County of Hidalgo
Urban County Program

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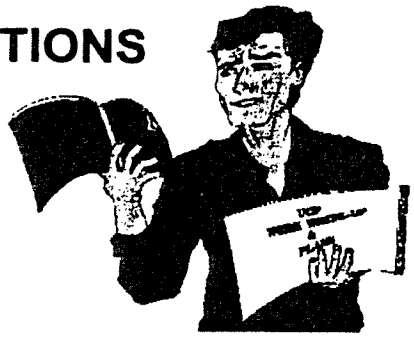
OWNER OCCUPIED HOUSING
REHABILITATION PROGRAM

CONTRACTOR'S MINIMUM SET
OF

GENERAL SPECIFICATIONS



- ☑ General Information
- ☑ Construction Procedures
- ☑ Material Specifications
- ☑ Strict Requirements

THIS MANUAL IS REQUIRED FOR USE

WITH ANY UCP WRITE-UPS AND PLANS

2008 MANUAL

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COUNTY OF HIDALGO
URBAN COUNTY PROGRAM
OWNER OCCUPIED HOUSING REHABILITATION PROGRAM

GENERAL SPECIFICATIONS

SCOPE OF WORK

A. To reconstruct existing dwellings as specified on work write-up and house plans. All housing rehabilitation requirements **must meet** the Southern Building Code Congress International (SBCCI).

B. The contractor shall be held responsible for all the **REQUIRED WORK** category requests as listed in each of the 23 sections of this specifications booklet.

C. All specifications contained within this booklet shall be followed accordingly **unless otherwise specified** on write-up or plans.

D. In any case this specifications booklet **shall not supercede** any city building codes unless agreed upon by proper city officials.

E. The **CONTRACTOR SHALL BE HELD RESPONSIBLE** for any household items exposed to weather, including interior items damaged due to weather negligence.

F. The **CONTRACTOR MUST DISPLAY AN URBAN COUNTY PROGRAM PROJECT SIGN** before construction begins.
(See ***Figure 26*** in the **Other Important Lists and Documents** section).

COMMON DEFINITIONS FOR UCP SPECIFICATIONS:

Carport - Any covered area attached or detached from the main unit structure for the use of parking vehicles.

Canopy floor - A small floor usually measuring only 4' x 4' used for rear or side entrances. Since side & rear entrances only require roof protection for doors rather than for cosmetic purposes, they only require a small canopy; thus, the term canopy floor.

Collar-Tie - A horizontal framing member used to tie-together roof rafters at the ridge with the use of shear strength nailing patterns. It is used to prevent exterior walls from opening up under the weight of the roof.

Cornice (closed) - An overhang system with a soffit that is parallel to the main unit's floor plane.

Cornice (open) - An overhang system with a soffit that is parallel to the roof plane.

DIMENSIONS - ***(Roof*** The dimensions of any new roof shall be expressed as the (**L**ength by **W**idth) distances from plumb cut to plumb cut of the rafter seat (bird's mouth). The most common **existing house-overhang** length shall then be added by the contractor to the given **L x W** for a total roof dimension.

Finish flooring - Is defined as the visible floor that homeowners will step on, clean, and disinfect on a daily basis.

Frieze - A 1" x 2" trim that covers the interior most corner gap, of an open or closed cornice system for frame homes, left from the installation of the soffit material. (For brick veneers the frieze is known as brick mold).

Garage - Any enclosed area of a home having at least three walls and a door opening large enough to fit a vehicle.

Lookout - The horizontal framing member that provides a horizontal nailing base for the soffit and is positioned perpendicular to the exterior wall. Used in a closed cornice system.

(Front) Porch - The porch that faces the street or the porch that is located on the side of the home most viewed by visitors to the dwelling.

(Rear) Porch - The porch(es) that are located at exits that face in the opposite direction as the front

porch.

(Side) Porch - The porch(es) that are located at exits that face to either side of the direction of the front porch.

Porch floor - Is the main entrance porch floor used for a home. When newly built the porch will usually measure 4' x 7', except when built for a handicap applicant which requires a 5' x 7' porch floor.

Purlin - Similar to a strong-back, a purlin is usually a 2" x 4" framing member laid across the underside of roof rafters parallel to the exterior wall but laid in a perpendicular position to the roof rafter. It serves three purposes. First it separates the rafters to the desired on-center spacing, next it aligns all roof rafters so that the plywood roof deck is straight and even, and lastly it provides a secure rafter-system seat so that roof braces can easily support it.

Rake (s) - The overhang that extends over the gable ends of a structure.

(Notched) Roof-Bracing - Roof bracing that is notched to fit and provide a seat to support the purlin. This type of brace is more secure than bracing which uses shear strength blocking as a support seat for the purlin.

Soffit (s) - Any overhang other than rake(s).

Sole Plate - The lowest horizontal framing member of a wall framing system which allows all the vertical framing member to attach at specific intervals. It also provides a nailing base for the wall covering near the floor.

Strong-back - A horizontal framing member usually installed above ceiling joists to align all ceiling joists so as to provide an even surface for application of ceiling coverings (sheetrock). A strong-back however, may be used for alignment of walls, floors, or other framing systems. As well as a support for roof bracing to support the purlin.

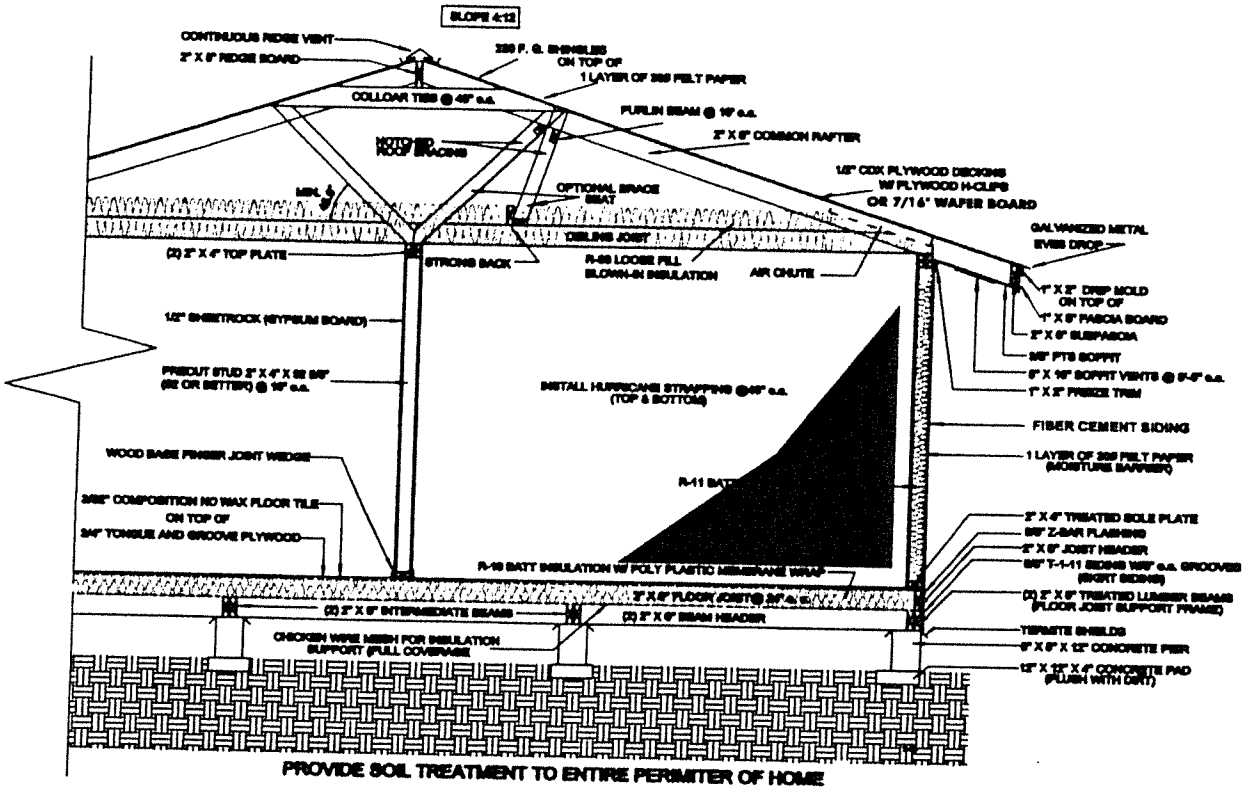
Stucco/Plaster - The most common type of cement based wall covering available to the contractor. As long as the coat thicknesses are complied with the type stucco or plaster used is not an issue.

Sub-fascia - The horizontal framing member that ties all rafter ends together and is used as a nailing base for the fascia board. (Sometimes the sub-fascia is used as the fascia board as well).

Subfloor - Is defined as the bare wood setting over floor joists.

T-1-11 plywood- Plywood siding with a rough sawn fir face that has 4" o.c or 8" o.c. grooves. It is the most standard type of exterior wall covering used by U.C.P.

Underlayment - **Is most often thinner than the subfloor (but may be thicker)** and sets over the subfloor to smooth out cupped subfloor boards, cover small holes, and in general simply provide a new subfloor surface.



TYPICAL WALL SECTION
FOR WOOD FRAME FOUNDATION

FIGURE 1.1

1 ROOF.

GENERAL INFORMATION

Roofs of houses to be rehabilitated come in different shapes and odd sizes, and sometimes are not conventionally built or repaired by professionals. This makes it extremely difficult to pinpoint potential problems with roofs and to correctly spec out a solution. So a write-up will generally state the desired outcome but will overlook other important steps which cannot be known until the contractor begins to peel away layers of incorrect construction. Other problems also arise from small plan or write-up mistakes which do not reflect on final price. Yet contractors (especially contractors who underbid) will try use these mistakes as an excuse to either charge more or just complain. A contractor should always bid with contingency plans and should set aside small project discrepancies which do not affect his final house price.

Still other problems arise from lack of complete write-up information and this is why contractors must read this manual. Many contractors will begin by arguing over information which is already written in this manual so read. For these reasons (and many others) a contractor must carefully read the write-up along with the specifications manual, and then review the home carefully for every request in the write-up & plan before submitting a bid.

First lets review an example which could cause planning problems. A first look at a home may reveal that the roof would only need new roof coverings, so the write-up might request, "Replace all roof coverings".

Yet when the contractor actually begins the work and removes the existing shingles he might find non-standard construction under the existing shingles such as wood shingles on 2"x 4" rafters @ 36" O.C.. This would then force the contractor to replace the rafters to 2" x 6" @ 24" o.c. or reinforce the existing rafters to code, then install new decking, and finally install the new roof coverings. So the initial intended cost to replace the roof coverings could increase substantially if a home is not reviewed carefully and then planned correctly.

Another example, lets say a unit has rotted rafter ends and a damaged soffit. In this case the write-up might request, "Replace rotted rafter ends and repair the soffit". To accomplish this a contractor would need to remove all existing soffit first in order to replace any rotted rafter ends, then he would reinstall a new soffit if the old was damaged beyond repair while removing it. So, again the cost increases. The write-up will only state the desired outcome, and it will not always explain what must be done and in what order.

Now then other problems concerning this section include small plan errors. For example when redesigning homes due to boundary conflicts a porch support could easily be overlooked. Small 4' x 4' canopies are usually wall supported but when the direction of the steps for the 4' x 4' canopy floor runs along the length of the home, it's 45 deg. angle brace will interfere with access to and from the canopy floor (ie: the

applicant's head would bump on the brace). U.C.P. staff simply allow the canopy to become post supported at this point. The problem though, is that when boundary problems arise the direction of the canopy steps is usually changed to alleviate much of the redesign time. When this occurs something as small and simple as a porch support could be left out. Contractors should be aware that small plan flaws are not opportunities to make up for underbid losses.

Now concerning incomplete write-up information such as front porch dimensions which are difficult to define. Contractors will now be required to fill in missing information to within specified limits. In previous write-ups when specifying the Front Gable Porch dimensions *the rehab specialist* would simply add one additional foot to a porch floor size so as to simulate the intended size of the soffit or overhangs, but this has never been precise because the soffits would fail to match due to varying sizes. Since the overhangs of houses vary widely, the contractors will now be allowed to decide how big to build the front porch gable roof. The contractor must also read this manual for information on the specified soffit overhang sizes allowed, which he can use to his advantage sometimes.

In the case of the gable porch dimension though the write-up will now simply state the dimensions of the perimeter beam, and then the most common overhang size of the home shall be added to this dimension by the contractor for a total front porch gable roof size (see new definition for Roof DIMENSION). Remember the contractor shall decide which overhang is the most common size, and use it to his advantage. The minimum overhang size allowed though shall be 16".

As you can see the possibilities for problems are endless so it is extremely important for the contractor to become thoroughly familiar with this entire specifications manual before bidding.

GABLE STYLE FRONT PORCH WITH STEPS, STEP RAILING, & PERIMETER RAILING

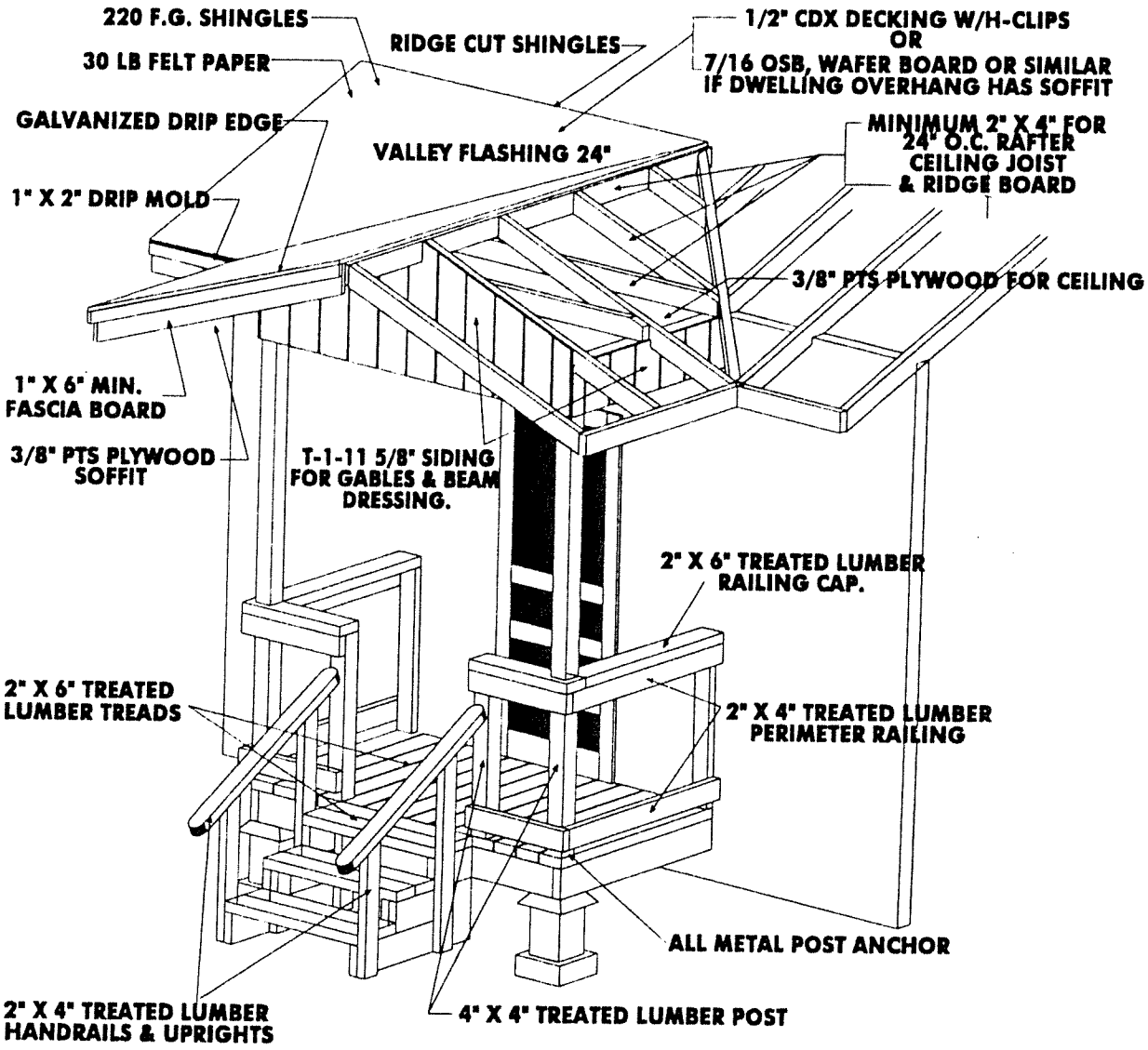


FIGURE 1.2

CONSTRUCTION PROCEDURES

A. TO REPLACE A ROOF OR BUILD A NEW ROOF:

1. Remove and dispose of any and all existing roof framing.
2. Then bu8ild a new roof as per work write-up and plan, while adhering to required roof framing as per typical roof section Figure 1.0.
3. Finally install a rain gutter along any roof perimeter drip line that will affect a handicap applicant's ramp walkway.

Note: Even homes in rural areas will be inspected for correct roof framing.

B. TO REPLACE ANY EXISTING ROOF COVERINGS such as, but not limited to, wood shingles, asphalt shingles, roll roofing, corrugated tin, or built up roofing:

1. Remove and dispose of all roof coverings, felt paper, metal eves drop (drip edge), existing boot flashings, all other flashings, etc.
2. Replace all rotted decking with new decking and **do not use patch work flashing.**
3. If any decking is missing due to, but not limited to, materials such as wood shingles or corrugated tin then the **contractor shall:**
   - A. **Replace or reinforce** the exposed roof **framing** to local city code or as per required roof framing in the typical roof section Figure 1.1.
   - B. **Install all new ½" plywood decking** with H-clips and proceed.
4. Re-nail (all other) existing deck as needed, drive flush or remove all existing roofing nails.
5. Apply flashing to:
   - a. All roof valleys.
   - b. All other roof areas prone to water penetration.
   - c. Roof areas where the roof slope changes in pitch.
6. Then install all new #30 felt paper to all roof areas receiving new roof coverings.
7. Then install an all new:
   - a. DL type galvanized metal eves drop to roof perimeter for slopes greater than 1/12 to receive shingles or roll roofing.
   - b. Square edge lip type galvanized metal eves drop for slopes less than 1/12 to receive built up roofing.
8. Install all new required boot flashings to all plumbing or electrical roof protrusions.
9. Then install the new roof covering.
   - a. Asphalt shingles for roof slopes more than 3/12.
   - b. Roll roofing for roof slopes between 1/12 and 3/12.
   - c. 4-ply built up roofing for all slopes less than 1/12.
10. Install all required ridge vents and additional roof vents (for hip style roofs).
11. Finally install a rain gutter along any perimeter drip line that will affect a handicap applicant's ramp walkway.

C. TO BUILD OR REPLACE A GABLE PORCH ROOF:

1. Remove and dispose of the existing porch roof (if replacing).
2. Build a porch roof as per Figure 1.2 with overhangs equal in size and design to main house overhangs. The perimeter beam size of the roof shall be:
   - a. 5'X7' for HANDICAP APPLICANTS which will use this porch as a wheelchair Ramp exit and entrance for the unit.

b. 4' x 7' For all other situations, including handicap applicants who will not use this porch as the primary entrance for wheelchair ramp.

3. Veneer all porch beams and ceiling with similar existing or new soffit & gable material.
4. Trim all porch beams and install frieze trim so as to cover all plywood gaps.
5. Apply 5/16" Fiber-cement siding or 5/8" T-1-11 plywood(w/8" o.c. grooves) to the gable.
6. Support the porch roof with 4" x 4" pressure treated posts anchored to replaceable post base metal boxes.
7. Finally (if porch is to be used as a wheelchair RAMP exit and entrance for the unit) install a rain gutter along the rain drip line that will affect the applicant.

D. **To Build or Replace a Semi-Flat Porch Roof:**

1. Remove and dispose of the existing porch roof.
2. Build a porch roof as per **Figure 1.4**. The total roof dimensions shall be as per write-up and plan.
3. Then follow steps 4 - 7 for BUILDING A GABLE PORCH ROOF.

E. **To build or replace a Wall or Post Supported Canopy** see **Figure 1.5**.

1. Remove and dispose of the existing canopy (if replacing).
2. Build canopy roof as per **Figure 1.5** with no overhangs. The total roof dimension shall be:
   a. 5' x 5' For HANDICAP APPLICANTS which will use this porch as a wheelchair RAMP exit and entrance for the unit.
   b. 4' x 4' For all other situations, including handicap applicants who will not use this porch as the primary entrance for wheelchair ramp.
3. Install frieze trim so as to cover all potential plywood gaps.
4. The canopy shall have no other overhangs, unless otherwise specified.
5. Then Support the canopy roof with:
   a. Wall bracing to 45 deg from the plane of the main unit's exterior wall.
   b. When the direction of steps leading from the canopy floor will interfere with the use of protruding wall supports, the canopy shall be supported with 4" x 4" Pressure treated posts anchored to replaceable metal post base boxes.
6. Finally (if canopy is to be used as a wheelchair RAMP exit and entrance for the unit) install a rain gutter along the canopy's entire drip edge.

RAIN GUTTER INSTALLATION

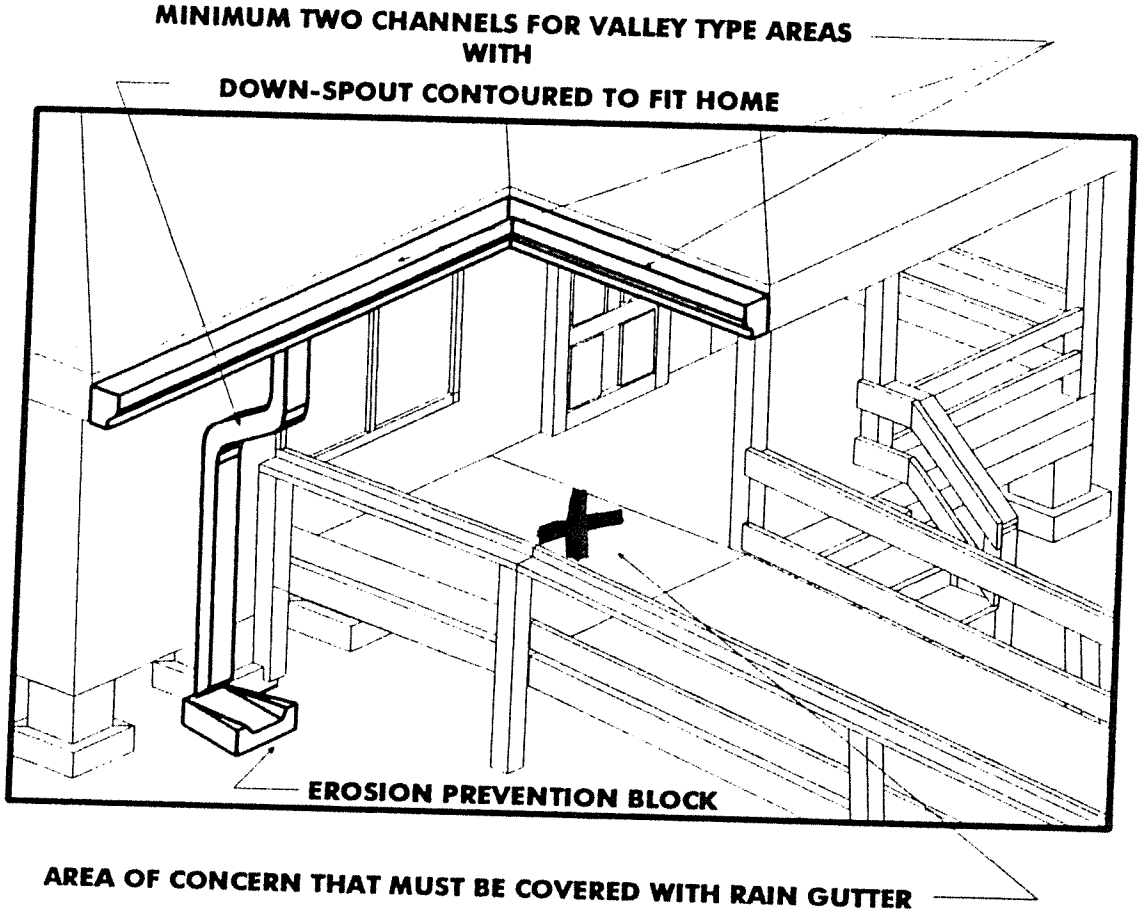


FIGURE 1.3

To install a RAIN GUTTER see **Figure 1.3**.

1. Install matching colored main channel with end caps and down spout hole exit.
2. Provide 1":10'-0" slope drop towards the down spout hole exit.
3. Install a matching colored down spout with offset to be anchored to nearest wall or vertical material available.
4. Provide 50 yrs. colored silicone caulking for all connections.
5. Provide an erosion preventing block, brick, or other device at the down spout's exit.

MATERIAL SPECIFICATIONS FOR ROOF

A. **Accessories:**
   1. Hurricane ties @ 48" O.C.
   2. ½" Aluminum h-clips for decking.
   3. Gable vents 14" x 24".
   4. 10' DL type galvanized Metal eves drop for roofs with a slope > 1/12.
   5. 10' Square edge w/ lip Metal eves drop for roofs with a slope < 1/12.
   6. Flashing for roof slope changes shall be 16".
   7. Flashing for partial gables on top of roofs shall be 16".
   8. 4" x 4" Bolted metal base for porch supports.

B. **Ridge board/s** shall be
   1. 2" x 8" all white pine for all new construction.
   2. 2" x 6" all white pine for new (addition type) gable roofs.
      (Remember: City code will always supercede this specifications manual)

C. **All** white pine **2" x 6"** framing material shall be used **for:**
   1. Raker boards.
   2. Subfascia.
   3. Strong backs with 2" x 4" nailer board.
   4. Collar ties @ 48" O.C.
   5. Common rafters @ 24" O.C.
   6. Ceiling joists @ 24" O.C.

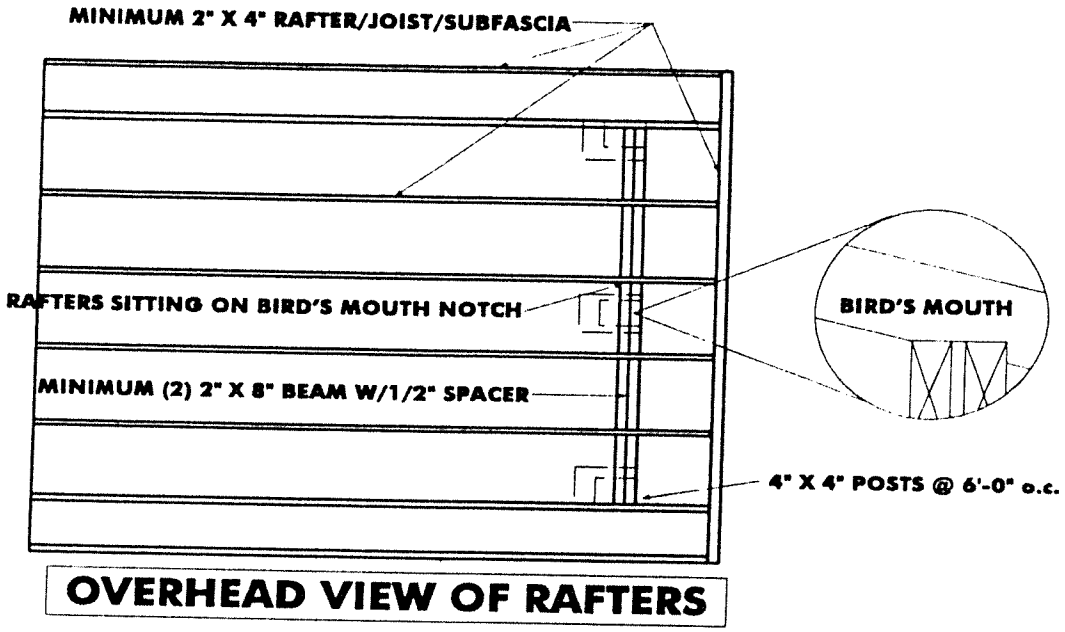
D. **All** white pine **2" x 4"** framing material shall be **for:**
   1. Notched roof bracing @ 48" O.C.
   2. Purlins @ 10' O.C. or less.
   3. Gable studs 24" O.C.
   4. Rake supports 48" O.C.
   5. Lookouts for rake 48" O.C.

E. **All porch beams** shall be **(2) 2" x 8"** with 1/2" spacer and **(1) 2" x 4"** top plate for wall Tie-In and Roof Rafter Seat, **unless otherwise specified on work write-up.**

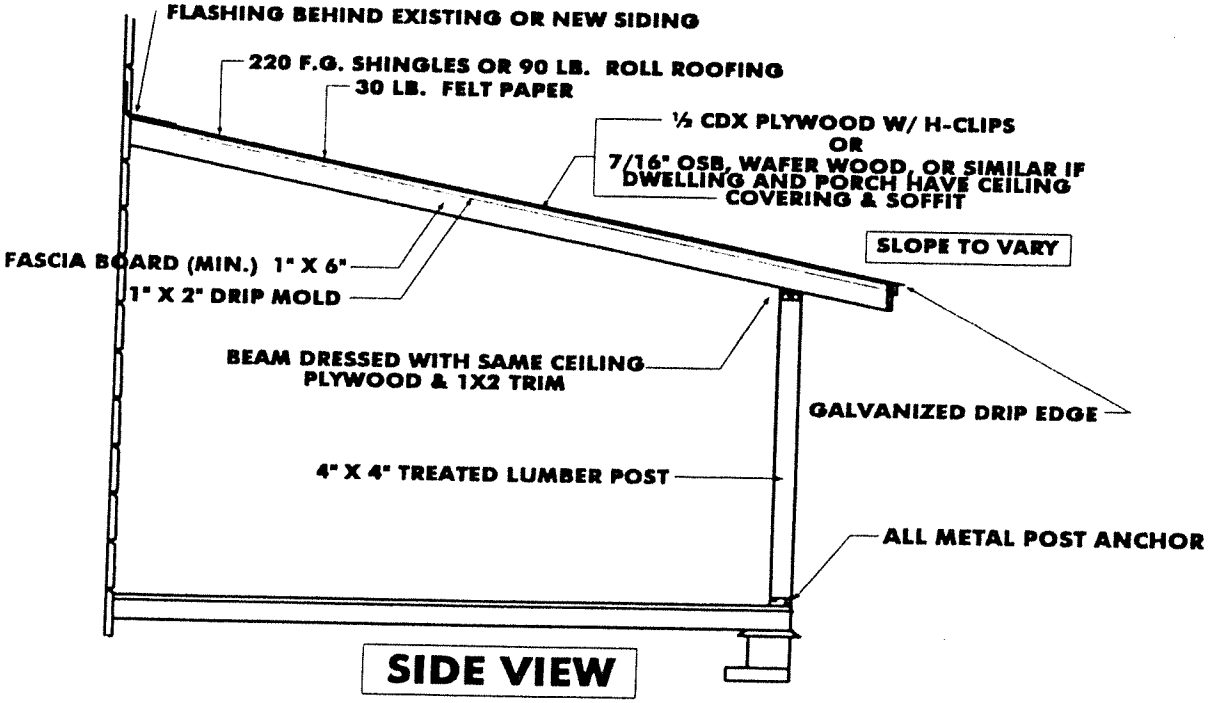
F. **Porch supports** shall be all treated lumber 4" x 4" @ 7'-0" O.C. or less.

G. **All trim** shall be white pine:
   1. 1" x 8" for fascia boards.
   2. 1" x 2" for drip molds.
   3. 1" x 2" for frieze (trim used to cover gap between soffit and siding).

SEMI-FLAT PORCH ROOF



OVERHEAD VIEW OF RAFTERS



SIDE VIEW

FIGURE 1.4

WALL SUPPORTED CANOPY
w/ Perimeter Metal Railing

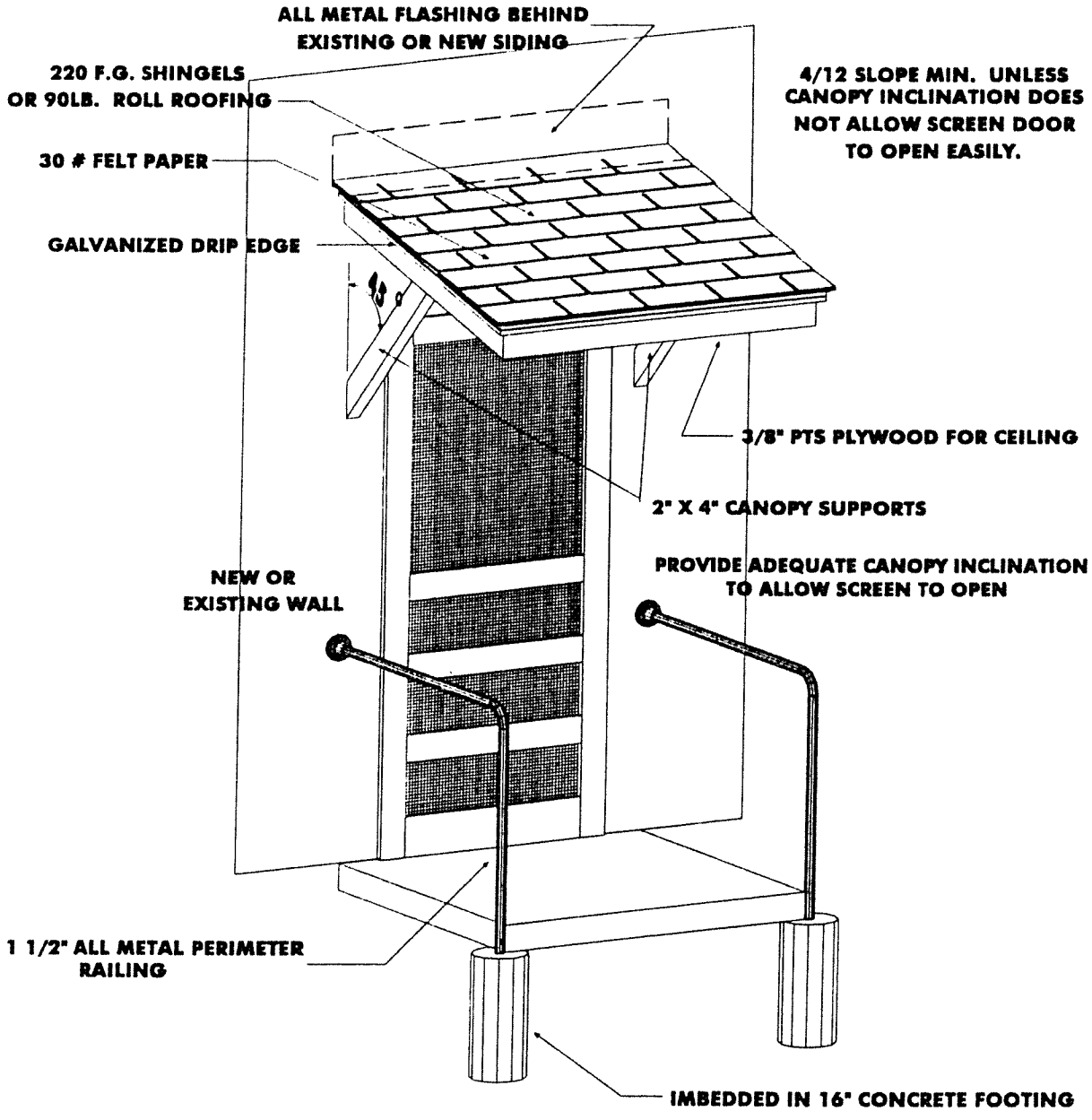


FIGURE 1.5

H. **All plywood materials:**

1. 4' x 8' x ½" CD Exterior plywood for decking.
2. 3/8" CD Exterior plywood for porch ceilings, soffit & soffit rakes.
3. 5/16" Fiber-cement siding or 5/8" T-1-11 for gable ends.
4. 5/16" Fiber-cement siding or 3/8" T-1-11 for veneering (skin covered) gable ends.

I. **All roofing materials:**

1. Shingles - 225 lb. Class A - 20 year fiberglass shingles. These shingles must be self sealing and fastened with a minimum of 4 nails per shingle in accordance with manufacturers directions.
2. Roll roofing shall be 90 lb. type.
3. Built up roofing shall be 4-ply 30lb. Felt paper with generous tar and pebble mix.

J. **Roof ventilation:**

1. Soffit vents shall be 8" x 16" rust resistant materials 96" O.C. maximum.
2. Ridge vent shall be installed to cover a 2" wide ridge opening. Install plugs at both ends.
3. Gable vents shall be corrosion resistant material.
4. Size and type of vents will be specified on work write-up.

REQUIRED WORK

A. For any and all roofs the contractor **shall brace the roof** to correct deflections or sagging. The roof shall appear level and straight from the street.

B. Every exit, regardless of the write-up, shall have a protective canopy sufficient in size to protect the exit's door unit, except garages.

C. For roofs of **HANDICAP APPLICANTS WITH WHEELCHAIR RAMP** the contractor must install a rain gutter along any roof edge drip line which will affect an applicant's wheel chair ramp.

D. All exposed roofs shall be covered with plastic sheeting at the end of each work day.

E. **Do not leave roofs exposed** to weather, the contractor will be held liable if damage occurs and the owner shall decide on proper compensation.

F. **Any Roof change** that occurs in favor of the contractor, with respect to the write-up, shall be **re-compensated as per owner request.**

G. All new roofs shall be constructed with a minimum slope of 4/12 or greater, unless otherwise noted on the work write-up.

H. New or replaced gable face siding shall be 5/8" Textured 1-11 or 5/16" Fiber-cement siding installed over 15 lb. felt

I. Porch and canopy designs shall be described on work write-up. Details on pages 20,21 & 22.

J. Gable style roofs shall have 16" open cornices and 16" rakes.

K. Hip style roofs shall have 16" open cornices.

L. Wind turbines shall *****NOT BE ALLOWED*****.

M. Soffit and porch ceiling material shall be caulked at all joints to allow for proper painting of the structure.

❷ SIDING.

GENERAL INFORMATION

The term siding is used loosely in this manual and is really meant to portray any and all exterior wall coverings including stucco, vertical battens, Portland cement shingles, etc. Any other type of exterior wall framing will also be covered in this section.

The basic premise of this section is to provide the unit with exterior wall covering(s) that will promote an aesthetically pleasing look, while keeping in mind that completing the project with as little problems as possible is important. To do this a contractor should understand that changing the wording of a work write-up is difficult to do after the bid packet has been advertised. This is the main reason for having a REQUIRED WORK category which is designed to correct and address commonly overlooked components in a home. So the contractor must bid responsibly and should ask as many questions as possible before bidding.

Houses that have more than one type of siding for their exterior covering are the most troublesome to describe in write-ups. Sometimes the owners use what ever material is donated to them or whatever type of covering they can afford, so they may have several different types of siding that do not match or even material that is not specified for use as an exterior wall covering. This often causes the write-up to become wordy and complicated, so a necessary exterior wall component might be overlooked. Still if the contractor is in doubt as to what should be done he should revert to the basic premise and use default siding to figure his bids, so be careful.

Another area to be careful with are exterior framing situations which are described in the write-up. Often times the exterior wall framing to be addressed is full of plumbing or electrical wiring which cannot be seen. So much planning is needed.

CONSTRUCTION PROCEDURES

A. **To replace damaged siding:**
   1. Remove all broken, rotted, or damaged boards.
   2. Apply new felt paper to replaced area.
   3. Install all new siding to conform with existing.
   4. Then apply appropriate trim to entire house.

B. **To repair stucco/plaster siding:**
   1. Remove all blistered, peeling, or separated (from main wall) stucco/plaster.
   2. Scour, clean, and seal all cracks with new stucco/plaster.
   3. Then apply all new stucco/plaster to match existing surface.
   4. All stucco repairs shall be smooth, consistent with all surfaces, & ready for finish.

C. **To install new siding:**
   1. Apply new felt paper to the wall framing to receive the new siding.
   2. Install the new siding.
   3. Then apply all appropriate trim.

D. **To apply all new stucco/plaster siding:**
   1. **Plywood walls** as follows in succeeding order:
      a. 30 lb. Felt paper.
      b. Metal lath.
      c. 3/8" Scratch coat.
      d. 3/8" Finish coat with strait edge.
      e. Total 3/4" stucco/plaster.
   2. **Block walls** as follows in succeeding order:
      a. 3/8" Scratch coat.
      b. 3/8" Finish coat with straight edge.
      c. Total 3/4" stucco/plaster.
   3. Ensure that all **window returns** are covered as well. (See figure 2.1)

MATERIAL SPECIFICATIONS FOR SIDING

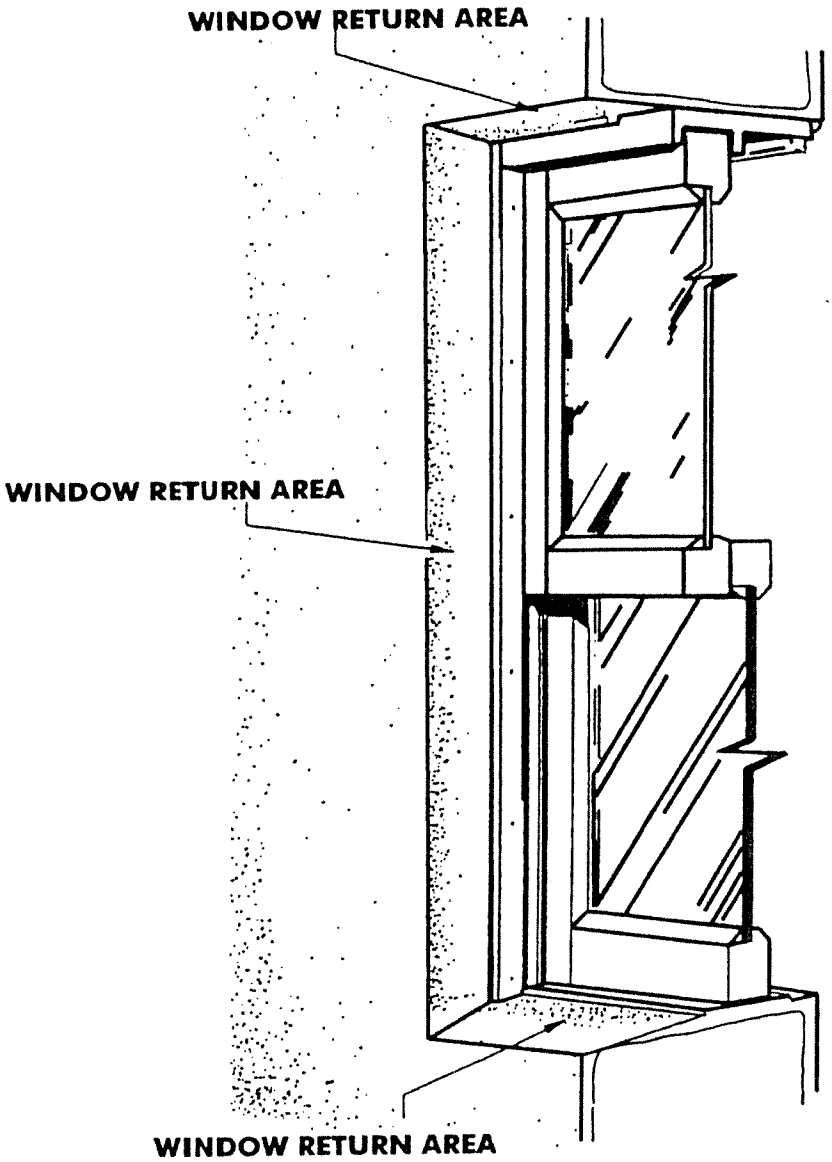
A. **Felt paper** shall be 30 lb. type.

B. **Siding as follows:**

4. 5/16" Fiber-cement siding, Plywood siding shall be 5/8" texture 1-11 .
5. Hardboard panel siding shall be 100% wood fiber, and factory primed with 25 year manufacturers warranty.
6. Horizontal (105) siding shall be no. 2 pine or better.
7. Hardboard lap siding shall be 7/16" thick, and factory primed with 25 years manufacturer warranty.
8. Replacement vinyl siding shall be equal in quality to existing.
9. Other specialized or rare siding types shall be specified on the write-up.

C. **Exterior trim** shall be 1" x 4" no. 2 or better.

WINDOW RETURNS



- ALL WINDOW RETURN AREAS MUST RECEIVE STUCCO OR OTHER TEXTURE SIMILAR TO THE EXISTING OR NEW WALL.

FIGURE 2.1

REQUIRED WORK

A. All **siding must be caulked** and prepared for painting

B. **Siding with holes,** gouges, or missing pieces shall not be allowed.

C. On **all stucco/plaster houses** the contractor must apply the same texture & consistency to all door & window returns, see **Figure 2.1**.

D. Work write-up will indicate **type of siding** and/or siding repair to each dwelling.

E. When work write-up fails to specify type of siding or exterior covering the contractor shall assume a default exterior covering to be:

1. 5/16" Fiber-cement siding for wood frame homes.

Or

2. 3/8" scratch coat plus 3/8" finish coat stucco/plaster for block homes.

F. All **wood type exterior materials** must be fastened with galvanized nails.

G. If siding is horizontal and more than one board is to be replaced then **joints must be staggered & caulked**. Such as block filled areas like **door openings, and window openings.**

3 WINDOWS.

GENERAL INFORMATION

The most common problems with windows on most rehabilitation projects happen with the interpretation of the recondition procedure. Then the glazing technique, burglar bar decisions, and odd window units also attribute to further problems. In the end though, the contractor is ultimately responsible for the finished product to be in functioning order.

The recondition procedure can sometimes be quite cumbersome depending on the condition of the window and even though a rehab specialist might prefer to replace all windows in a write-up the justifications are hard to come by. So many windows fall under the recondition category even if the cost to recondition exceeds the cost to replace. This is why the contractor is allowed to replace the window unit if he feels it would cost him less to replace than to recondition the window unit. So contractor's should be careful and review the home carefully, but he should also keep in mind that the UCP staff position on the particular window unit will remain as stated in the write-up. For these reasons contractors are encouraged to review homes carefully before submitting their bid, rather than review the plans and write-up alone.

Further concerns with reconditioning include proper glazing techniques. For modern day aluminum windows the traditional (finger applied) glaze has been replaced with vinyl plastic pieces which are molded to fit into predefined aluminum grooves. The technique is simple, but many contractors are not aware these pieces exist or if they are aware then they do not know where to obtain them. *So for all those contractors that say, "We can't find that type of material." you should find the vinyl glazing at a local hardware store.* For a contractor to be sure he finishes the unit on time he should track down the pieces when beginning the project so the hardware store can order the particular vinyl glaze with sufficient time. Bottom line is this, the contractor should not use putty glaze where a proper piece of vinyl glaze fits (the 100% completion-90%payable RFP will fail if proper window pane glaze is not found).

Burglar bars on windows also cause quite a couple of problems, but the general rules to follow are easy. First, if the owner had burglar bars in place before the rehab project was started then the burglar bars must be reinstalled (w/new paint) when a replacement window is installed. A potential problem though is when the size of the window changes. For this the contractor should simply resize the burglar bar as per new window size. Then repaint the burglar bars & reinstall them. In the event that the burglar bar is too fancy to be resized the contractor must replace the burglar bar with one of equal design to fit the new window, so be careful.

A third type of problem contractors often face are odd or out of date windows. These type of windows require much thought on the part of the contractor, so if the contractor does not want surprises he should

review the homes before bidding. Some of these windows are old style crank with heavy metal window frames. Others are the type with shutters that are not just for looks, but are really hinged and need much work. If the write-up does properly address the window work involved, the contractor may inform UCP staff so that proper changes can be made with time. Then again, the contractor always has the option to replace the entire window unit with a new one.

So remember to review homes carefully and physically count necessary material, then submit your bid. This is the best way to avoid future problems.

CONSTRUCTION PROCEDURES

A. **To replace windows:**

1. Remove existing window.
2. Replace all rotted casing & finished materials.
3. Install a 9" strip of felt paper around window rough opening face.
4. Apply a bead of caulking to the backside of window nailing surfaces.
5. Adapt replacement window appropriately to existing rough opening and nail securely in place.
6. Install all new interior and exterior window trim.
7. All window screens must be metal mesh type and be fitted snugly.
8. All windows must lock from interiors.
9. All replacement window units shall be new and of similar size or of nearest approximate size to existing windows.

B. **To recondition existing windows:**

1. FIRST CLEAN ALL METAL WINDOW SURFACES WITH INDUSTRIAL STRENGTH GRIME REMOVER (window metal should appear in a relatively new condition). All window units in home must appear to have comparable finishes.
2. Caulk all VISIBLE air gaps.
3. Replace or repair all window locks. LOCKS WITH MISSING SCREWS WILL BE NOT BE ACCEPTED.
4. Adjust, repair, or replace window suspension so that the window:
   a. Operates smoothly.
   b. Has no bind at any lift point.
   c. Is opened and closed easily (even by older applicants).
   d. If possible allow owners to test windows before applying interior and exterior trim & finishes, so that window units may be replaced if bind in window is not repairable.
5. Replace broken window panes in the following manner:
   a. Replace the window pane and seal with a small bead of silicone caulking to seal window against wind draft and window rattle.
   b. Replace all vinyl glazing with new vinyl glazing on <u>all window panes</u> for uniform look (see FIGURE 3.1 vinyl glazing types available from local hardware stores).
   c. If window uses putty glazing then replace the putty glazing on all windows for uniform look.

d. All Window panes shall be of the same exact material (if plastic then all plastic) or (if glass then all window panes shall be glass).

6. Then Replace all damaged interior or exterior window trim.

C. **To recondition wood windows:**

1. Inspect window sill closely, if window sill damage is evident:
   a. Remove window.
   b. Replace all rotted or damaged material.
   c. Then reinstall window as per **window replacement** specs.
2. Replace all damaged wood on the window itself.
3. Repair or replace window locks.
4. Repair or replace suspension mechanism.
5. Paint interior & exterior surfaces of windows.
6. Replace all broken window panes.
7. Then Re-glaze all window panes.

4 - AVAILABLE TYPES OF VINYL GLAZING

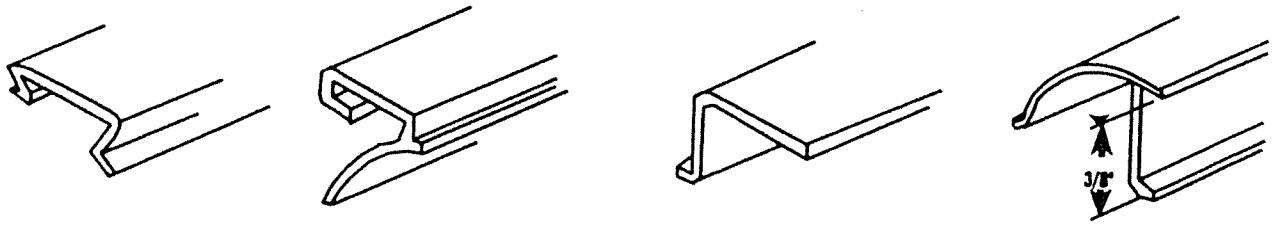


FIGURE 3.1

MATERIAL SPECIFICATIONS FOR WINDOWS

A. All **new windows** shall be 1/1 single hung / single pane / brush aluminum with metal mesh type ½ window screens, unless otherwise noted on the work write-up.

B. **Bathroom window** panes shall be frosted or opaque.

C. All **windows**, other than bathroom windows, shall be translucent.

D. **Bathroom windows** that are **wider** than they are tall shall be horizontal sliding type.

E. All **new window screens** shall be metal mesh ½ window size.

F. All **screen material** shall be metal mesh type.

G. Vinyl glazing shall be of any type that **fits correctly & presentable** in existing window pane grooving. The following are four styles of vinyl glazing available from a local hardware store.

REQUIRED WORK

A. All **windows must** have **(snug fit)** undamaged metal mesh type window screens.

B. All wood windows must be replaced with new aluminum windows, unless otherwise noted on the write-up.

C. If a window is found to have too much bind and the bind is un-repairable, the contractor shall be allowed to replace that same window with a new 1/1 single hung / single pane / brush aluminum window of equal or comparable size.

D. All **windows must lock** from the interior.

E. All **windows** must **open** and **close properly** except fixed windows.

F. **Paint smeared**, dirty, or bent **windows** & window screens **must be replaced** .

G. **THE CONTRACTOR SHALL ALWAYS** remove, clean, and **paint** any existing **burglar bars** with an appropriate enamel paint for metal.

H. All window **panes** & window **screens must be clean**, and **paint free**.

I. **Wooden windows must lock** from the interior, and have proper suspension.

J. Window **screens that are bent** and unsightly shall **not** be **allowed.**

4 OTHER SITE STRUCTURES.

GENERAL INFORMATION

The term other site structures is used in this section mostly to describe the water heater closet, but since other site structures are sometimes affected we keep this heading for any type of offbeat work that must be accommodated. The water heater closet is almost always either replaced or reconditioned.

When replacing a water heater closet the contractor is asked to build it as depicted by figure 4.1, but if he so wishes he is allowed to make it bigger (not smaller). The idea of the water heater closet is to provide water heater space that will not subtract living area within the applicant's unit. When the applicant's unit has a concrete foundation the water heater closet floor frame, piers, and pads may be substituted with a concrete foundation as long as that same foundation is located at the same height as the interior house finish floor.

When reconditioning a water heater closet the sizes will vary in shape and design, but the basic hardware and items pointed to in figure 4.1 must be standardized for water heater closets. Rusted hinges or makeshift locks such as a rotating piece of wood with a nail through it are not considered standard hardware. For example if the closet does not have weather prevention trim and is missing the metal latch and metal handle the contractor must install these to simulate a new water closet. Then the closet should be painted for uniformity with the rest of the house.

CONSTRUCTION PROCEDURES

A. To build a new water heater closet:
   1. Install a custom made plywood door with weather prevention trim.
   2. Install metal hinges, metal handle, and metal latch.
   3. Trim all corners.
   4. Install all proper roofing materials.
   5. Then paint entire closet **inside and outside** with 1 coat of primer and 2 coats of exterior house paint.

B. To recondition an existing water heater closet:
   1. Replace any broken, rotted, or damaged siding.
   2. Replace all hardware to include hinges, handles, and latches. **USE METAL LATCHES & HANDLES ONLY.**
   3. Replace door with custom made plywood door and weather prevention trim.
   4. Then follow steps 3 - 6 to build a new water heater closet.

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WATER HEATER CLOSET

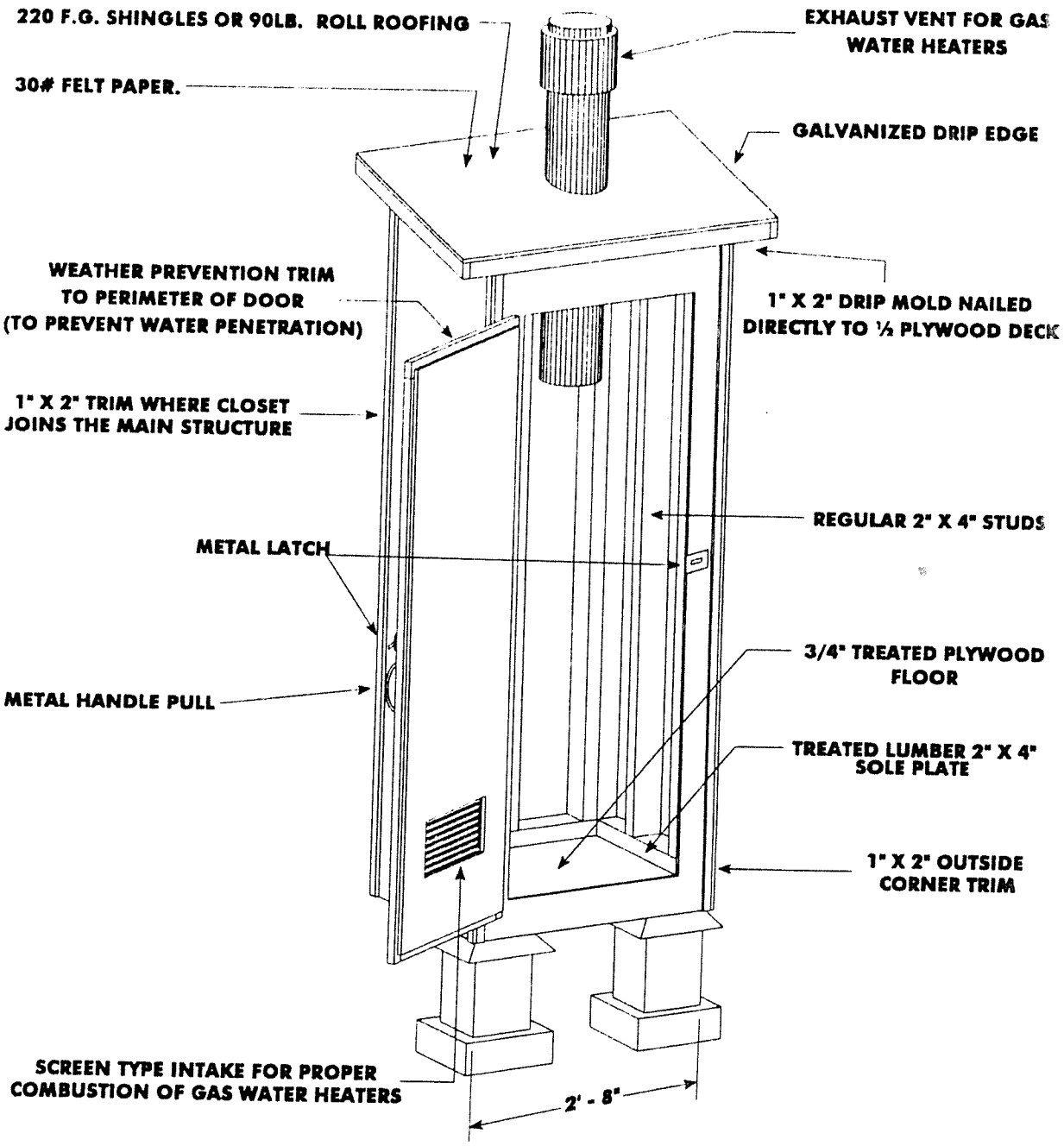


FIGURE 4.1

MATERIAL SPECIFICATIONS FOR OTHER SITE STRUCTURES

A. **For water heater closets:**

1. Floor will be supported with concrete pads & piers with termite shields.
2. 2" x 4" Floor beams and floor joists
3. 3/4" Subfloor.
4. 2" x 4" wall frame
5. 5/8" T - 1 - 11 siding
6. 1" x 4" Trim.
7. 1/2" Plywood roof deck
8. 1" x 2" Drip mold
9. Galvanized metal eves drop (drip edge)
10. 15 lb. Felt paper
11. 220 F.G. shingles or 90# roll roofing for roof coverings.
12. Custom made door with weather proof trim.
13. Metal hinges, handles, and latches.

REQUIRED WORK

All water heater closets must be finished with 2 coats of paint inside and out.

A. Provide adequate ventilation & combustion intake for gas heaters.

B. Water heater closet size shall be 24" x 32" x 6' or 7' tall with door and latch.

C. All other site structures as per plans and/or work write-up.

5 PORCH & CANOPY FLOORS CONSTRUCTION.

GENERAL INFORMATION

Porch and Canopy floors are quite standard in size and seldom ever change so the contractor can rely on their pricing to be standardized as well. Still the contractor must know which situation calls for differing sizes.

The first set of standard sizes are the 4' x 7' front porch floor and the 4' x 4' rear or side canopy floor. The steps for both porches will vary in direction and in some cases the owners are allowed to change even the direction set forth by the plan, as long as the changes are documented and the porch & canopy floors do not decrease in size.

Now a handicap situation on the other hand must contain at least one 5' x 5' area from where the applicant can access the main unit at the same height as the interior unit's floor level. So the general trend is to change the front porch floor to a 5' x 7' size while the rear or side entrance retains the same 4' x 4' size. This increased front porch floor fulfills A.D.A. requirements for the unit while maintaining a presentable front porch gable appearance. The rear or side entrance appears the same and does not need to be altered.

In a few cases the applicant needs their handicap access to be located at the rear or side of the dwelling unit, so a plan in this case would show a standard 4' x 7' front porch floor, but would require a 5' x 5' rear or side canopy floor which could then have a ramp attached to it. Again the steps would be changeable according to the owner's preference.

All porch floors and canopy floors should have at least one set of steps 3' wide with two handrails, unless they are within 6" of the ground. For concrete floors within 6" from the gound level the porch or canopy floor will act as the only step, but they will still require perimeter railing to prevent slipping or falling.

The following is of list of ordered items that must be followed during a rehab concerning porches and canopy floors:

- All handicap situations will require at least (1) 5' x 5' area flush with the interior house floor so that the applicant may access unit on a landing.

- All porches and canopies regardless of rehab or footprint design shall have all treated lumber perimeter railing designed as follows:
  - The top and bottom rails shall be installed so that a groove can accept a treated lattice sheet to fill the space between the bottom and top rails with 2'-0" wide sheet of treated lattice.
  - Pre-defined or on-site manufactured railing may be used.
  - The lattice shall be installed in a groove contained within boundaries composed of the top rail, bottom rail, and any uprights necessary to form the perimeter rail or for structure support.
  - No exposed lattice ends shall be allowed.
- All porch or canopy floor steps (regardless of material) may use either metal railing or treated wood railing.

CONCRETE PORCH FOUNDATION

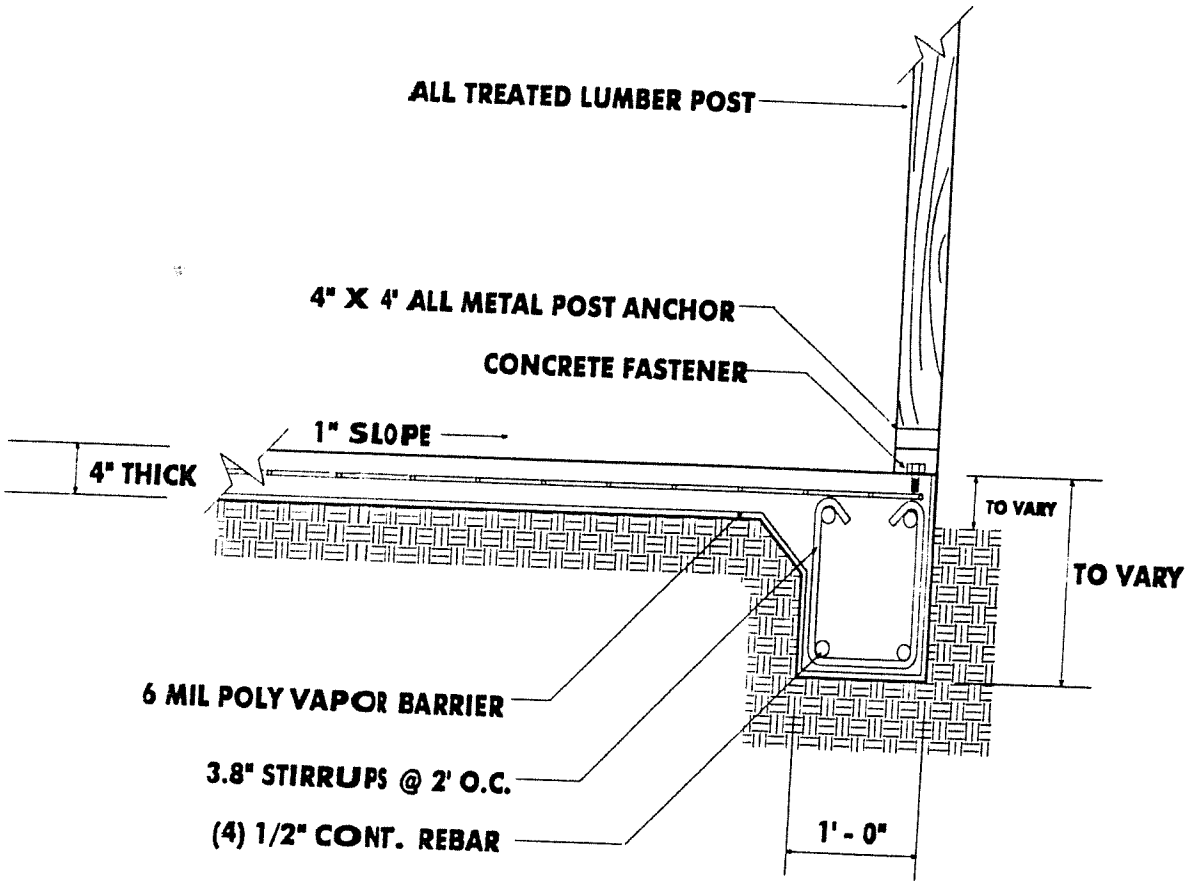


FIGURE 5.1

ALL TREATED LUMBER PORCH FOUNDATION

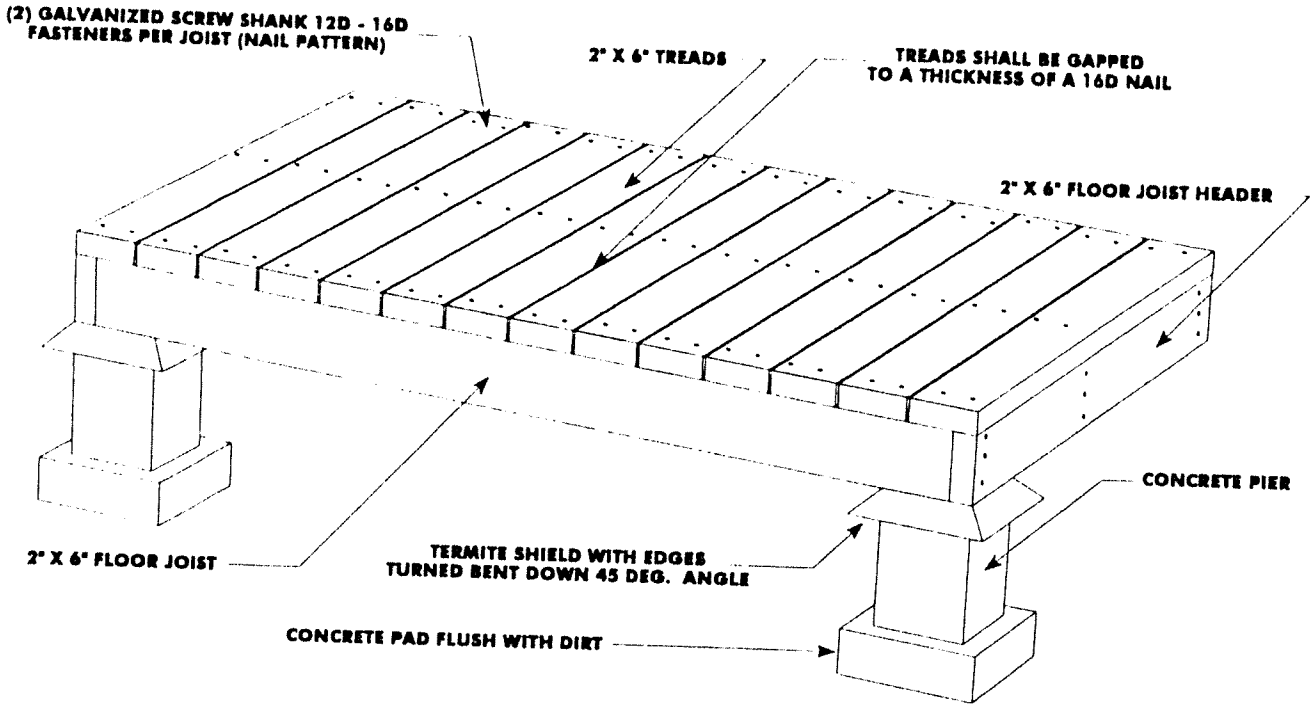


FIGURE 5.2

ALL TREATED LUMBER STEPS W/HANDRAILS

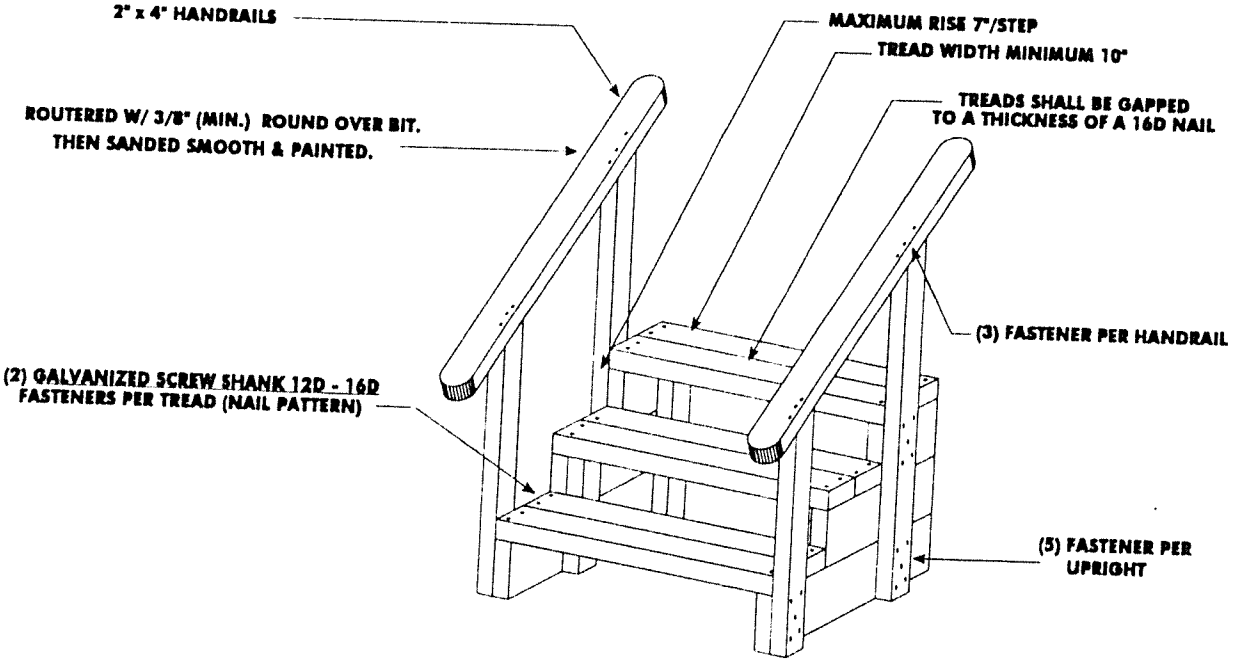
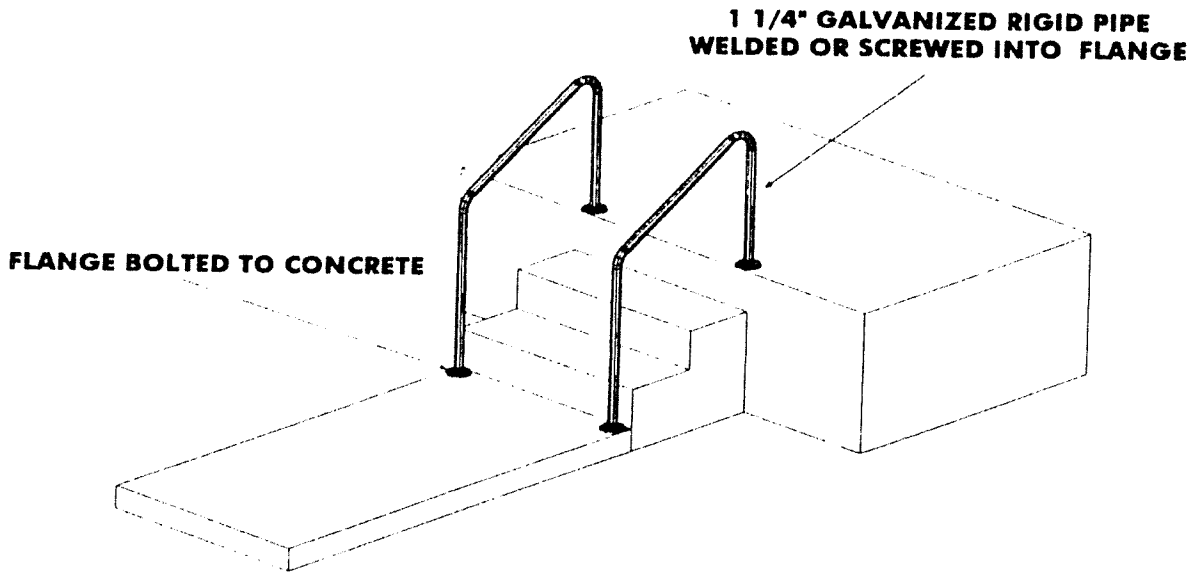


FIGURE 5.3

CONCRETE STEPS WITH METAL RAILS



CONCRETE STEPS WITH WOOD RAILS

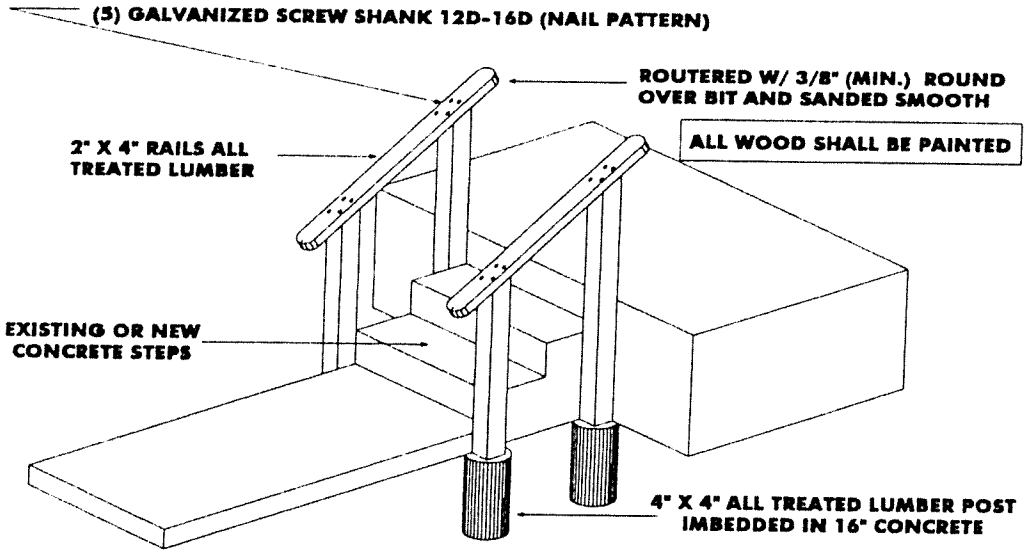
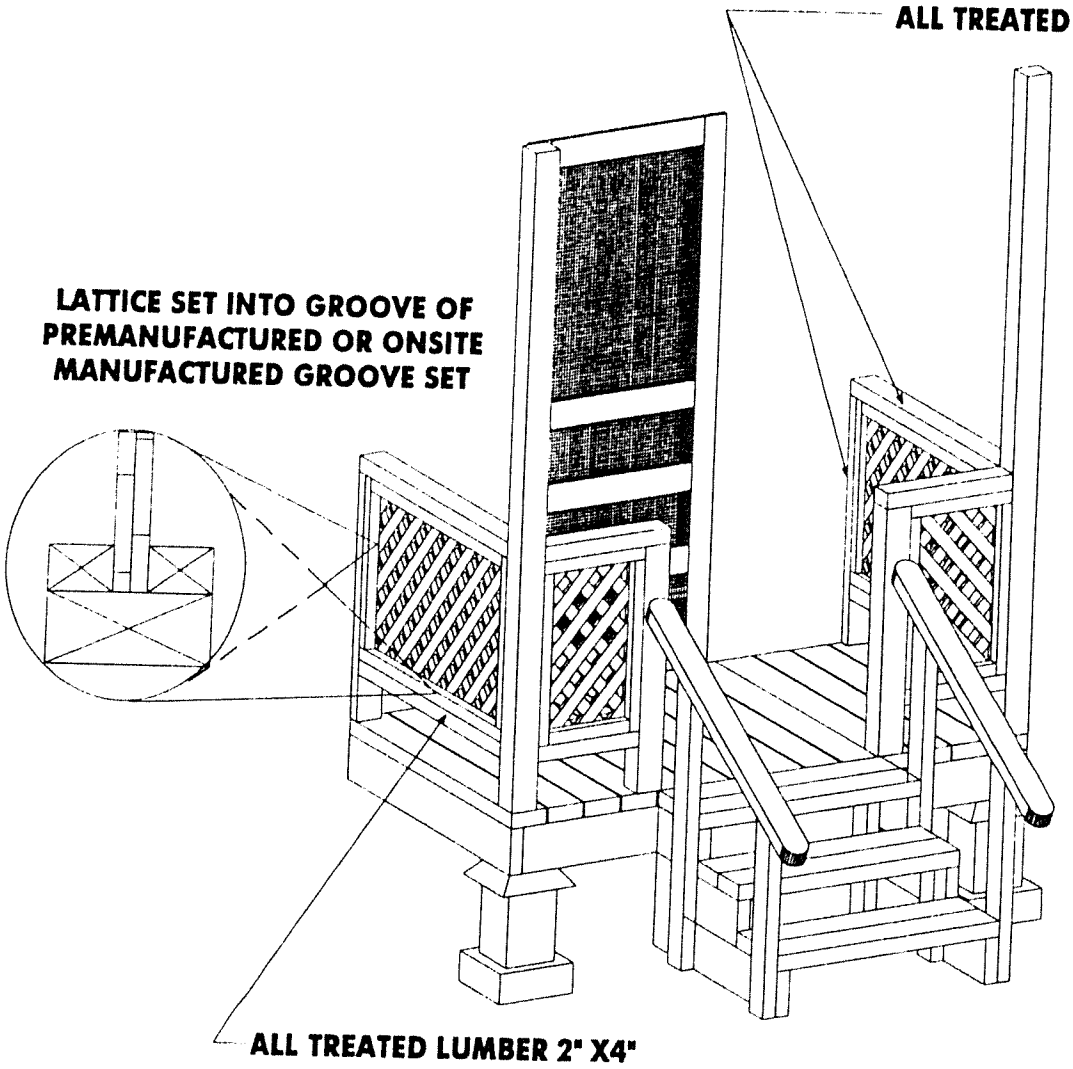


FIGURE 5.4

PORCH PERIMETER RAILING W/TREATED LATTICE ENCLOSURE



TOP AND BOTTOM RAILS SHALL LIE W/ 4" SIDE ON A HORIZONTAL PLANE AND THE LATTICE SHALL BE SET ALONG THE MIDDLE. NO LATTICE EDGES SHALL BE LEFT EXPOSED. ALL LATTICE EDGES SHALL BE ENCLOSED COMPLETELY.

FIGURE 5.5

CONSTRUCTION PROCEDURES

A. **To build a new wood porch or wood canopy floor** see **Figure 5.1 and 5.2 respectively** for details on accepted building practices.
   1. **Use only** treated lumber. ***** DO NOT USE PLYWOOD *****
   2. **Use only** 12 D - 16 D galvanized screw shank nails.
   3. Leave 16D nail gaps at all treads.

B. **To build new or replace steps** see **Figure 5.3** for details on accepted building practices.
   1. **Use only** treated lumber.
   2. **Use only** 12 D - 16 D galvanized screw shank nails.
   3. Leave gaps equal to the thickness of a **16D Common Nail** at all treads.
   4. Provide additional stringers @ 36" O.C.
   5. Open risers are allowed.

C. **To build a new concrete porch or concrete canopy floor** see **Figure 5.1** & Figure 1.4 for details on accepted building practices.

MATERIAL SPECIFICATIONS FOR PORCHES, STEPS, & RAILS

A. **For wood porches, steps, and rails use:**
   1. Only treated lumber.
   2. Galvanized screw shank nails.
   3. Ready mix concrete for post pours.

B. **For concrete porches.**
   1. Provide a 12" x 16" concrete beam to perimeter, Reinforced with:
      a. (4) Continuous 1/2" re-bar.
      b. Stirrups @ 36" O.C.
   2. Provide plastic vapor barrier.
   3. Slab shall have:
      a. A minimum 4" of concrete thickness.
      b. Metal mesh reinforcement of 6" x 6" x 6-gauge.
   4. Concrete pour shall have a minimum PSI strength of 2500.

REQUIRED WORK

A. All porches, steps, and rails must be made of treated lumber.

B. No plywood shall be allowed for building of decks, steps, or rails.

C. All houses porches shall have at least two rails on each steps and perimeter railing for the each porch.

D. All metal rails shall be bolted to concrete floor, house, or both.

E. When replacing steps or porches, the contractor is responsible for the disposal of old porches and steps.

F. **All Concrete** Pads shall be flush with ground level.

G. All nails shall be 12D - 16D galvanized screw shank nails.

H. All treads shall be gapped to a thickness of a 16D nail.

I. All porch floors shall have 2" x 6" stringers spaced @ 36" O.C. or less with supports along the same stringer @ 5' - 0" O.C. or less.

J. All steps require open risers.

K. All treads shall be a minimum of 10" wide.

6 EXTERIOR FINISH.

GENERAL INFORMATION

Painting houses is still the same as painting ever has been and so the work is pretty much straight forward. If you have a new home or new wood on a rehab then priming is essential. After that comes the house paint and the owner is allowed to choose only two colors. When working paint the contractor should be most careful about keeping important items inside and outside of the home extra clean by using drop cloths.

The primer for houses is basically to insure that the house paint adheres to the surface well. For this reason it is important to prepare your first coat of primer well. All calking should be installed or applied before priming to prevent cracking as much as possible. Then your primer coats should be sufficient to cover or hide as much of the background colors as possible, such as knots in new wood. When background colors are too much, the contractor may opt to apply a heavy pigment type paint, such as "KILZ" or similar.

When applying primers one must be careful to choose the right primer for the job. Some water based primers do not adhere to surfaces already covered with paint, so don't use them and be careful to seek the advice of paint distributors. Above all remember that with rehabilitation anything can happen, often times the most unexpected problem turns out to be the worst.

Now after the primer has been applied the owner is allowed to choose two house paint colors. These colors should be selected based on (1) for general house color and (1) for trim color (use appropriate paint for burglar bars). Often times the owners of the home do not know which colors to choose, so it is important to counsel these applicants. Furthermore these colors should match and blend well. Remember as a contractor you should offer extended varieties of paint combinations that work well, the contractor should try to keep pictures of previous homes so that owner may refer to them and choose appropriate colors.

Finally when a home is completely painted all hardware on a house should retain its original color, but many contractors opt to hire unskilled labor as their painters. These unskilled laborers usually cause more problems than what a contractor could truly save using such labor. So don't hire unskilled labor. This way when you do hire skilled labor, the workers do not have to do the work twice because they will understand to use drop cloths and will keep your windows, doors, and door knobs clean and free of paint splattering.

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CONSTRUCTION PROCEDURES

A. **To paint existing houses & new houses:**

1. Prepare the exterior surface by applying caulking on all cracks, gaps, and holes with all weather exterior wood caulk.
2. Existing paint on siding shall be scraped and sanded where necessary, before applying paint.
3. Seal all knots with (3) coats of primer.
4. Remove, clean, paint, and reinstall any existing burglar bars.
5. Then apply one coat of primer and two coats of (Sherwin Williams A-100 or equivalent, $14.00 to $18.00 per gallon) Acrylic Latex semi-gloss exterior paint to secure full coverage of entire house surface.
6. Apply appropriate **EXTERIOR** paint or varnish to all exterior doors.
7. Owner shall select color of paint.

B. **To paint stucco/plaster walls:**

1. Stucco walls shall be patched and repaired with mortar.
2. Prime repairs and finish with appropriate stucco paint.
3. Remove, clean, paint, and reinstall any existing burglar bars.
4. **Apply sufficient paint to promote an even and completely solid color to entire surface.**
5. Apply appropriate **EXTERIOR** paint or varnish to all exterior doors.

MATERIAL SPECIFICATIONS FOR EXTERIOR FINISH

All primer paint shall be oil base and moderately priced $10.00 - $12.00 per gallon.

A. All exterior paint shall be Sherwin Williams A-100 or equivalent, $14.00 to $18.00 per gallon, Acrylic Latex Semi-Gloss exterior house paint.

B. Caulking shall be exterior type and weather resistant.

REQUIRED WORK

A. All L.P. tanks and setups in use shall be painted with silver metal paint regardless of write-up

B. **NO SPRAYED OR LEAD BASED PAINT ALLOWED** on any job.

C. Homeowner is not to choose more than (2) exterior paint colors.

D. The contractor must offer an equal amount of color varieties offered and any local paint store (not from the corner flea market department)

7 ACCESS FOR PHYSICAL DISABILITIES.

GENERAL INFORMATION

For this section the contractor should be aware that all handicap situations are different in nature and not always 100% compatible with our details. Still, the **CONTRACTOR SHALL BE HELD RESPONSIBLE** for ensuring that the applicant's specific needs are met, even if the write-up, plans, or details do not fully explain the applicant's needs.

It is not logical, in any sense, to build a ramp that will end in the middle of a driveway, on the other side of a street, or at the edge of light pole. **Yet,** our write-up may ask that you build a ramp (as per specs & plans) in a direction that has not been thoroughly calculated. The write-up will only ask that the contractor build the ramp as per owner request, and any situation of this nature has the potential to overshoot lot boundaries, driveways, etc. For these reasons the contractor it made responsible to provide appropriate 5' x 5' landings before key obstructions such as lamp poles, driveways, utility setbacks, property lines, etc. to change the direction of a ramp if necessary.

The same type of reasoning applies to the installation of grab bars. The write-up may request to install a specific sized grab bars (as per specs & plans) in certain key areas, but if the required bar size does fit or its too short in length it is still up to the contractor to sum up any situation and provide larger or smaller size grab bars if necessary. A contractor might have to completely relocate the grab bars to provide adequate facilities to the homeowner, depending on a growing situation. So allow yourself ,as a contractor, to become thoroughly familiar with a dwelling unit before bidding.

The end result with any rehabilitation or foot-printed unit should be a workable environment which is conducive to the needs of the applicant. Direction and length of a ramp should be worked out well in advance of the submission of bids by visiting the unit in question. These lengths should not be guessed at, because they will tend to cause friction between the write-up requests and owner requests. So be careful.

CONSTRUCTION PROCEDURES

A. To build a treated lumber handicap ramp see Figure 7.1.

B. To build a concrete handicap ramp see Figure 7.2 & Figure 7.3

ALL TREATED LUMBER HANDICAP RAMP
1/12 SLOPE

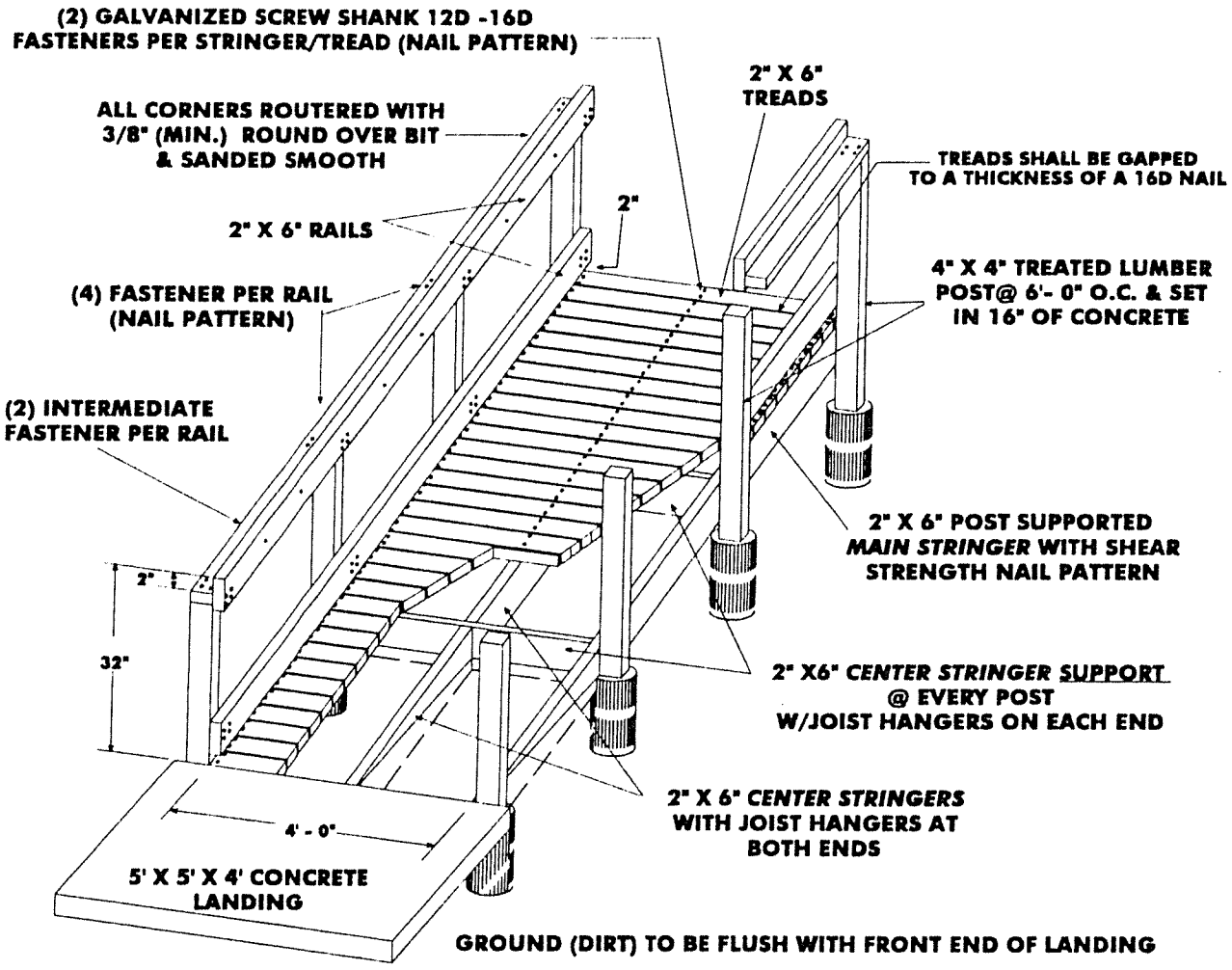


FIGURE 7.1

REINFORCED CONCRETE HANDICAP RAMP

RAMP SLOPE 1:12

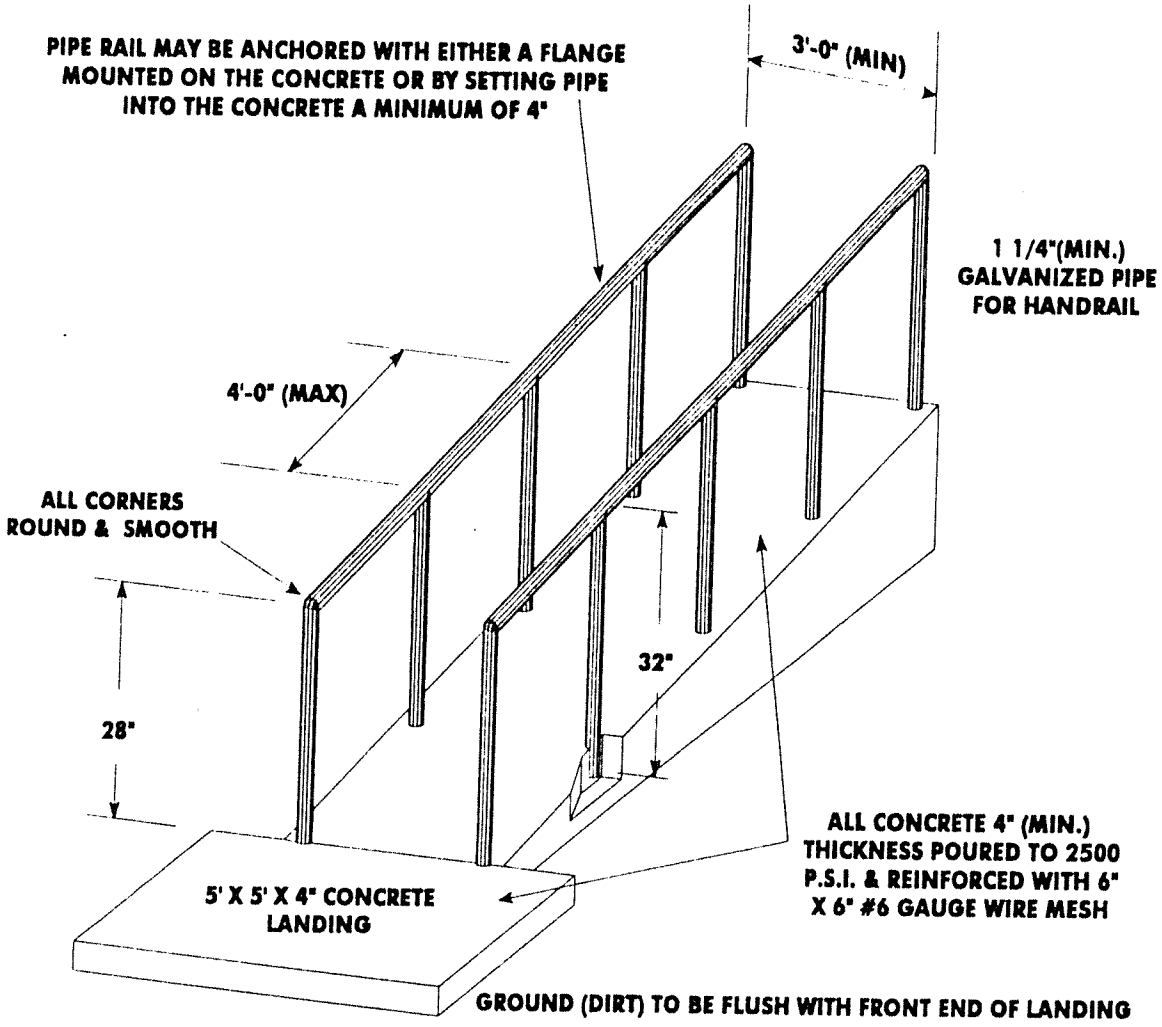


FIGURE 7.2

METAL HANDRAILS FOR CONCRETE RAMPS

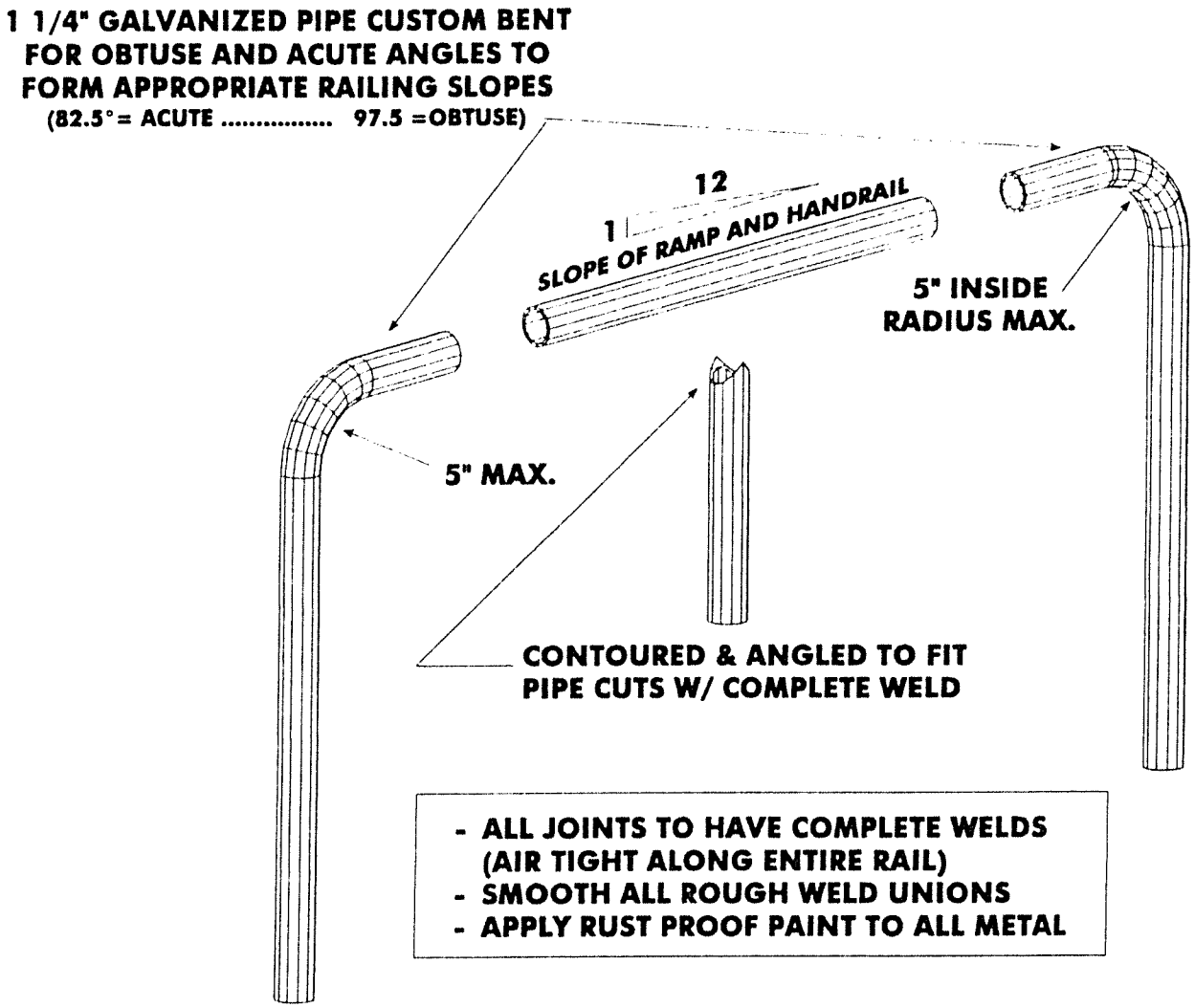


FIGURE 7.3

MATERIAL SPECIFICATIONS FOR HANDICAP RAMPS

A. **Treated lumber Handicap Ramp material:**
   1. 2" x 8" lumber for Stringers (with Joist Hangers).
   2. 2" x 6" lumber for:
      a. Treads
      b. Bottom Rail.
      c. Top Hand Rail (with routered edges)
   3. 2" x 4" lumber for Top Rail.
   4. 4" x 4" lumber for Support Posts.
   5. Ready Mix Concrete for Support Post Footings.

B. **Concrete Handicap Ramp material:**
   1. Concrete shall be 2500 PSI continuous pour with appropriate expansion joints and brush finish.
   2. All concrete surfaces shall be a minimum of 4" thick and shall be set into virgin soil (dirt) a minimum of 6".
   3. 6" x 6" x #6-gauge Wire Mesh for Reinforcement.
   4. 6 Mil. Poly Film (Plastic) for Vapor Barrier.
   5. 1 1/4" Tubing for Handrails (with 5" of concrete penetration).
   6. All weather Metal Paint for Handrails.

REQUIRED WORK

A. All ramps must not exceed the maximum 1/12 slope.

B. All ramps must have handrails.

8 FOUNDATION WORK.

GENERAL INFORMATION

The word rehabilitation basically means to remodel and every contractor should be aware that remodeling is a work through process that cannot be completely planned out, mostly because not all areas of an existing home are visible. Though most rehabilitation houses may look level from a street, the most obvious problems are better seen from inside a home and by viewing the underside of a home. Most homes to be rehabilitated require some amount of leveling, but it is difficult to say exactly how much leveling is required. So many write-ups will simply state "Level the entire dwelling", so as to insure that no part of the home is overlooked. This catch all phrase though, causes many unsuspecting contractors to overlook leveling costs, because they underestimate the amount of damage a dwelling may have.

Complete house leveling is the process of **LIFTING** a dwelling **COMPLETELY** to clear all floor supports, then resetting pads & piers to consistent levels at all points. Only after these requisites have been fulfilled can any repair or replacement of floor structural materials be performed for complete house leveling techniques. Partial house leveling on the other hand is the process of leveling floors or floor areas in specific locations throughout the home and then replacing damaged floor structural materials. So be careful, wording is critical.

Now if a dwelling is to be completely leveled **A PROFESSIONAL HOUSE MOVING "SUBCONTRACTOR" IS REQUIRED.** Unless the contractor's company is a house moving company the contractor should not attempt to use car jacks, bottle jacks, or other such devices to level the home. House leveling uses specialized jacks in vast quantities to completely lift a home. Conversely if the dwelling requires only partial leveling then a contractor may choose to level that specific portion of the home himself. Also remember always that a good home always sits on a good foundation, otherwise the home will be in constant disrepair and the contractor will have to fulfill many warranty claims, due to simple negligence.

Another commonly overlooked problem by contractors is that when a home is finally leveled all previous repairs (during the time the home was not level) will become warped and very apparent. For this reason, the contractor must be aware that **HOUSE LEVELING** creates other structural reactions which become the **CONTRACTOR'S RESPONSIBILITY**. So again, sensible planning must be exercised. For rehabilitation purposes a contractor must have a good understanding of the write-up and plans. Then he should be careful not to overlook the obvious and ensure that a good foundation has been established before proceeding with the rest of the home.

Now for foot-printing purposes a new foundation must be built, and this requires several pre-construction preparations as well as good construction phase practices that will ensure a solid foundation to endure for ages. Sometimes contractors tend to overlook small details which are costly in the end such as amount of fill dirt, elevations, specialty needs that the applicant may require, specified floor frame or concrete floor needs, etc. To avoid this contractors need only to take a bit more care in preparing for a job to ensure a proper foundation.

For example when removing an existing unit to prepare for a new unit the contractor must remove all debris from a site. If previous concrete pads or construction are to be left in place it must not interfere with the new construction and should be agreed to in writing by the applicant. Also a contractor should view the home completely before bidding. Some contractors have been surprised to find gapping holes beneath homes that require much fill dirt, because they did not care to view the underside of the existing dwelling and they simply assumed that the ground was level. Another overlooked item are elevations. When a street has not yet been established a contractor has no way of knowing how high the street will be made and new foundations should be at least 18" above street crowns. So the contractor should ask as many questions as possible, especially about foundations.

Now when handicapped applicants require special items such 1" drops for the front porch, or a handicap ramp, or better still a handicap shower the contractor could avoid much double work by preparing the foundation work appropriately. Proper planning could prevent construction remodifications of a foundation which is built in a normal fashion. For example a frame home with a handicap shower will require reinforcement of the foundation piers, pads, beams, and floor joists. If the reinforcement is constructed in place while the foundation is still exposed the work will be that much easier and faster, but if a contractor fails to read the entire write-up he could easily overlook reinforcement of the shower. Shower reinforcement is usually mentioned with the ceramic shower construction details. Contractors who overlook items such as these end up installing the reinforcement from under the home which is twice as difficult. Other examples include concrete ramp preparation and ceramic tile shower floor in concrete foundations(that will be flush with the interior house floor) which can be continuous poured with the concrete floor foundation if carefully planned.

Again, a contractor should review the entire write-up when preparing for all types of foundation work and also inspect homes carefully and up close (not just from the street). Then if the contractor is awarded the bid he should plan his work with care to maximize efficiency while ensuring a stable foundation that will last.

TYPICAL FLOOR FRAME

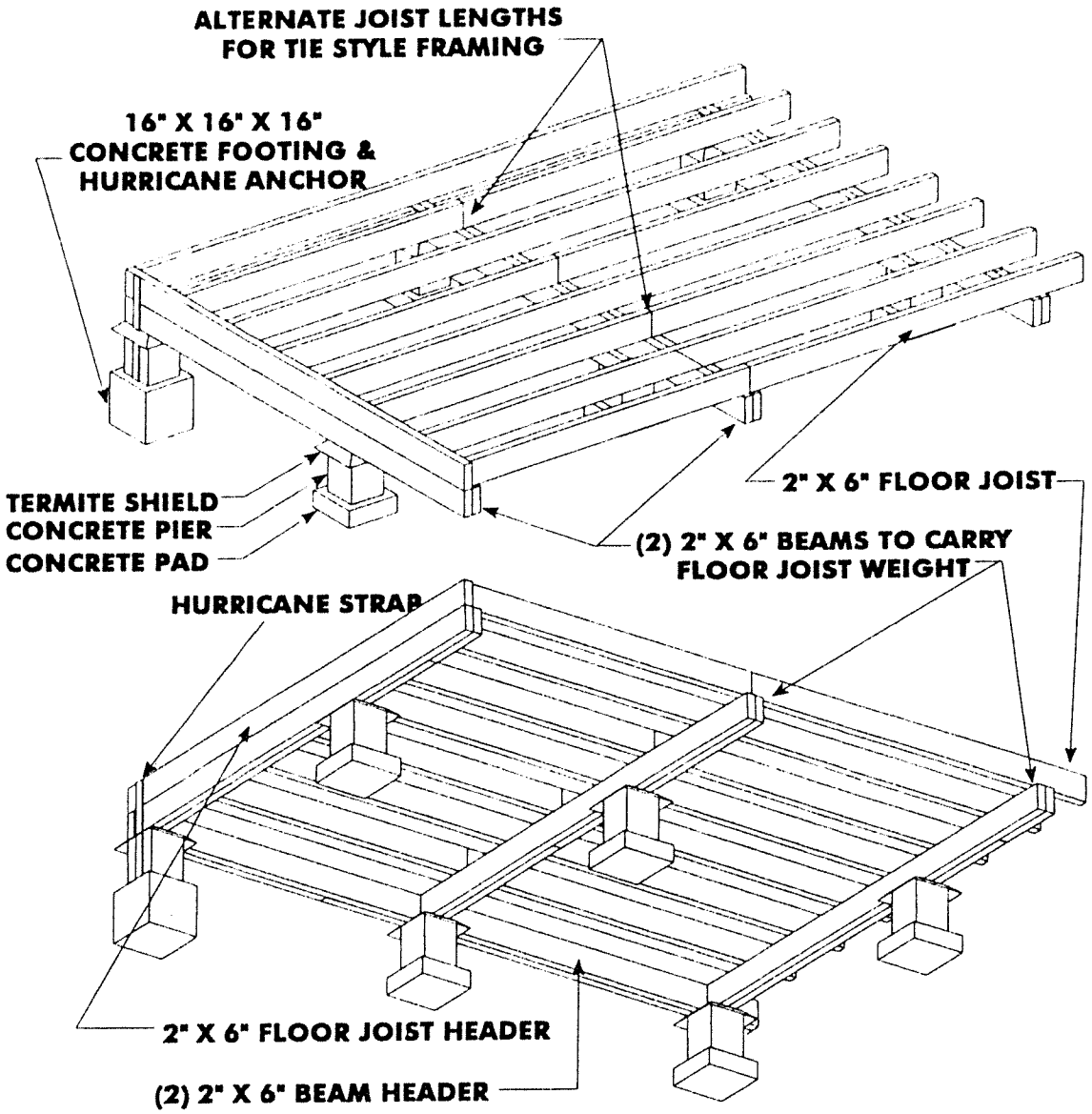
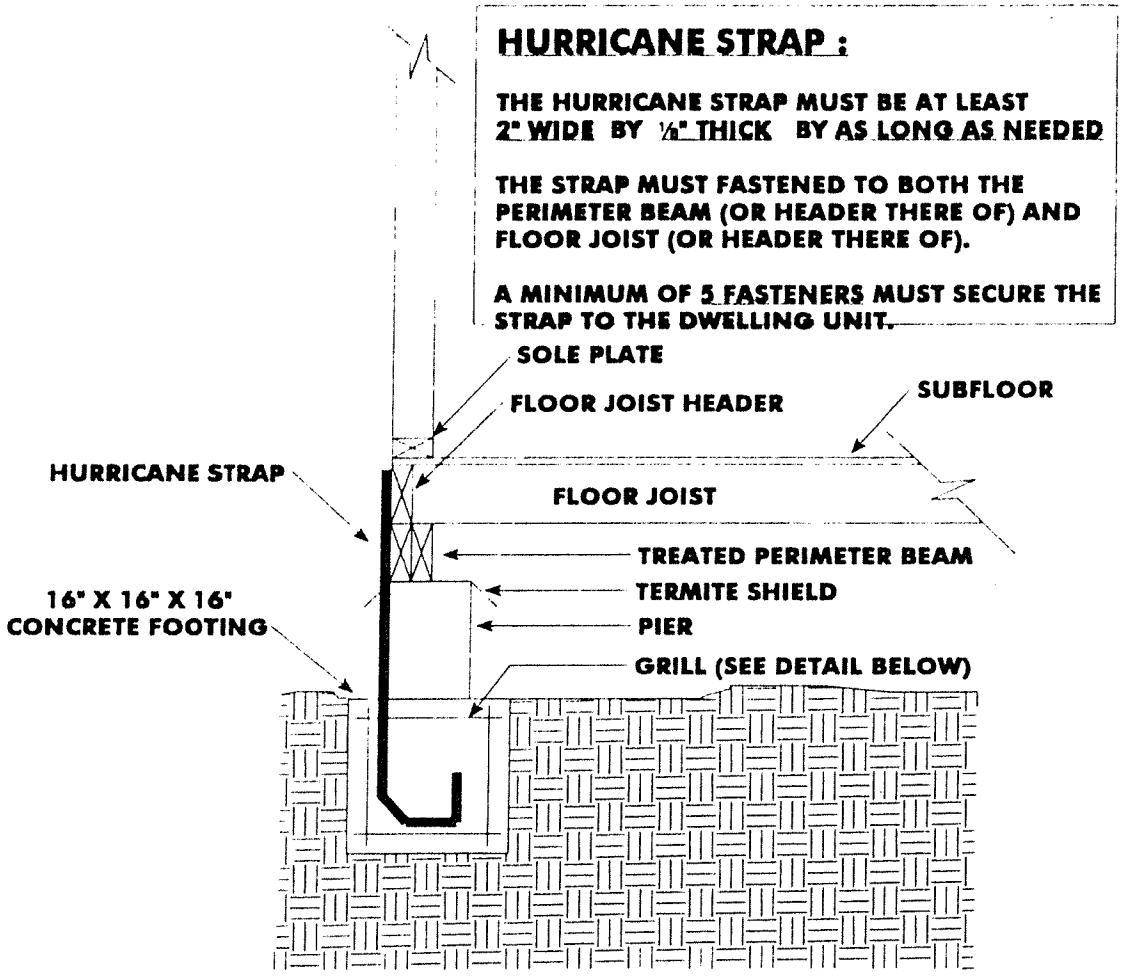
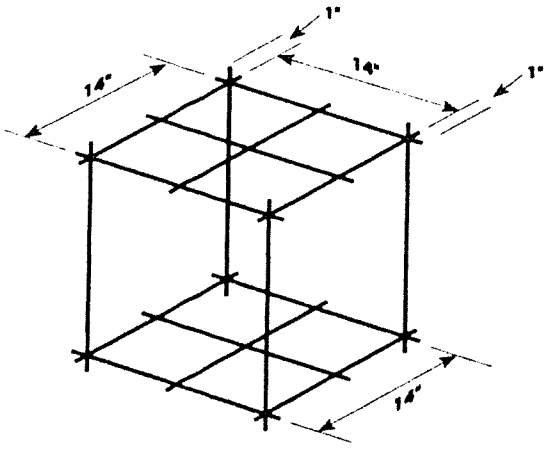


FIGURE 8.1

HURRICANE TIE-DOWN SET-UP





GRILL DETAIL FOR CONCRETE FOOTING:

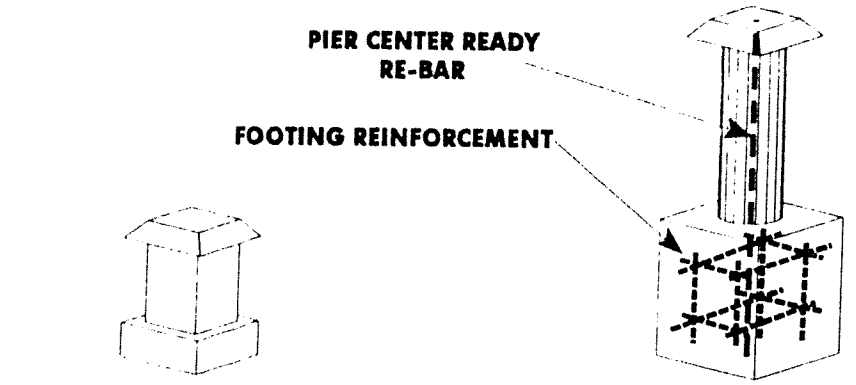
THE GRILL FOR THE CONCRETE FOOTING SHALL BE CONSTRUCTED OF #3 REBAR TIED TOGETHER TO FORM JOINTS AS PER DETAIL.

THE FORMS TO POUR THE CONCRETE FOR THE FOOTING MUST BE UNIFORM AND EXACT TO WITHIN ±(1") ONE INCH. THE SOIL MAY BE USED AS THE FORM FOR THE CONCRETE.

THE GRILL MUST BE SUSPENDED IN THE CENTER OF POUR WITH THE PROJECTING HURRICANE STRAP IN AN UPRIGHT POSITION TO BE

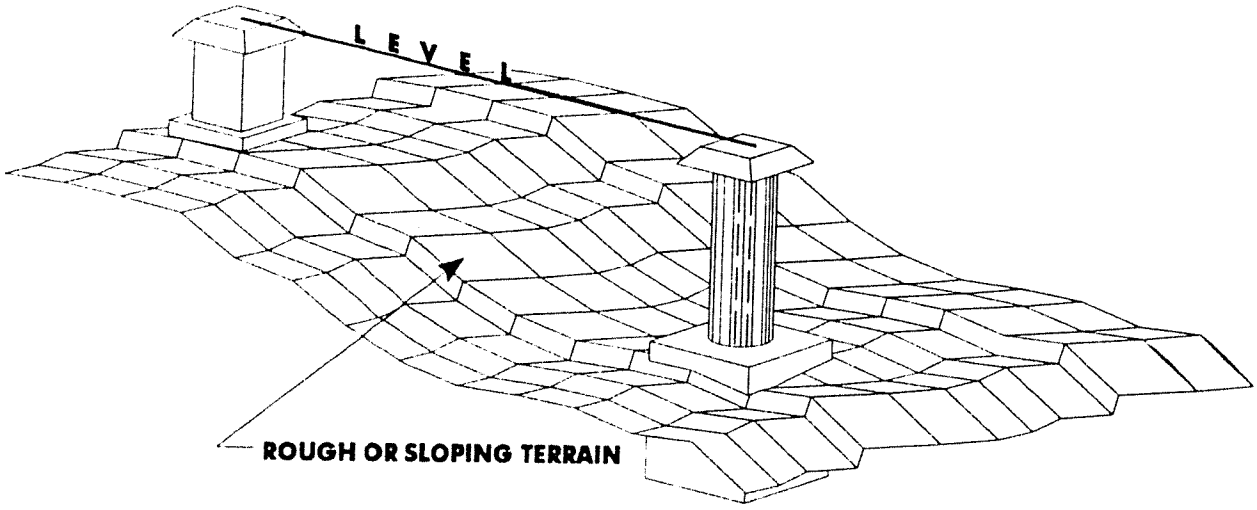
FIGURE 8.2

CAST IN PLACE CONCRETE PIERS & FOOTINGS



STANDARD CONCRETE PIER AND PAD W/ TERMITE SHIELD

CAST-IN-PLACE CONCRETE PIER & FOOTING W/TERMITE SHIELD



WHEN A SLOPING TERRAIN IS TOO GREAT FOR USE OF STANDARD PIERS, A CONTRACTOR SHALL USE A CAST- IN-PLACE SYSTEM OF PIERS ON TOP OF CAST-IN-PLACE FOOTINGS. THE PIERS ARE CAST IN PLACE USING PRE-FABRICATED CARTON TUBING THAT CAN BE REMOVED AFTER THE POUR HAS CURED.

THE FOOTING MUST BE POURED FIRST AND LEFT WITH A PIER CENTER READY REBAR TO REINFORCE THE PIER TO BE CAST-IN-PLACE ON TOP OF IT. ALL FOOTINGS WITHTHIS TYPE OF SYSTEM SHOULD HAVE A CONSISTENT LOOK AND DESIGN 16" X 16" X 16" WITH FOOTING REINFORCEMENT SUCH AS SHOWN FOR HURRICANE FOOTING ANCHORS.

REMEMBER ALL PADS AS WELL AS FOOTINGS MUST BE FLUSH WITH THE GROUND LEVEL. (REASONING FOR THIS IS THAT EROSION WILL NOT OCCUR BENEATH THE PAD OR FOOTING)

FIGURE 8.3

CONSTRUCTION PROCEDURES

A. **To build a new wood floor foundation:**

1. Install concrete pads flush with ground level.
2. Install concrete footings flush with ground level in place of concrete pads where tie downs are required or where odd size piers are needed.
3. Pour 8" diameter concrete piers in place of regular size piers where odd sized piers are needed.
4. Build floor frame as per **Figure 8.1**
5. Square up and level the entire floor frame for the last time.
6. Then attach hurricane tie downs by pulling hurricane ties tightly into place.

B. **To build a new concrete floor foundation:**

1. Apply or install all fill dirt to entire area where home shall be located. The fill dirt must extend at least 5'-0" past the approximate home exterior walls.
2. Press or pack fill dirt in succeeding 6" layers so that the entire fill is compacted securely.
3. Then apply perimeter concrete forms as per plans using (1) 2" x 6" with stakes and bracing.
4. Next dig trenches to conform with requested concrete beam fills as per plan. All trenches shall extend a minimum of 6" into the virgin soil.
5. Next provide and lay to precise fit all required concrete reinforcement as per write-up and specifications booklet. **See Figure 8.4**
6. Then remove all concrete reinforcement from their place and spray the entire fill, trenches and virgin soil with termite treatment, and cover with poly plastic sheeting immediately to prevent evaporation of medicine.
7. Then within the next 24 hours the contractor must Re-install onsite-manufactured concrete reinforcement and pour all concrete necessary to cover the treatment area.

C. **To completely level a house**, hire a professional house mover to:

1. Lift entire house.
2. Level all piers and pads.
3. Install new termite shields to all piers.
4. Then set the house back down to settle completely on all piers.

D. **To partially level a house:**

1. The contractor should use professional jacks and equipment to level partial parts of the house as per write-up requests.
2. Install termite shields to all piers of the entire house.
3. Then place decay resistant shims (maximum thickness 1 1/2").

E. **To reinforce** ceramic **shower floor** frames refer to **section 17 CERAMIC TILE WORK; CONSTRUCTION PROCEDURES; LETTER A.**

MATERIAL SPECIFICATIONS FOR FOUNDATIONS

A. To build a new foundation:

1. Regular Pads shall be 12" x 12" x 4".
2. Regular Piers shall be 8" x 8" x 12", unless otherwise noted in the work write-up.
3. Concrete footings for hurricane tie down shall be 16" x 16" x 16" continuous pour with #4 re-bar reinforcement & hurricane strap imbedded in concrete, anchor style. See **Figure 8.2**
4. Concrete footings for cast in place piers shall be same as concrete footing for hurricane tie downs, except they will be poured in place with pier center ready re-bar for cast in place concrete pier.
5. Cast in place concrete piers shall be: See **Figure 8.4**
   a. 8" in diameter and as tall as necessary for house level.
   b. Reinforced with one NO. 4 re-bar through the center of the column.
6. All other material as follows:

a.	(2) 2" x 6" perimeter beams.	TREATED LUMBER.
b.	(2) 2" x 6" interior beams @ 6' - 0" O.C.	TREATED LUMBER.
c.	2" x 6" floor joists @ 24" O.C. or less	TREATED LUMBER.
d.	2" x 6" floor joist headers	TREATED LUMBER.
e.	Felt paper for moisture barrier	15 lb. FELT
f.	4' x 8' - 3/4" Tongue and Groove Plywood	BC GRADE

REQUIRED WORK

A. All spliced beam connections (where beams connect) shall rest at the center of concrete piers.

B. Shim materials shall be **RESISTANT TO DECAY** and shall not exceed 1½" in thickness.

C. If 1½ " maximum shim is not sufficient, then install double concrete pads or taller concrete piers.

D. **INSTALL TERMITE SHIELDS TO ALL PIERS.**

E. All replaced floor frame materials shall be of equal thickness to existing.

F. The contractor shall add any additional or missing concrete pads/piers as needed.

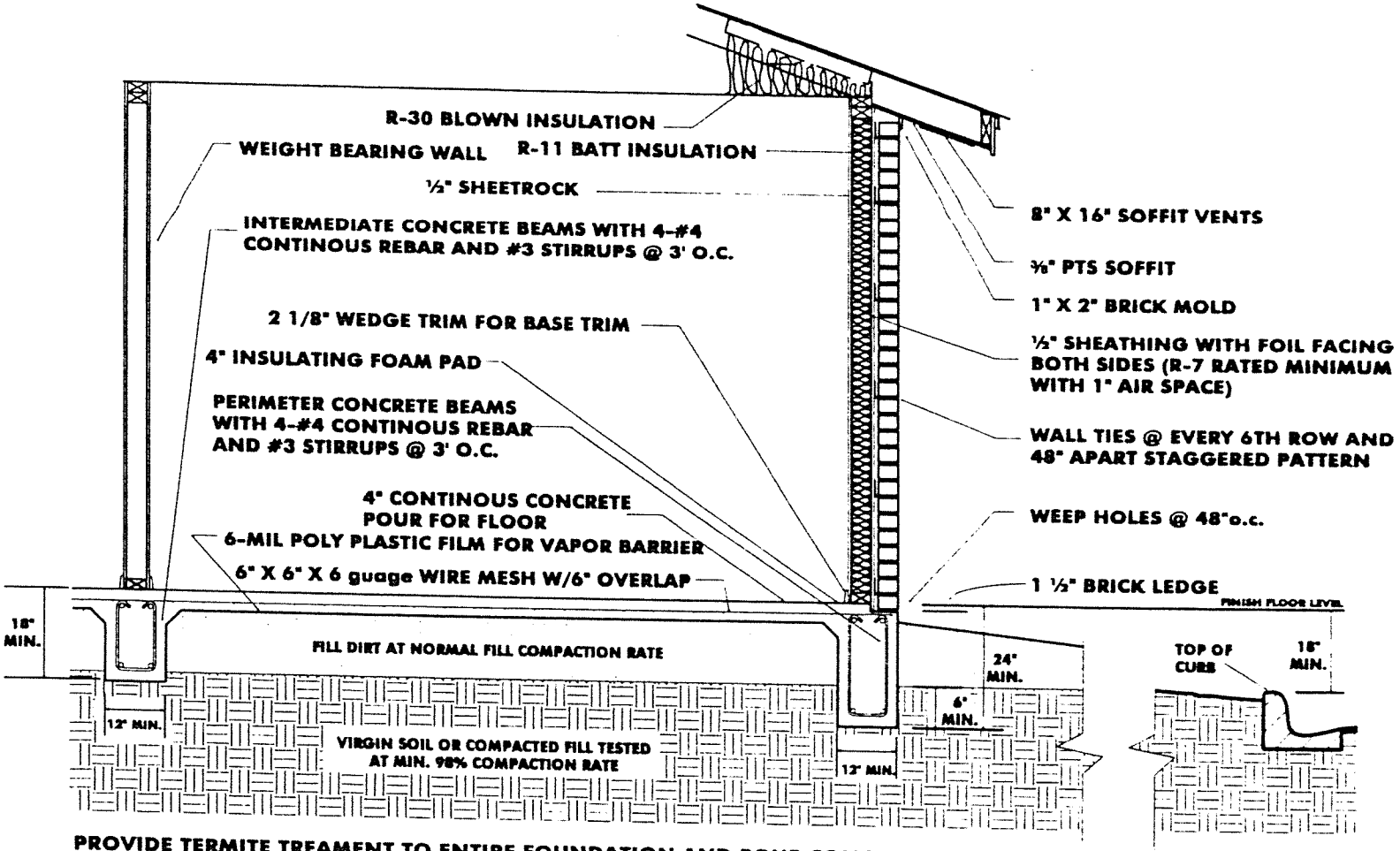
G. **TERMITE SHIELDS ARE REQUIRED ON ALL PIERS.**

H. All house floors must be level and smooth.

I. **NO BUMPS OR FLOOR IRREGULARITIES WILL BE ACCEPTED IN ANY HOUSE FLOOR.**

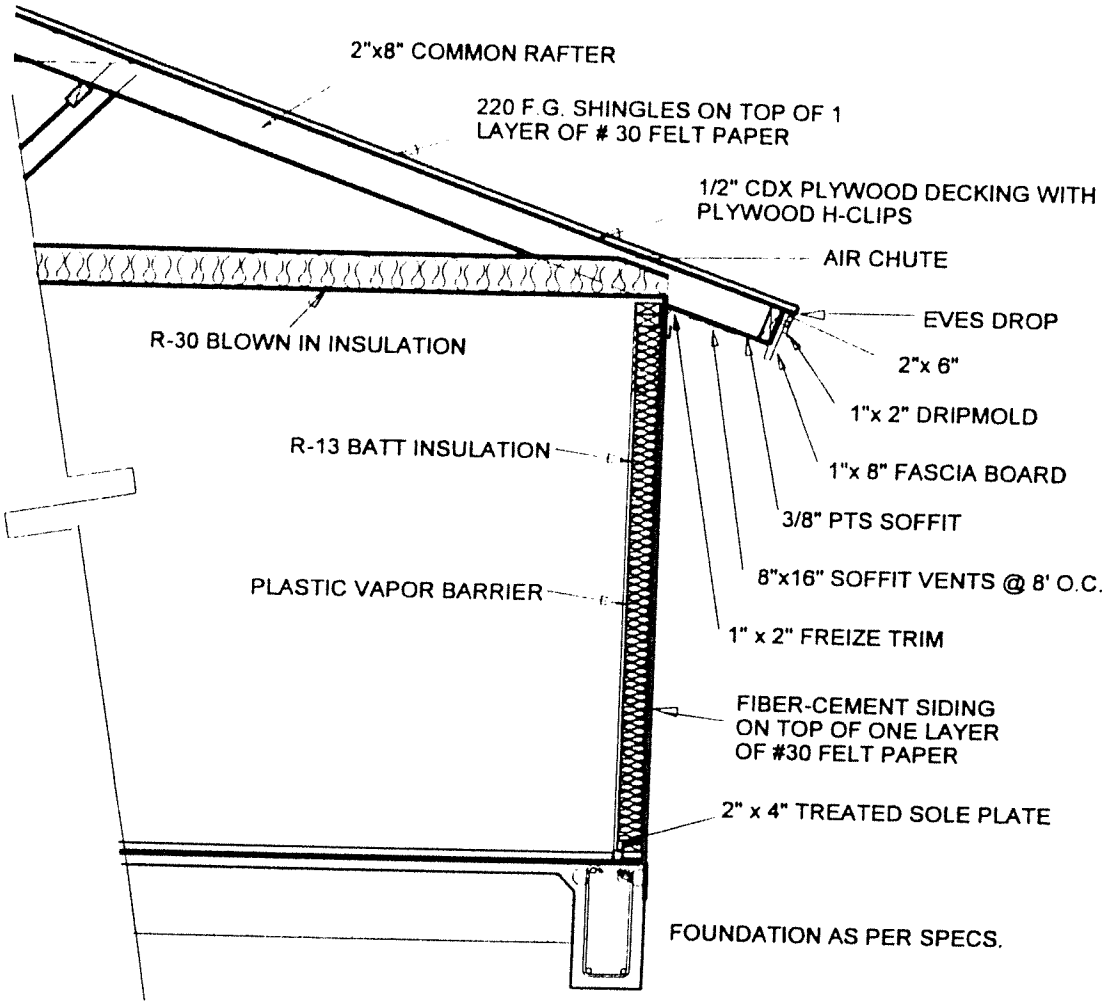
J. Contractor shall not attempt to level a dwelling without the proper equipment

TYPICAL WALL SECTION WITH BRICK EXTERIOR



PROVIDE TERMITE TREAMENT TO ENTIRE FOUNDATION AND POUR CONCRETE WITHIN 24 HOURS OF APPLICATION

FIGURE 8.4



TYPICAL WALL SECTION
FOR CONCRETE FOUNDATION

FIGURE 8.5

9 SUB-FLOOR, UNDERLAYMENT, & FINISH FLOORING.

GENERAL INFORMATION

Many homes have varying defects with floors, unless the home under rehabilitation is fairly new. Still, this section describes all necessary floor repairs, floor preparations for installation of finish floors, and the actual floor finishes desired.

Subfloor corrections often are needed more often for wood frame homes and most of the repaired damage often occurs in the bathroom and kitchen areas. As a general rule of thumb though, any area that is or has been affected by an exposed water source will require some degree of repairs. So a contractor should keep a sharp eye out for rotted subfloor areas before bidding. The write-up is written to target all rotted floor areas throughout the dwelling unit, but it will not zero in on the exact location of the problem. The program is simply concerned with the removal and repair of any and all floor damaged areas, because they pose a threat to the safety of the applicant.

Still when a new foundation is needed the write-up & plans will explain in greater detail what type of foundation will be built, what dimensions to use, types of materials, etc. In either case the necessary result is proper preparation for the finish floor material.

Now the underlayment is used almost exclusively for wood frame homes that need a new subfloor all together. In many cases the subfloor may be sound enough for support purposes but may not be reliable for the direct application of finish flooring. So the write-up will call for the installation of material (underlayment) that does not have to provide strength but rather a smooth surface that will allow the finish flooring to adhere well and look smooth, clean, and straight.

For finish flooring the write-up simply requests where the new flooring is to be installed, and in some rare cases will explain a special type of finish floor to be installed. For the most part however, the finish floor will always be as outlined in the material specifications section of this manual.

CONSTRUCTION PROCEDURES

A. **To replace or repair the Subfloor:**

1. Remove rotted, broken, or damaged subfloor boards.
2. Replace any rotted, broken, or damaged floor joists.
3. Adapt all new subfloor material appropriately to fill in replacement area.
4. All new subfloor edges shall be properly supported via new joists or blocking.
5. All new material must be of equal thickness to existing material.

B. **To install Underlayment:**

1. All subfloor boards must be re-nailed before installing the underlayment.
2. All base trim must be removed as well before installing underlayment.
3. Fasten the underlayment with 7D screw shank or cement coated nails @ 6" O.C. in all directions.
4. Seal all underlayment joints.
5. All underlayment material shall be 3/8" B.C. plywood.

C. **To install Finish Flooring:**

1. Clean and remove all saw dust or other debris from subfloor, underlayment, or concrete floors.
2. Patch or fill in all subfloor or underlayment gaps, then sand the same smooth.
3. For concrete foundations fill in or patch all floor irregularities, then sand the same smooth.
4. Then install 12" x 12" x 3/32" vinyl composition NO WAX tile.
5. Include metal edge strips for joints with carpet, linoleum, or other floor coverings..
6. Provide appropriate slip resistant floor tile nose guards where any steps are present.
7. Tile design & color shall be homeowner's choice (one color).
8. Other floor finish requirements will be specified on work write-up.

MATERIAL SPECIFICATIONS FOR SUBFLOOR, UNDERLAYMENT & FINISH FLOORING

A. **Replacement subfloor material shall be** of equal thickness to existing materials.

B. **New subfloor material shall be** 3/4" Tongue & Groove Plywood, BC Grade, unless otherwise specified.

C. **Underlayment shall be:**
   1. 3/8" BC plywood.
   2. Nailed with 7D screw shank or cement coated nails.

D. **Finish flooring shall be:**
   1. 12" x 12" x 3/32" vinyl composition NO WAX tile.
   2. Trimmed with metal strips where tile meets existing floors.
   3. Protected with slip resistant tile nose guards where steps are present.

REQUIRED WORK

A. **No bulges or irregular bumps** in floor will be accepted.

B. **Owner is allowed only ONE color choice.**

C. When installing underlayment **CONTRACTOR MUST REMOVE & REINSTALL ALL BASE TRIM.**

10 DOORS.

GENERAL INFORMATION

Not all doors in rehabilitation units have problems and some homes even have doors that are in decent shape. This means that contractors that visit the dwelling units prior to bidding will bid more accurately than those that do not. Since the write-up is always geared towards saving materials it will always list a specific task to bring every door way to a reasonable HQS level that meets local SBCCI rules. Still, some contractors feel its easier to just replace all doors, because painting new door units is much easier (remember exceeding the specifications in this manual only requires approval and authorization). So some contractors may choose to save on time while others may choose to save on material. The end result, whether you rehabilitate doors as per the write-up or just replace all doors, is that the doors should be free and clear of defects, they should all open and close correctly (no binding), and they should all have smooth finishes that match.

For example if a write-up for a home has 28 doors and only 3 of the doors need to be replaced while 19 of the other doors need only be reconditioned. The contractor might want to stick to the write-up because his reconditioning procedure will be repeated quite often and his setup for this procedure will be worthwhile. On the flip side, if the same home has 19 doors to be replaced and only 3 which needed reconditioning the contractor might choose to replace all 22 out of 28 doors and save time on having to setup for the reconditioning procedure. Still, the possibilities are endless, but the contractor that studies a write-up and visits the interior of a home will have a better chance of bidding more competitively.

However, contractors must exercise caution when choosing to forgo the write-up and provide better materials than specified in the write-up (like replacing all doors). Sometimes the applicants will complain when you treat their home different from that of the other applicants so contractors must be tactful as well.

Now when reconditioning a damaged door the contractor should always remember that the reconditioned door must resemble a new door. A paint finish on any door will tend to dictate the look of other door units, but the write-up & spec book are lenient in this category that doors need only match. So as long as the new paint does not clash with an existing varnish finish, the mixing of painted doors with varnished ones does not affect inspections.

CONSTRUCTION PROCEDURES

A. **INSTALLING OR REPLACING:**

1. **Exterior door units:**
   a. Remove and dispose of existing door (if present).
   b. Install steel, wood, or screen door unit.
   c. Install low profile threshold for handicap applicants.
   d. Provide weather stripping and aluminum threshold for wood doors.
   e. Provide hardware for screen doors.
   f. Then install appropriate exterior trim and interior trim.
   g. Finally, Paint or Stain & Varnish to smooth finish.
2. **Exterior doors (only):**
   a. Remove existing door.
   b. Replace or relocate door stops as necessary.
   c. Replace hinges.
   d. Adapt replacement door to fit opening and adjust.
   e. Then follow steps 3 thru 7 to **installing Exterior door units** above.
3. **Interior door units** and **cased openings:**
   a. Remove and dispose of existing door unit (if present).
   b. Replace or install new interior door unit or cased opening.
   c. Then apply wedge trim to both sides of the door unit.
   d. Then paint or stain & varnish door and jamb to smooth finish.
4. **Interior doors (only):**
   a. Replace door with mahogany hollow core door (fit to opening) unless otherwise specified.
   b. Replace all door stops.
   c. Adjust door and replace damaged trim on both sides.
   d. Then paint or stain & varnish door and jamb to smooth finish.
5. **Screen doors (units):**
   a. Install door so that it fits the opening as per figure 10.1 to include all appropriate door type and hardware.
   b. Install any additional sweeps or weatherstripping to door or jamb perimeter for (fly proof) seal. The screen door should have no gaps where insects may enter through when door is properly closed.

B. **RECONDITIONING:**

1. **Exterior Entry door units:**
   a. Remove all non-door related items such as thumb tacks, posters, mirrors, etc.
   b. Patch and repair all small holes, dents, or gouges on wood doors with wood putty.
   c. Replace damaged door frames and door stops.
   d. Adjust, re-fasten, or replace damaged hinges.
   e. Lightly sand away existing finish.
   f. Then follow steps 3 thru 7 for **installing Exterior door units** above.

2. **Screen doors:**
   a. Remove screen door.
   b. Remove grill (if any), screen trim, and screen.
   c. Glue up disjointed screen door members, and square up screen door.
   d. Paint screen frame and screen trims with matching exterior house paint.
   e. Install new metal mesh type screen material to door with newly painted screen trim.
   f. Install new ½ grill kick guard to lower half of screen door.
   g. Reinstall newly reconditioned screen door with hardware.
   h. Paint screen door to smooth finish.
3. **Interior door units:**
   a. Remove all non-door related items such as thumb tacks, posters, mirrors, etc.
   b. Patch and repair all small holes, dents, or gouges with wood putty.
   c. Adjust door and replace damaged trim on both sides of the door unit.
   d. Lightly sand away existing finish.
   e. Then paint or stain & varnish door and jamb to smooth finish.

HANDICAP ENTRY DOOR DETAIL

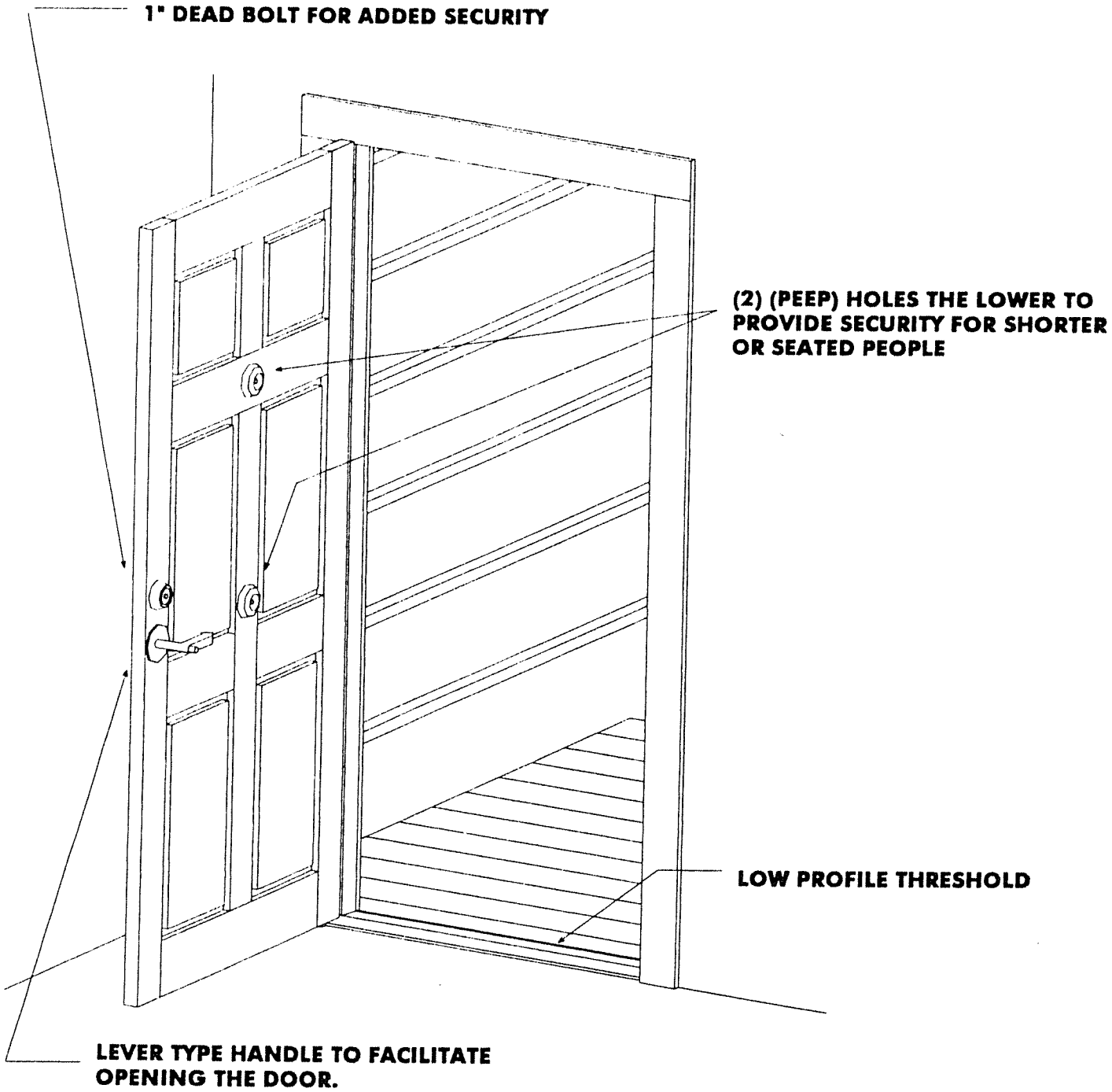


FIGURE 10.1

MATERIAL SPECIFICATIONS FOR DOORS

A. **Steel doors shall be** weather proof 6-panel insulated metal door:
   1. If write-up calls for a steel door replacement and the opening is an odd size then the contractor shall be allowed to substitute a Wood exterior door instead.
   2. Use low profile threshold for handicap applicants.

B. **Wood exterior doors shall be** 1 3/4" solid core mahogany single bore, with aluminum threshold and weather stripping:
   1. Use low profile threshold for handicap applicants.

C. **Screen doors shall be** solid wood (**NO MULTI-FINGER**), A-4 or similar type screen door with heavy mesh screen guard protection for lower half of screen door. See screen door **Figure 10.1**.

D. **Interior wood doors shall be** Mahogany Hollow Core doors with wedge trim on both sides.

E. **Cased opening shall be** made of solid wood with wedge trim on both sides.

F. **Thresholds shall be** aluminum thresholds with low profiles for handicap applicants.

G. **Weatherstripping shall be** a standard type most commonly used by professionals.

H. **Door** & other **finishes shall be** as follows:

1.	Steel:	2 coats of Metal Paint.
2.	Wood:	Exterior - Stain & 2 coats Exterior Varnish.
		Interior - Stain & 2 coats Interior Varnish.
3.	Screen Doors:	2 coats of Enamel Semigloss Paint.
4.	Cased Openings:	Stain & 2 coats Interior Varnish.

I. **Door related hardware**:

1.	Exteriors:	Entry lock-set.
2.	Bathroom:	Privacy lock-set.
3.	Bedrooms & closets:	Passage lock-set unless otherwise noted.
4.	Screen doors:	Metal (piston type) Closer, Metal handle, and Metal latch.
5.	Dead bolt:	Single cylinder unless otherwise specified..
6.	Combo pack:	Entry & dead bolt lock set unless otherwise specified.
7.	Keyed alike:	Same key fits more than one lock set (if specified).

J. **Acceptable lock-set** brands or equal quality: Caseate, Master Lock, Schlage, etc.