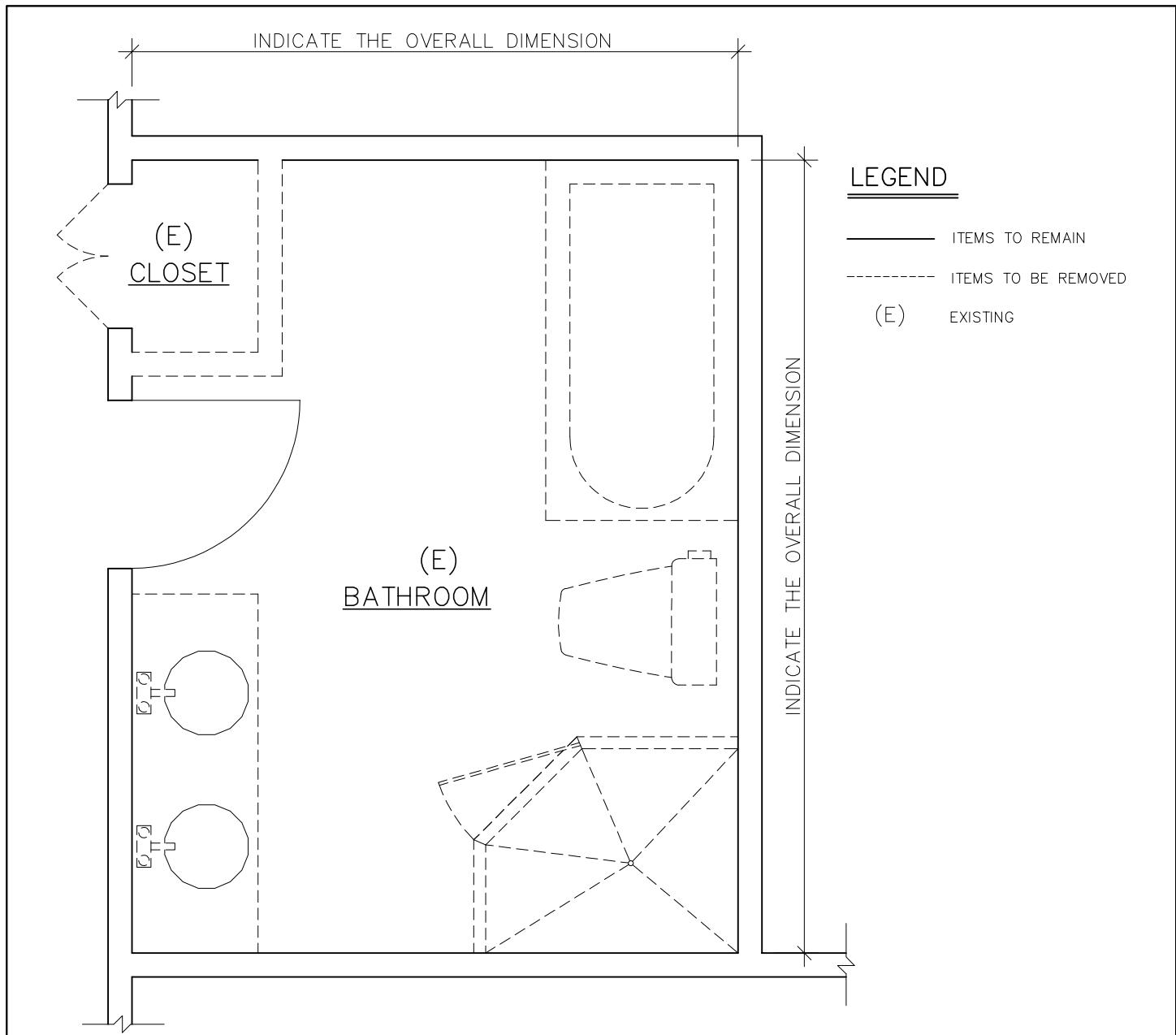
Office of Building Safety

DESIGN GUIDELINE FOR

RESIDENTIAL BATHROOM REMODEL



455 E. Calaveras Blvd.
Milpitas, CA 95035
408-586-3240
www.milpitas.gov



A EXISTING LAYOUT / DEMOLITION
(PLAN VIEW)

The purpose of preparing this plan is to show

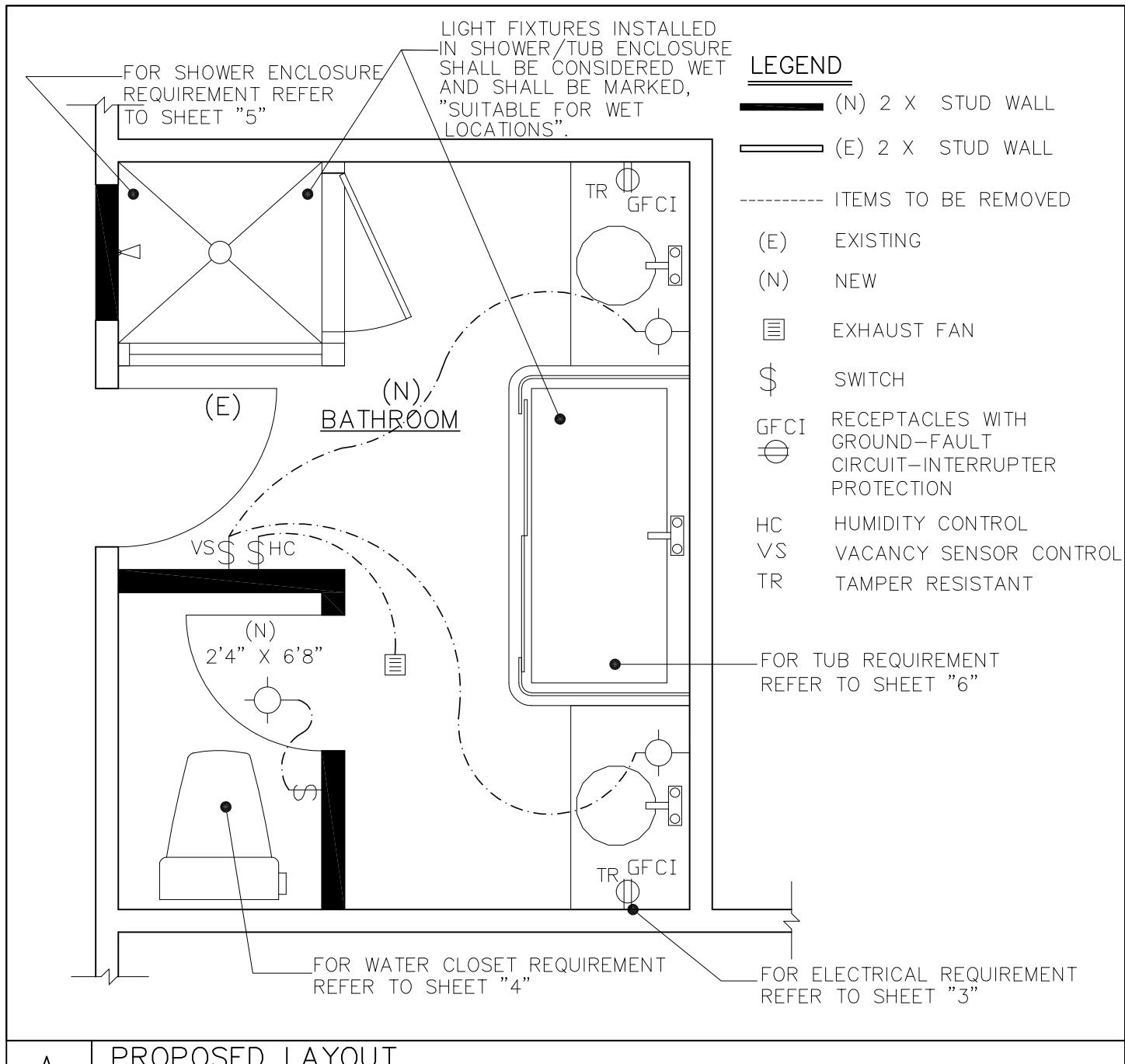
- 1) What is the existing layout ?
- 2) Which Items are going to be removed & which items will remain as existing?

In this example all (E) plumbing fixtures, portion of (E) closet wall inside bathroom and (E) closet door are going to be removed.

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1	FEB 2023	VP

City of Milpitas
Office of Building Safety
BATHROOM REMODEL
EXISTING LAYOUT/DEMOLITION

SHEET
1
OF 7 SHEETS



A

PROPOSED LAYOUT
(PLAN VIEW)

The purpose of preparing this plan is to show

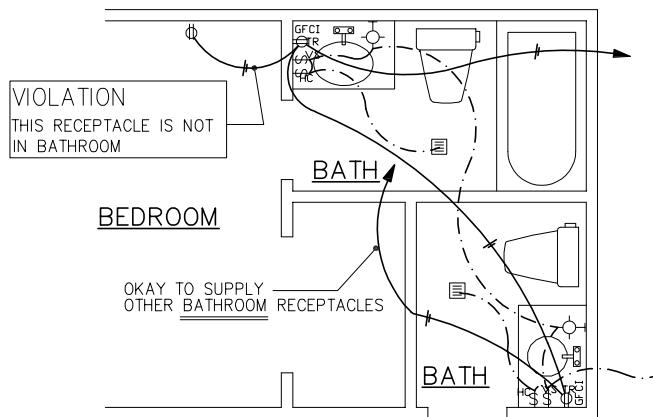
1) What is the proposed layout ?

In this example: Install (N) Shower & Enclosure in previous (E) closet location, (N) water closet and (N) walls for water closet enclosure, two new vanities and sinks, and Tub with glass enclosure.

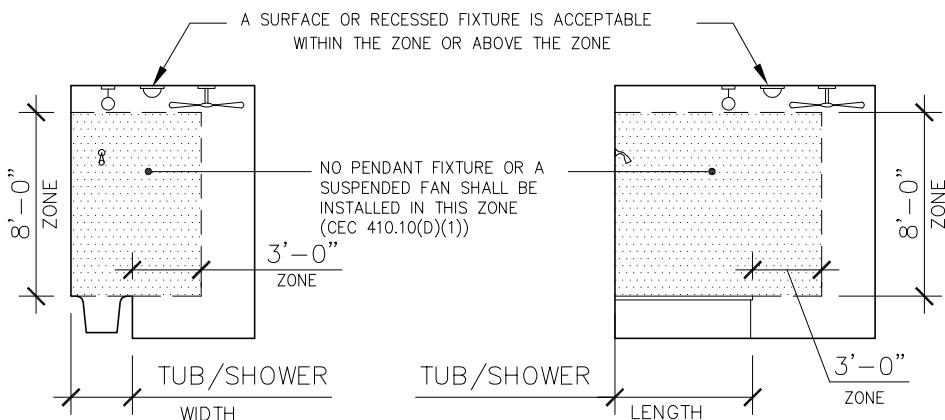
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Office of Building Safety
BATHROOM REMODEL
PROPOSED LAYOUT

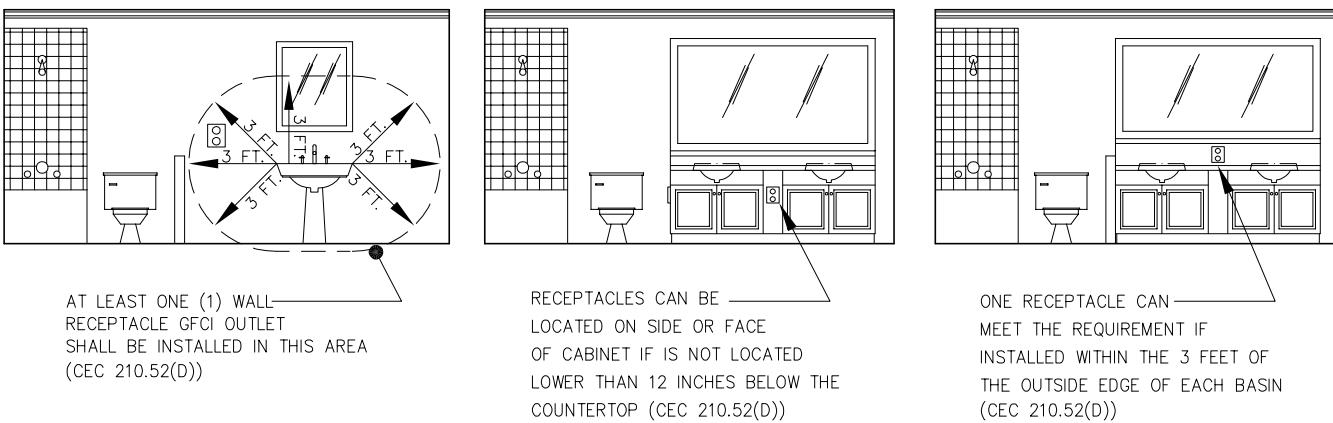
SHEET
2
OF 7 SHEETS



A BRANCH CIRCUITS (PLAN VIEW)

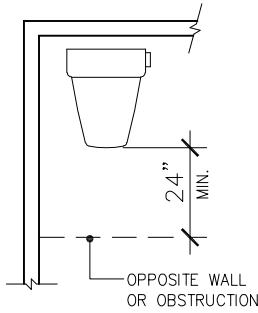


B PROHIBITED ZONE FOR FIXTURE INSTALLATION (ELEVATION / SECTION)

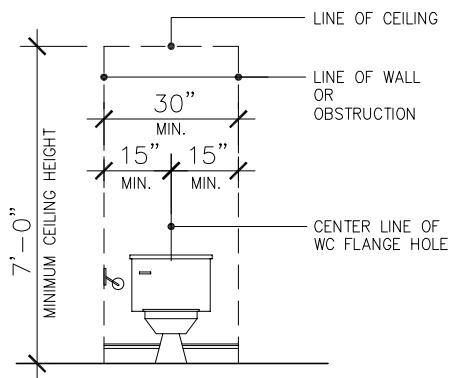


C ACCEPTABLE LOCATIONS FOR GFCI RECEPTACLES

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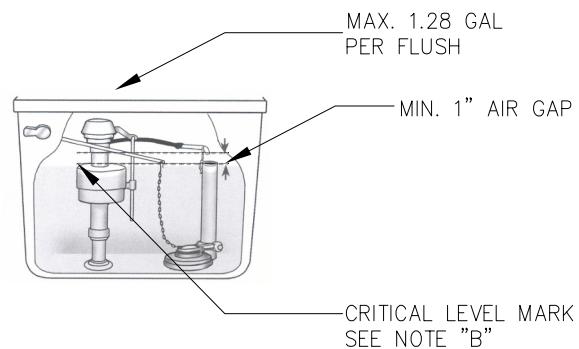
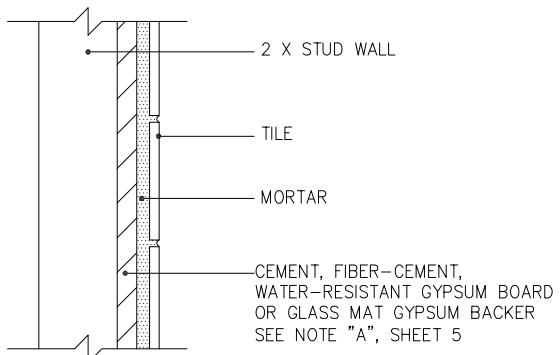
(PLAN VIEW)



(ELEVATION)

A

WATER CLOSET COMPARTMENT REQUIRED DIMENSION (CPC 402.5)



B

BASE FOR TILE IN
WATER CLOSET ENCLOSURES

C

TOILET FILL VALVE

NOTE "A"

CRC 2022 R702.3.7 Water-resistant gypsum backing board.

- Gypsum board used as the base or backer for adhesive application of ceramic tile or other required nonabsorbent finish material shall conform to ASTM C1396, C1178 or C1278. Use of water-resistant gypsum backing board shall be permitted on ceilings. Water-resistant gypsum board shall not be installed over a Class I or II vapor retarder in a shower or tub compartment. Cut or exposed edges, including those at wall intersections, shall be sealed as recommended by the manufacturer.

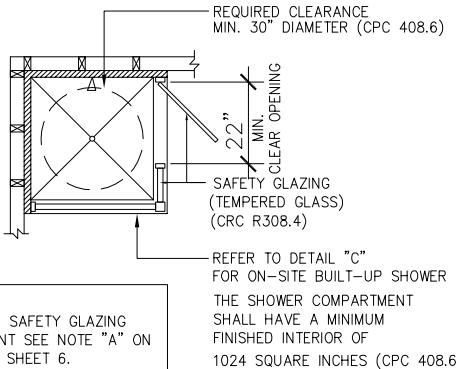
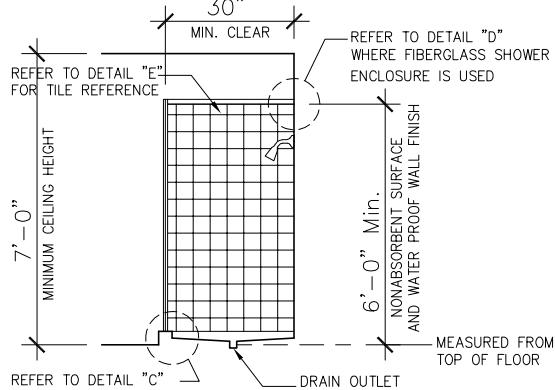
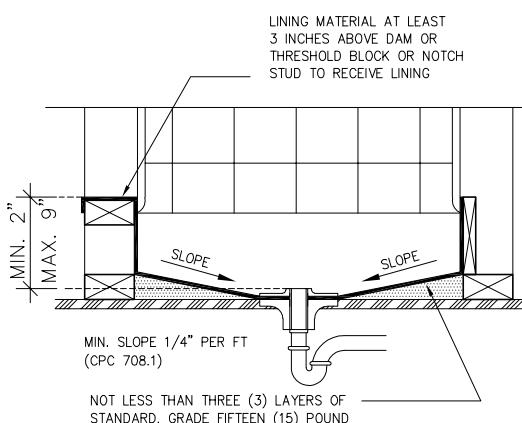
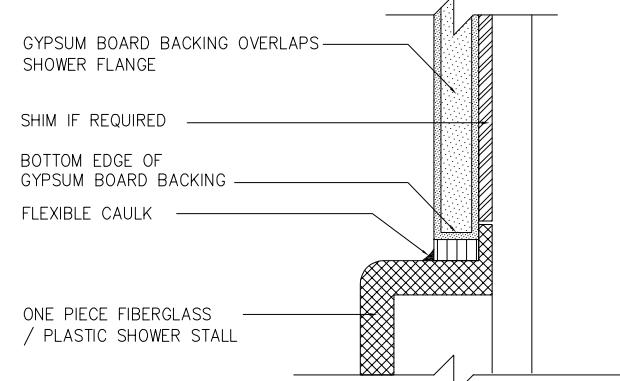
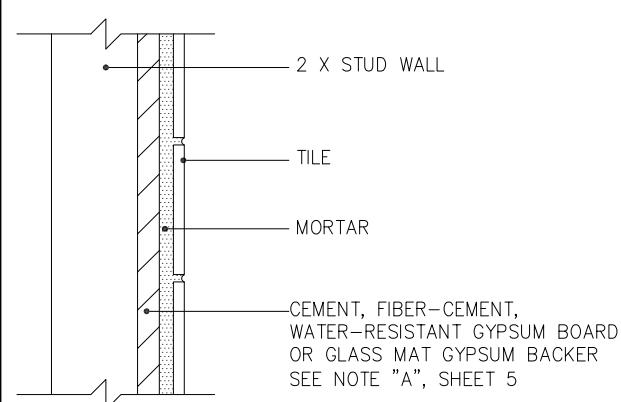
CRC 2022 R702.3.7.1 Limitations.

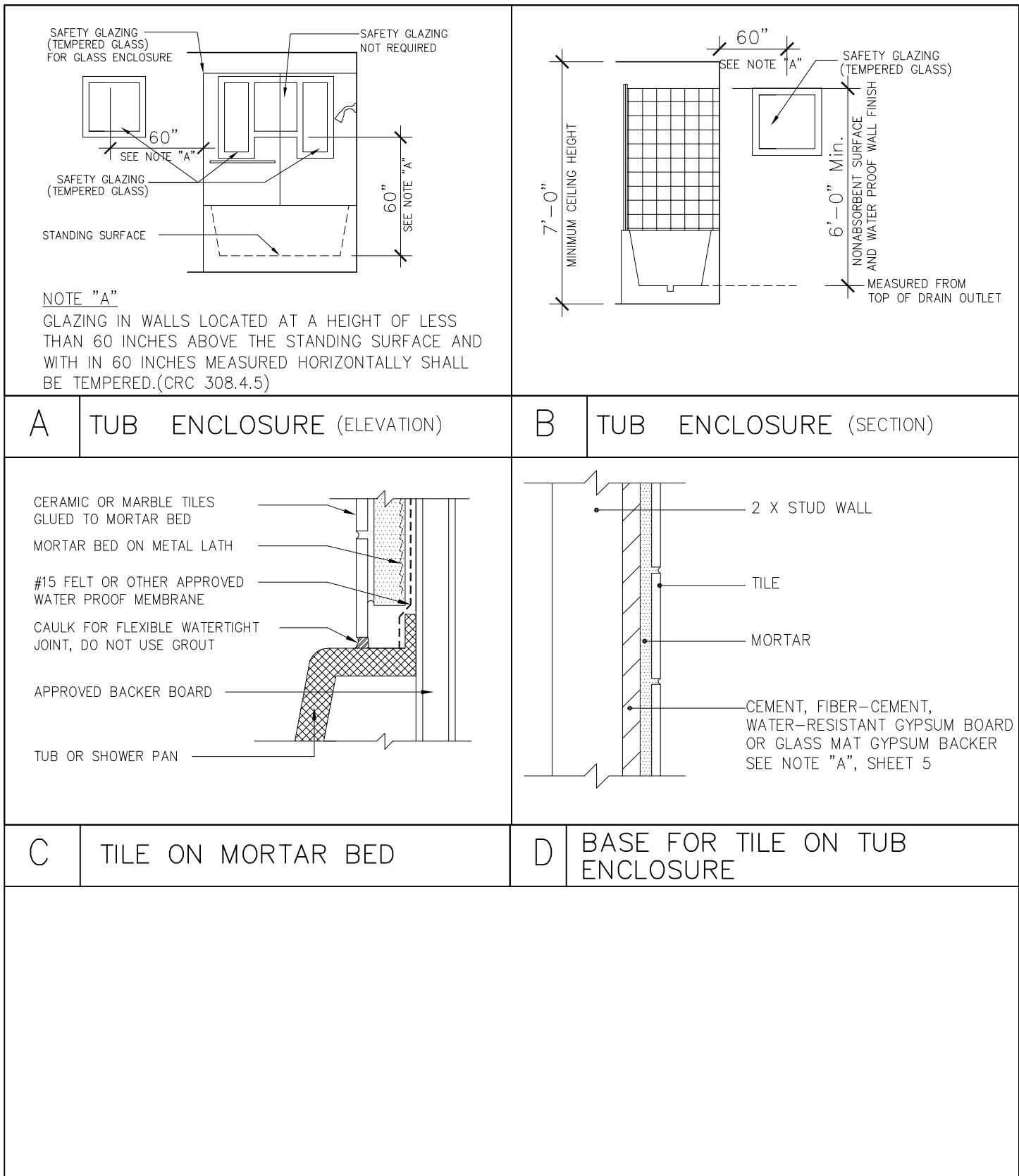
- Water-resistant gypsum backing board shall not be used where there will be direct exposure to water, or in areas subject to continuous high humidity.

NOTE "B"

- Water closet tanks shall be equipped with a ballcock. The ballcock shall be installed with the critical level at least one (1) inch above the full opening of the overflow pipe. In cases where the ballcock has no hush tube, the bottom of the water supply inlet shall be installed one (1) inPS ch above the full opening of the overflow pipe. (CPC 603.5.2)

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 <p>REQUIRED CLEARANCE MIN. 30" DIAMETER (CPC 408.6)</p> <p>MIN. CLEAR OPENING 22"</p> <p>SAFETY GLAZING (TEMPERED GLASS) (CRC R308.4)</p> <p>NOTE: FOR OTHER SAFETY GLAZING REQUIREMENT SEE NOTE "A" ON DETAIL "A" SHEET 6.</p> <p>REFER TO DETAIL "C" FOR ON-SITE BUILT-UP SHOWER THE SHOWER COMPARTMENT SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1024 SQUARE INCHES (CPC 408.6)</p>	 <p>30" MIN. CLEAR</p> <p>REFER TO DETAIL "E" FOR TILE REFERENCE</p> <p>MIN. CEILING HEIGHT 7'-0"</p> <p>6'-0" Min. NONABSORBENT SURFACE AND WATER PROOF WALL FINISH</p> <p>MEASURED FROM TOP OF FLOOR</p> <p>REFER TO DETAIL "C" FOR ON-SITE BUILT-UP SHOWER</p> <p>DRAIN OUTLET</p>										
<p>A SHOWER ENCLOSURE (PLAN VIEW)</p>  <p>LINING MATERIAL AT LEAST 3 INCHES ABOVE DAM OR THRESHOLD BLOCK OR NOTCH STUD TO RECEIVE LINING</p> <p>MIN. 2" MAX. 9"</p> <p>SLOPE</p> <p>SLOPE</p> <p>MIN. SLOPE 1/4" PER FT (CPC 708.1)</p> <p>NOT LESS THAN THREE (3) LAYERS OF STANDARD, GRADE FIFTEEN (15) POUND ASPHALT-IMPREGNATED ROOFING FELT.</p>	<p>B SHOWER ENCLOSURE (SECTION)</p>  <p>GYPSUM BOARD BACKING OVERLAPS SHOWER FLANGE</p> <p>SHIM IF REQUIRED</p> <p>BOTTOM EDGE OF GYPSUM BOARD BACKING</p> <p>FLEXIBLE CAULK</p> <p>ONE PIECE FIBERGLASS / PLASTIC SHOWER STALL</p>										
<p>C ON-SITE BUILT-UP SHOWER</p>  <p>2 X STUD WALL</p> <p>TILE</p> <p>MORTAR</p> <p>CEMENT, FIBER-CEMENT, WATER-RESISTANT GYPSUM BOARD OR GLASS MAT GYPSUM BACKER SEE NOTE "A", SHEET 5</p>	<p>D TOP OF FIBERGLASS SHOWER</p> <p>NOTE "A" CRC 2022 R702.4.2</p> <p>Backer boards. Materials used as backers for wall tile in tub and shower areas and wall panels in shower areas shall be of materials listed in Table R702.4.2, and installed in accordance with the manufacturer's recommendations.</p> <table border="1" data-bbox="881 1457 1321 1647"> <caption>TABLE R702.4.2 BACKER BOARD MATERIALS</caption> <thead> <tr> <th>MATERIAL</th> <th>STANDARD</th> </tr> </thead> <tbody> <tr> <td>Glass mat gypsum backing panel</td> <td>ASTM C1178</td> </tr> <tr> <td>Fiber-reinforced gypsum panels</td> <td>ASTM C1278</td> </tr> <tr> <td>Nonasbestos fiber-cement backer board</td> <td>ASTM C1288 or ISO 8336, Category C</td> </tr> <tr> <td>Nonasbestos fiber mat reinforced cementitious backer units</td> <td>ASTM C1325</td> </tr> </tbody> </table>	MATERIAL	STANDARD	Glass mat gypsum backing panel	ASTM C1178	Fiber-reinforced gypsum panels	ASTM C1278	Nonasbestos fiber-cement backer board	ASTM C1288 or ISO 8336, Category C	Nonasbestos fiber mat reinforced cementitious backer units	ASTM C1325
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<p>E BASE FOR TILE IN SHOWER ENCLOSURE</p>	<p>City of Milpitas Office of Building Safety BATHROOM REMODEL SHOWER REQUIREMENTS</p> <p>SHEET 5 OF 7 SHEETS</p>										



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BATHROOM REMODEL
TUB ENCLOSURE AND TILE REQUIREMENTS

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Lighting:

- If adding or replacing the lighting, it shall be high efficacy fixtures or be controlled with a manual-on occupant sensor with controls that do not allow the fixtures to be manually turned on or allow the fixtures to be always on (Calif. Energy Code 150(k) 2A).
- At least one installed luminaire shall be controlled by an occupancy or vacancy sensor providing automatic-off functionality.(Calif. Energy Code 150(k) 2E).
- Recessed lighting in insulated ceilings must be rated for zero clearance insulation contact (IC), certified as airtight construction (AT), and must have a sealed gasket or caulking between the housing and ceiling to prevent the flow of heated or cooled air out of the living areas and into the ceiling cavity (Calif. Energy Code 150(k) 2C).
- Lighting located directly above the bathtub or shower and within 8 feet vertically of the top of the bathtub rim or shower threshold must be marked for either damp or wet locations. Lighting subject to shower spray must be marked for wet locations. [CEC 410.10(D)(2)]

CALGREEN MANDATORY MEASURES :

- **WATER EFFICIENCY AND CONSERVATION**
- **Indoor Water Use (4.303)**
- **Water closets.** The effective flush volume of all water closets shall not exceed 1.28 gpf. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.
- **Single showerheads.** Showerheads shall have a max. flow rate of not more than 1.8 gpm at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
- **Multiple showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.
- **Residential lavatory faucets.** The max. flow rate of residential lavatory faucets shall not exceed 1.2 gpm at 60 psi. The min. flow rate of residential lavatory faucets shall not be less than 0.8 gpm at 20 psi.
- Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

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BATHROOM REMODEL
ENERGY AND CALGREEN REQUIREMENT

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