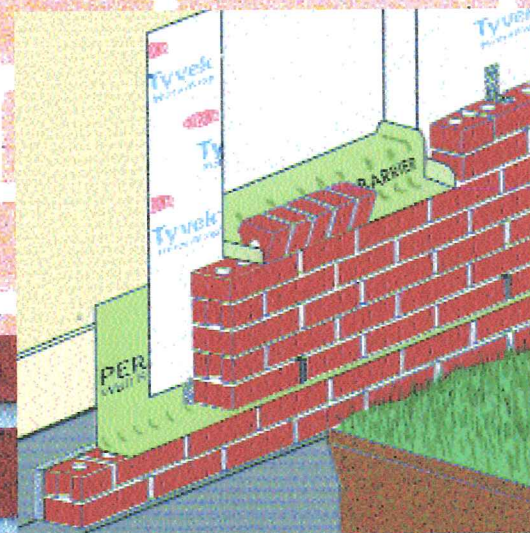
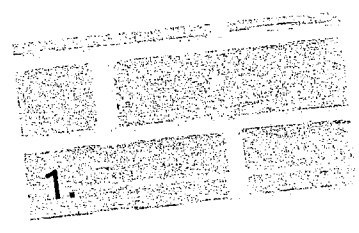


Guide to Inspecting Residential Brick Veneer





Welcome to your . . .

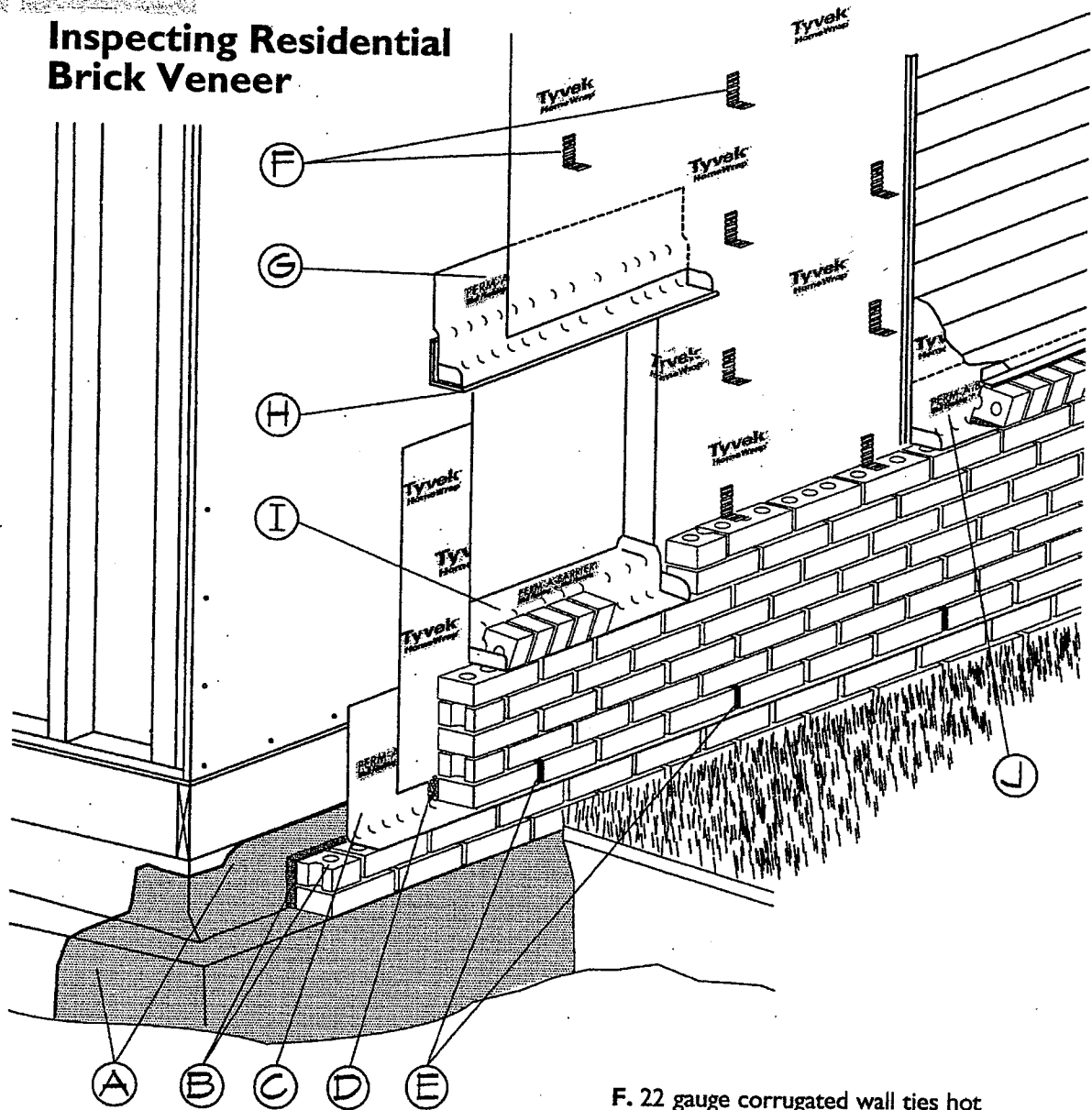
Guide to Inspecting Residential Brick Veneer

The knowledgeable staff at MASONPRO have assembled the following information as a professional courtesy for the residential construction building industry. Our intention is to provide home builders, masons, inspectors and related industry professionals with details and descriptions of sound building practices that meet and/or exceed local, state and national building codes.

The facing page provides a typical isometric drawing along with descriptive call-outs that identify the main building components. Pages 5 through 9 provide detail drawings for common residential construction applications. Please feel free to use these drawings as your own and we encourage you to photocopy and fax them whenever practical.

We appreciate your comments and questions.
For additional copies, please contact MASONPRO at 1-800-659-4731

Inspecting Residential Brick Veneer



- A.** Terminate foundation waterproofing above future finish grade
- B.** Lay brick coursing to above future grade and fill the collar joint and brick cores solid with mortar
- C.** Install base flashing above grade to face of brick and lap up and under exterior wrap
- D.** Pea stone drainage to top of weep
- E.** Weeps resting on the flashing spaced 32" o.c. maximum (24" preferred)

F. 22 gauge corrugated wall ties hot dipped per ASTM A153 spaced 16" o.c. w/ 8d hot dipped nails

G. Flash to face of angle and turn up and under the exterior wrap

H. Optional metal drip edge between angle and flashing membrane

I. Sill flashing to face of brick

J. Rowlock flashing to face of brick and up and under exterior wrap and siding. Metal flashing 2" x 2" resting on the rowlock course and up and under the siding

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Waterproofing

Basement waterproofing should continue up onto the brick ledge terminating above the future finish grade of the landscaping:

Brick Flashing

Masonry flashing membranes should be a grade of material manufactured specifically for the purpose of flashing brick veneers. Waterproofing membrane, PVC, plastic sheeting and any other UV or freeze/thaw prone materials should be avoided. Numerous materials are on the market with tech data and installation details supporting the products use as a thru-wall flashing. These may include self-adhering rubberized bituthene membranes, EPDM or laminated rolled copper. Follow the manufacturers instructions to form and seal inside and outside corners.

Always install base flashing and weeps above grade. Several courses of brick should be laid on the waterproofed brick ledge to reach approximately 4 inches above grade. The brick core holes and the open collar joint between the back of the brick and the foundation should be filled with mortar to provide a solid surface to set the flashing on and to reduce potential water infiltration below grade. On descending grades flashing should be stepped with each run extending 8 to 12 inches over the run below. On CMU or concrete backups the flashing can be terminated without lapping under the house wrap by following the manufacturers recommendations for self-adhering membranes or using termination bars with tapcons or expansion pins.

Always install flashing over entry doors, windows, garage doors and all miscellaneous brick openings. Terminate flashings over openings by turning each end up into brick head joints to form end dams. Start at the front of the angle, and like the base flashing, extend up a minimum 8 inches and lap under the house wrap or building paper. A growing demand exists for a metal drip edge to be sandwiched between the flashing membrane and the angle. This hemmed drip deflects downward flowing water away from the house and acts as a caulk receiver to protect the angle from corrosion.

Brick installed on a rake should be flashed and supported by proper framing and/or steel angle iron mechanically fastened to the substrate. Flashing should be attached to the sheathing and stepped with each run lapped 8 inches over the run below. The end of each run should be turned up in a brick head joint to form end dams.

Weeps

Weep holes are required at all flashing locations typically 32 inches o.c. maximum. They should be installed directly on top of the flashing in the head joints of the brick. They can be installed by utilizing methods as simple as leaving an open head joint or may include one of the countless louvered, vented or drainage screens available on the market. A layer of pea stone placed in the space between the back of the brick (resting on the flashing to the height of the weeps) will prevent mortar droppings from clogging the drainage system.

Corrugated Wall Ties

Code requires 22 Gauge 7/8 inch x 8 inch Hot Dip Galvanized ASTM A153. Install 16" vertically and horizontally. Do not exceed 3.25 square foot per tie. Additional ties are required around openings. Code-acceptable wall ties are hot dip galvanized after fabrication while standard mill galvanized ties are fabricated after electro galvanizing and are prone to corrosion around the edges and the nail holes. A simple method for checking whether ties are hot dipped or not, is to run your finger over the corrugation. The surface of the tie should feel very coarse from a heavy coating of molten zinc.

Nails

8D Hot Dip Galvanized. Wall ties should be nailed within 1/2 inch of the 90 degree horizontal bend into the bed joint of the brick.

Anchors for Walk Out Basement Brick Veneers

Dovetail slots should be fitted into the basement forms prior to pouring concrete. These slots should be sized to fit standard dovetail brick ties. If the slots are missing the dovetail brick ties can be post installed by mechanical attachment using tapcons or expansion pins to the concrete.

Stone Accents

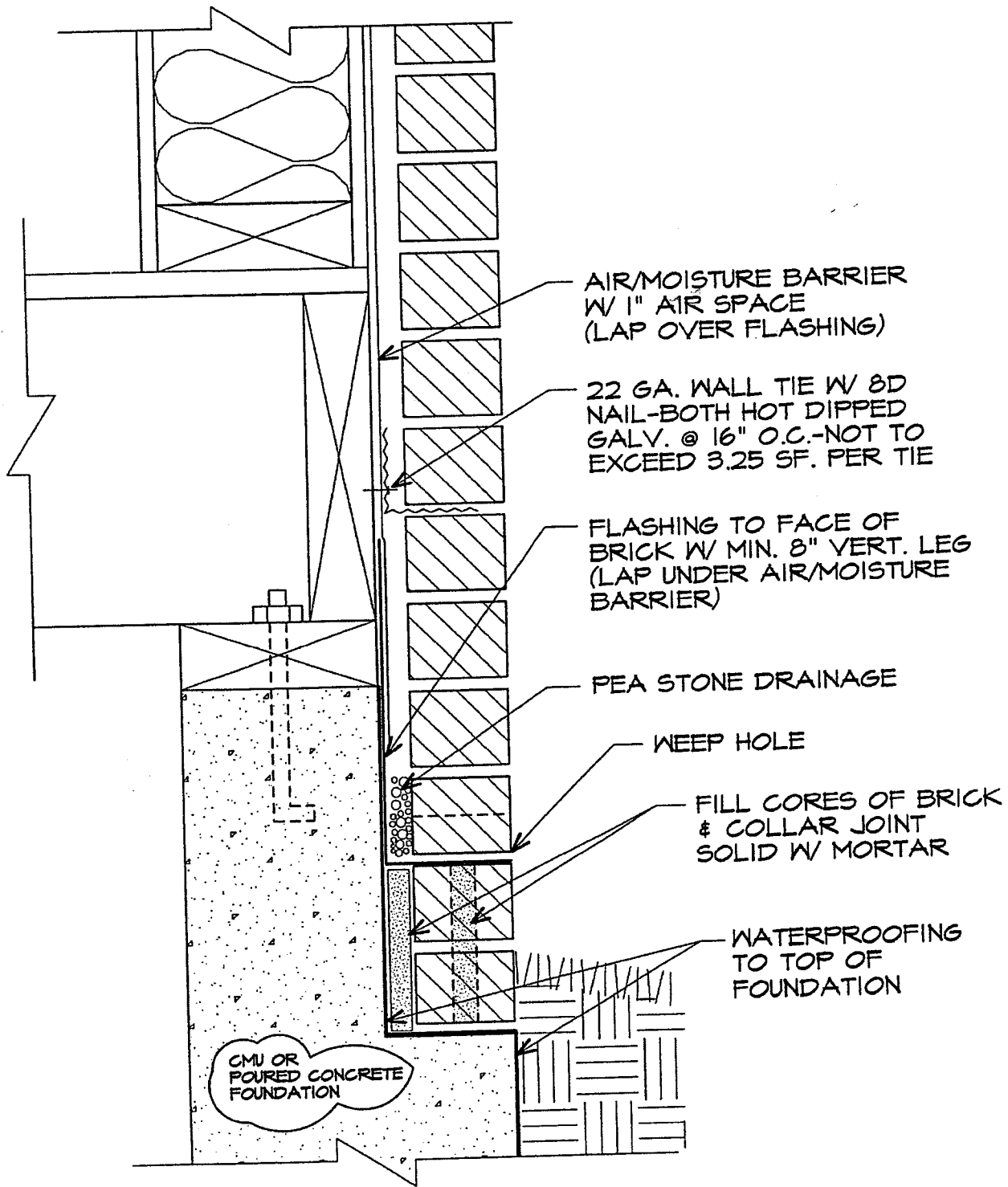
Limestone units may require stainless steel anchors that offer positive attachment to the substrate. Window & door surrounds, arches, sills and copings require special attention for flashing and anchorage.

Chimney Caps

Stone and concrete poured chimney caps should be membrane flashed prior to setting or formed and pouring. Mortar wash caps perform very poorly and should be avoided. Prefabricated metal caps with 4 inches of minimum lap over the brick veneer and properly sealed can offer excellent performance.

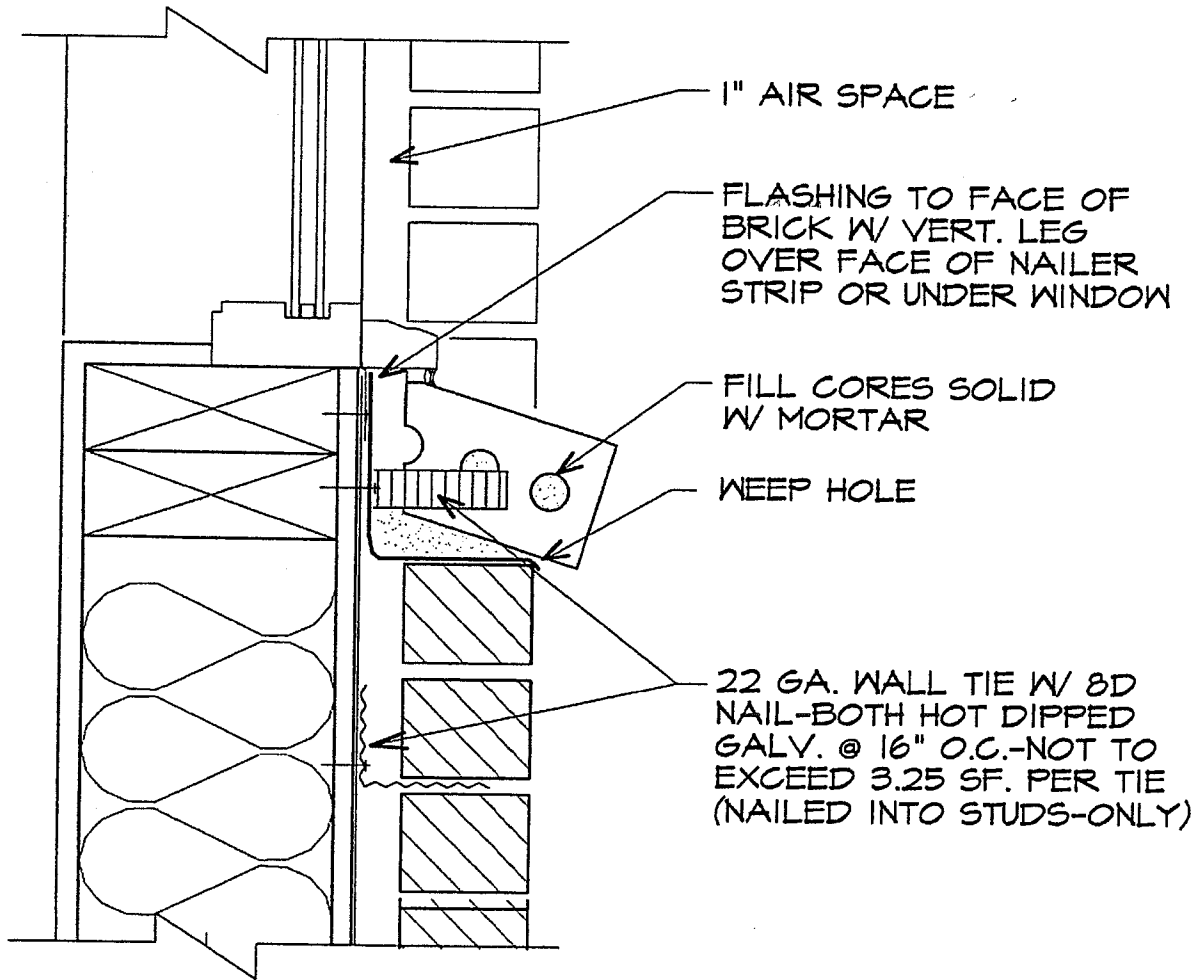
Porches and Patios

Porches and patios with living space beneath should have the form decking encapsulated with a waterproofing membrane terminating at the brick face on all sides while being turned up slightly onto the house veneer and lapped up and under the entry threshold.



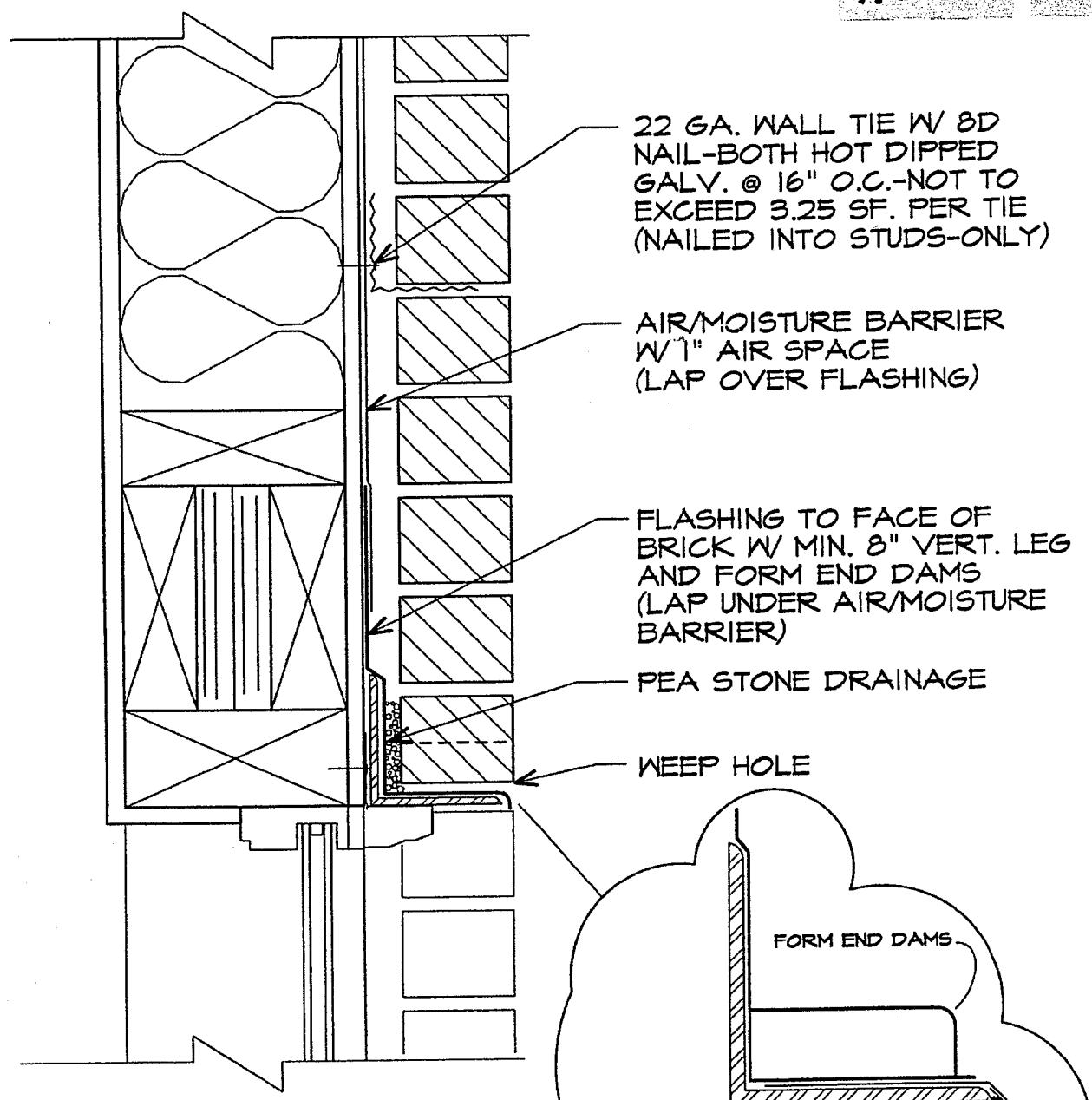
BASE

6.



WINDOW SILL

7.



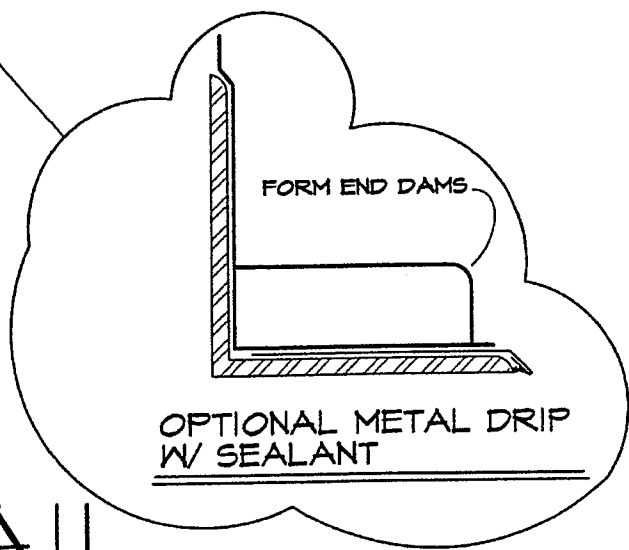
22 GA. WALL TIE W/ 8D NAIL-BOTH HOT DIPPED GALV. @ 16" O.C.-NOT TO EXCEED 3.25 SF. PER TIE (NAILED INTO STUDS-ONLY)

AIR/MOISTURE BARRIER W/ 1" AIR SPACE (LAP OVER FLASHING)

FLASHING TO FACE OF BRICK W/ MIN. 8" VERT. LEG AND FORM END DAMS (LAP UNDER AIR/MOISTURE BARRIER)

PEA STONE DRAINAGE

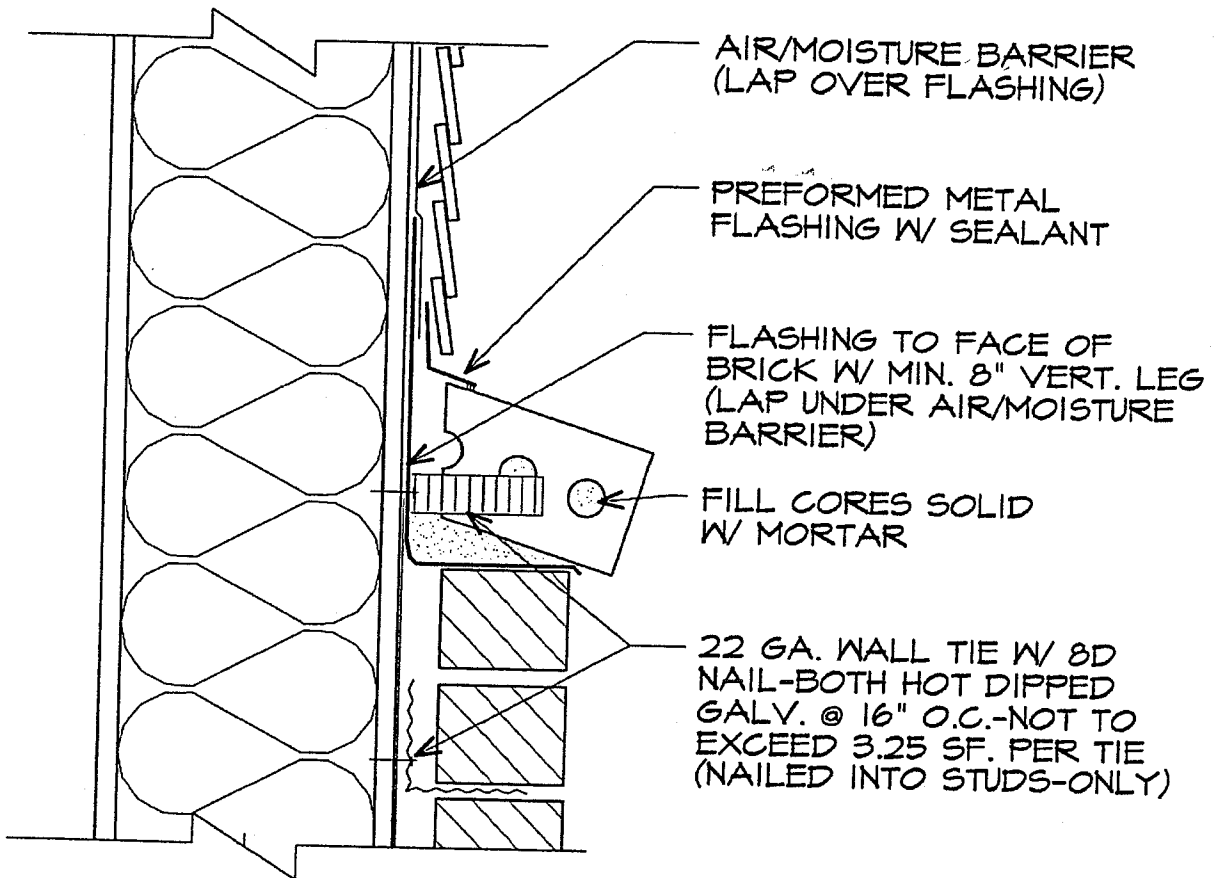
WEEP HOLE



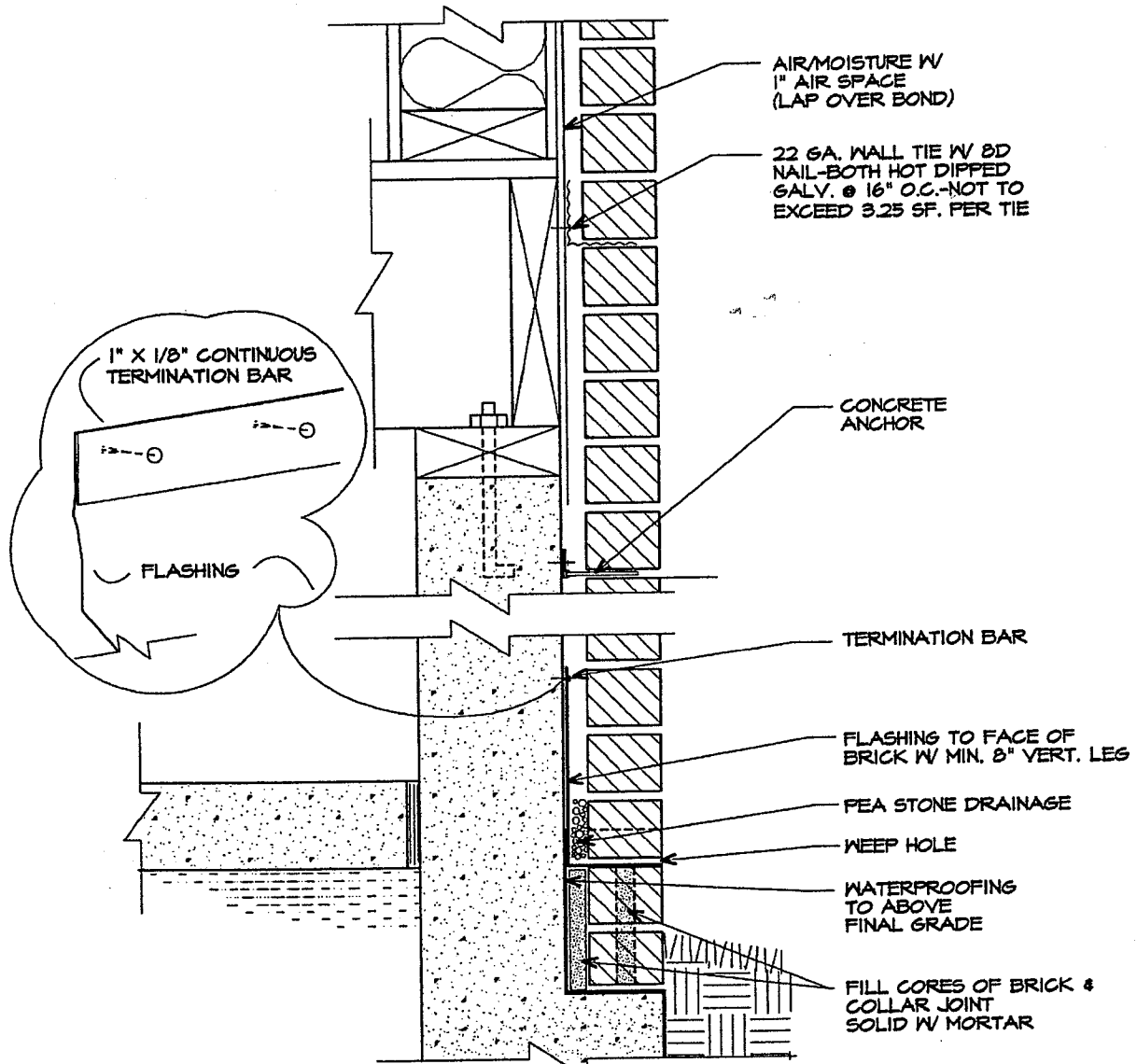
HEAD DETAIL

(WINDOW, DOOR, BASEMENT WINDOW & GARAGE DOOR)

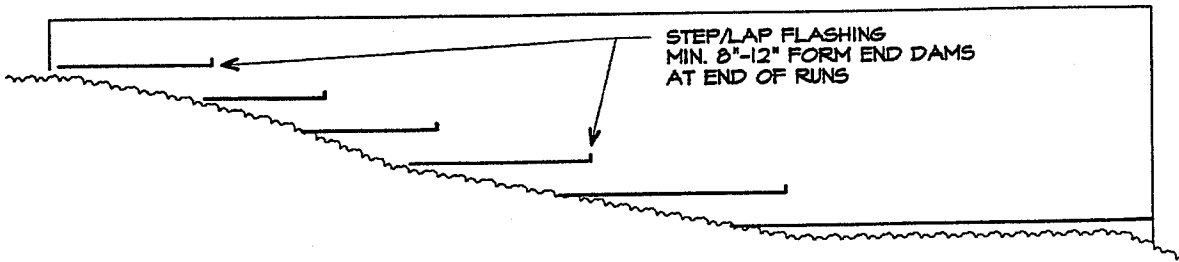
8.



ROWLOCK



WALK-OUT BSMT.



SLOPED GRADE ELEV.

2000 MICHIGAN RESIDENTIAL CODE

APPLICABLE SECTIONS

- R703.7.4 Anchorage
 - R703.7.4.1 Size and Spacing
 - R703.7.4.1.1 Veneer ties around wall openings
 - R703.7.5 Flashing
 - R703.7.6 Weepholes
 - R703.8 Flashing (see also R109.1.4 and R703.2 Masonry Inspections)
 - R606.1 General References ACI 530/ASCE 5/TMS 402
 - See 2.4 F.l.c Coatings for corrosion protection.....
 - ASTM A153 Class B (hot dip galvanized after fabrication).
- Table R606.14.1

Michigan Department of Consumer and Industry Services Bureau of Construction Codes

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website: www.michigan.gov/cis

OTHER CONTACTS:

Masonry Institute of Michigan Inc.



12870 Farmington Road, Suite A
Livonia, MI 48150
Ph: 734-458-8544
Fax: 734-458-8545
website: www.mim-online.org



Brick Industry Association

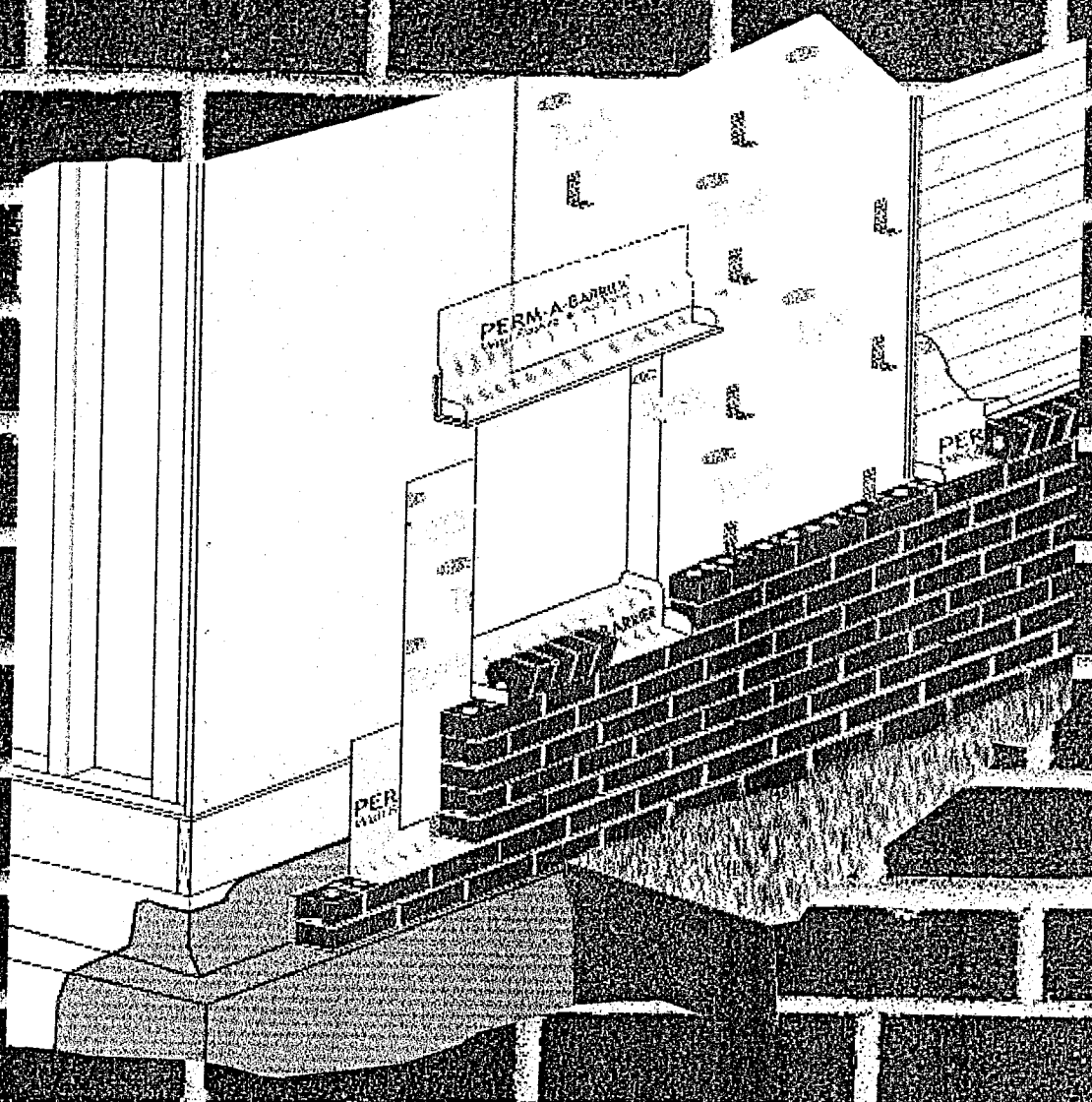
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