A Guide to Building a Detached Accessory Structure

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Rochester Hills Building Department
1000 Rochester Hills Dr.
248-656-4615

TABLE OF CONTENTS

Accessory Structures

Page

Table of Contents 1

Introduction 2

Before You Build 3

From Application to Completion 4

Plot Plan Requirements 8

Construction Drawing Requirements 11

Appendix

- Phone Directory 15
- Sample Plot Plan 16
- Sample Drawings 17

Reference Material

The following forms and handouts for an accessory structure are available at our service counter or on the Building Departments web page at www.rochesterhills.org.

- Permit applications are required only for hard copy or in person applications
  - Building
  - Mechanical
  - Electrical
  - Plumbing
- Permit Fees Schedules
  - Building
  - Mechanical
  - Electrical
  - Plumbing
- BS&A Online Permit Application and Inspection Scheduling Tutorials
- Standard for Electronic Plan Review Submission
- Codes Currently in Effect
- Contractor Registration
- Guide to Accessory Structure Inspections
- Guide to Residential Zoning Requirements
- Tree Removal & Maintenance Requirements

Surveys

We are always striving to improve our service, please use the following forms to give us your feedback, comments and suggestions.

- Electronic Submittal Survey
- Customer Satisfaction Survey

INTRODUCTION

Accessory Structures

Building an Accessory Structure can be a stressful process for both the homeowner and builder. As the permitting and inspection process tends to vary slightly from city to city, the Building Department has prepared this Guidebook to help all parties understand these processes when building within the City of Rochester Hills. We have included information on areas that have generated confusion or construction delays in the past.

We recognize that in order for your project to be a success, all parties involved need to work together towards the final goal; a safe, well-built accessory structure. We take great pride in being part of your success story and encourage you to keep all lines of communication open from the start to the finish. If this guide does not answer your specific questions, please feel free to contact the Building Department at 248-656-4615. We want to know how we can help!

A building permit is required for Detached Accessory Structures that are over 200 sq. ft.

- Please refer to the requirements of this Accessory Structure Guidebook for details.

A building permit is not required for Detached Accessory Structures 200 sq. ft. or less, however, they shall comply with the following:

- Structures shall be more than 10 feet from the main building or any other Accessory Structure.
- Structures may be located in the side or rear yards of the property only, no closer than 5 feet from the property line and not in the front yard or within an easement. Corner lots may have an increased setback for the side yard. Please contact the Building Department for details.
- The maximum height above grade shall not exceed 1 story and 14 feet with a roof pitch less than 4/12 and 16 feet with a roof pitch greater than 4/12.
- The height is measured from average grade around the structure to the midpoint between the bottom of the eave and roof peak.
- The combined total square footage of all Detached Accessory Structures on your property shall not exceed 1000 square feet, and also shall not exceed the floor square footage of the house.
- Additional square footage is allowed for lots greater than 1 acre.
- Gazebos are limited to 180 square feet and a height of 16 feet measures from the average grade around the gazebo. If the gazebo is part of a deck attached to the main building, the height shall be measured as the vertical distance from the usable floor surface of the main building to the highest point of the gazebo roof.
- Your Homeowner's Association rules.

This Guidebook is only intended to be a guide and is not all inclusive of the Michigan Residential Code or requirements of City Ordinances. The information in this Guidebook is subject to change.

BEFORE YOU BUILD
Accessory Structures

Before you start your project, you should be aware some additional permitting from other departments within the City or outside agencies may be required. These requirements may have an effect on the style, location and cost of your accessory structure along with length of time it takes to build your accessory structure.

If permits are required from any of the departments or agencies listed below, copies of the permit or approvals will need to be submitted to the Building Department before the building permit can be issued.

Deed Restrictions - Your subdivision may have Deed Restrictions that apply. The City of Rochester Hills cannot enforce Deed Restrictions; however, we encourage you to check for any restrictions that may apply to your project.

Historic District – If your accessory structure will be built in a Historic District, it shall first be approved by the Historic District Commission (HDC). The Planning Department can help you understand the process and explain what you need to provide to seek approval from the HDC. Please call the Planning Department at (248) 656-4660 for more information.

Flood Plains – Flood plains are usually associated with lakes, streams, rivers and drainage courses. They are areas designated as "prone to flooding" during times of rain. Building in these areas is strictly regulated. If you are proposing to build an accessory structure in a floodplain, it may require a Licensed State of Michigan Engineer's design and a Floodplain Use Permit prior to your building permit approval. Please call the Rochester Hills Department of Public Services at (248) 656-4640 for more information.

Wetlands – These areas have been determined to be indispensable and are to be protected as a natural resource. They provide numerous beneficial factors including wildlife habitat, water quality, flood controls, pollution reduction, erosion controls, open spaces, recreation areas and aesthetics. If your accessory structure will be close to or in regulated wetlands, additional paperwork, including permits, may be required from the City or State of Michigan. Please contact the Building Department at (248) 656-4615 for more information.

Steep Slopes – Conservation practices have been established to prevent disturbance of existing steep slopes to protect public health, safety, and general welfare. Effective protection of steep slopes is regulated by City Ordinance. Please contact the Building Department at (248) 656-4615 for more information.

Water and Sewer – You may check to see if City water and sanitary sewer are available by contacting the Department of Public Service at (248) 656-4685. When water and/or sanitary sewer are not available, a well and/or septic complying with Oakland County standards shall be installed. Additional permits and inspections are required from the Oakland County Health Department if you need to install a well or a septic system.

County or State Roads – If your accessory structure will be located on a County or State Road, a Drive Approach Permit is required from the Oakland County Road Commission (RCOC) or the Michigan Department of Transportation (MDOT), depending on your location.

Trees – A Tree Removal Permit is required for parcels regulated by the Tree Conservation Ordinance and for trees located in the Public Street Right-of-Way. Contact the Natural Resources Department at (248) 656-4673 for questions related to regulated trees or removal.

FROM APPLICATION TO COMPLETION

Accessory Structures

A General Guide through the Entire Process

Step 1 – The Building Permit

State law requires that a building permit be obtained for the construction of accessory structures that are 200 square feet or larger. The permit allows the code official to review the plans for the accessory structure and perform inspections during construction to confirm that the requirements of the Michigan Residential Code are being followed. By meeting the requirements of the Michigan Residential Code, the completed project will meet minimum standards of life safety, health and welfare as established by the State of Michigan.

Applications for the building permit are usually submitted by the builder; however, homeowners may submit a permit application for work on their property. Any contractors hired by the homeowner for a contract price of $600 or more shall be licensed in accordance with State of Michigan Residential Builder Laws.

When the building permit application is submitted, it will undergo three reviews:

- A Zoning Ordinance Review will verify that the new accessory structure will meet the requirements of the City's Zoning Ordinance including such items as lot coverage, setbacks, height requirements for the zoning District.
- The Grade Review will review work related to the property including drainage, sidewalks, driveways, utility locations and connections. The review will also check for wetlands, steep slopes, watercourses, flood plains or another agency permits that may be required.
- The Building Plan Review covers the requirements of the Michigan Residential Code that apply to the accessory structure.

Submitting a complete set of documents containing all the necessary information will expedite the plan review process. Prior to applying for building permit, the applicants should prepare the following documents. These documents shall be prepared using the guidelines set forth in the Building Department's Standard for Electronic Plan Review Submission.

1. A **Plot Plan** that has been prepared by a homeowner, builder, licensed surveyor or engineer showing the location of the accessory structure, setbacks from property lines, utilities, grading, etc. Refer to the Plot Plan Requirements section of this guide for additional information
2. **Construction** Drawings that contain floor plans, elevations and details. Refer to Construction Drawing Requirements section and sample drawing of this guide for additional information.
3. If available provide the **Roof Truss Shop Drawings**. These must be available on site at the time of rough framing inspection.

* Forms are available online at www.rochesterhills.org or at the Building Department counter.

Registration of Builders License

Prior to applying for a building permit, residential builders shall register with the City of Rochester Hills Building Department.

1. Builders can submit their registration form in person or email. A completed Contractor Registration Form may be emailed to the Customer Service staff at building@rochesterhills.org and include Contractor Registration on the subject line.
    a. The registration fee can be paid in person or with the permit application fee.

2. When registering the builder shall supply:
    a. A completed Contractor Registration Form with an original signature by the license holder.
    b. The original or a copy of the Builder's License.
    c. A copy of the license holder's driver's license, if not presented in person.
3. Builders who are still actively working in the City are required to renew their registration with the City when the builder's license is renewed.

    A Contractor Registration form is available online at www.rochesterhills.org or at the Building Department Service counter.

Applying for the Building Permit

The Building Department is now accepting applications for all permits online at www.rochesterhills.org.

The BS&A Online Permit Application Tutorial is available to help with the process.

1. **Plans and Approved Process**
    a. The permit application documents are reviewed in the order they are received. When the Building Department's work load allows, accessory structure permit documents will be reviewed and processed within 5 working days or as the workload allows.
        i. If the Plan Examiner determines that due to the complexity of the project, a more in-depth review is required, the applicant will be notified that their project cannot be reviewed within the 5 working day period.
    b. Documents that contain all the necessary information and details will help speed up the review process.
    c. The plot plan is reviewed for compliance with City Ordinances and Engineering Standards while the construction documents are reviewed for compliance to the Michigan Residential Code.
    d. The applicant will be notified by email if the information provided does not meet the City of Rochester Hills Zoning Ordinance, Engineering, or Michigan Residential Code requirements, or if any other information is required.
    e. The applicant will then need to resubmit corrected documents for review.

2. **Fees**

    Fees are due at various stages of the permitting process.
    a. The application and base plan review fees shall be paid before the permit application will be fully processed and the review process begins.
    b. Final plan review and permit fees will be determined during the plan review process and shall be paid prior to issuance of the building permit.
    c. Applicants may pay in person at the City Hall or online by following the link in the email they receive to the online payment portal. Fees can be paid online by credit card or eCheck.

    Forms and Fee Schedules are available at the Building Department service counter or online at www.rochesterhills.org

3. **Permit Ready**
    a. The permit applicant will receive an email with a link to the online payment portal, when the building permit is ready.
    b. Building permit fees are due prior of the issuance of the building permit. Permit fees can be paid in person or online.
    c. Once all fees are paid, the applicant will receive an email with the building permit.
    d. The building permit shall be secured within 6 months of the application date or the application may be canceled.
    e. Issued permits that have no activity for more than 6 months may be canceled. A new permit may be required to finish the project.

4. Revisions
    a. Revisions to the plans for the accessory structure or grade after issuance of the building permit will require re-submittal of revised plans, approval from the Building Department, and the payment of any additional review and permit fees.

5. Trade Permits – Plumbing, Mechanical & Electrical
    a. These types of permits are required and can be applied for and obtained after the building permit has been issued.
    b. All items to be installed shall be listed on the appropriate permits.
    c. Items not listed can be added to the appropriate permits prior to the Final Inspection.
    d. A Certificate of Occupancy cannot be issued until all fees have been paid.

    Forms and fee schedules are available at the Building Department Service counter or online at www.rochesterhills.org

Step 2 – Construction

When the building permit has been obtained, construction may begin. All accessory structure construction shall be inspected for conformance to the approved plans and the Michigan Residential Code. For a complete explanation of inspections please review the Guide to Accessory Structure Inspections available online at www.rochesterhills.org.

1. Inspection Request and Results

    All request for inspections are to be scheduled online through BS&A Online using the account information that was established when applying for the permit.

    Inspections that have been requested and verified before 3:00 pm will be scheduled for the next business day between 9:00 a.m. and 4:00 p.m. The Inspection may be done earlier or later in the day depending on the Inspector's work load. Inspections may be available outside normal business hours by special arrangement. Additional fees for any after-hours inspection will need to be paid in advance.

    Please make sure your project is ready for inspection when scheduled. Requests to cancel an inspection should be made by calling the Building Department at 248-656-4615 prior to 9:00 a.m. on the day of the requested inspection. If an Inspector arrives at the project and it is not ready for inspection, an inspection will not be performed and a re-inspection fee may be charged.

    The following item shall be completed, in place, or available at the time of each inspection:
    - The Street address and lot number shall be posted and visible from the street.
    - Soil erosion control and tree protection properly installed and maintained.
    - The street is kept clean and all construction materials and debris is contained on the property.
    - There should be safe access to the job site and throughout the area to be inspected.
    - Approved plans, all attachments and truss drawings are on site and available.

    Once an inspection has been performed the permit holder will receive an email stating either the inspection was approved or not approved with a list of items that require correction. A re-inspection fee will be charged for any items not corrected at the time of the second inspection. Inspections shall be approved before proceeding with the next phase of construction. If there are any questions regarding the inspection you can call the Building Department between 8:00 a.m. and 9:00 a.m. and 3:30 p.m. and 4:30 p.m. and ask to speak with the Inspector who performed the inspection.

    During construction the accessory structure should be inspected for any for any of the following that apply.
    - Footings
    - Pre-masonry
    - Rough plumbing
    - Rough mechanical
    - Rough electrical

- Rough building if interior is to be finished.
- Sidewalks and drive approaches

Step 3 - Closeout

Prior to the accessory structure being completed and final approval can be given, the final inspections shall be completed and any corrections need to be completed for any of the following that apply.

- Final plumbing
- Final mechanical
- Final electrical
- Final building and final masonry
- Final grade
- All special bills shall be paid, including:
  - Street cleaning
  - Debris removal
  - Any other fees or bills due

PLOT PLAN REQUIREMENTS

Accessory Structures

A plot plan containing all the information and details noted below shall be submitted with the building permit Application. The Plot Plan may be drawn by the Homeowner, Contractor, Land Surveyor, Engineer or Architect. Special circumstances may require the Plot Plan to be drawn by a licensed Engineer, Architect or Land Surveyor. This will be determined during the Plan Review process (if not an Expedited Permit.) To aid in the review process the documents shall be prepared utilizing the Standards for Electronic Plan Review Submission guide available online at www.rochesterhills.org. Please see "Sample Plot Plan" in the Appendix.

The Plot Plan shall contain the following information:

1. General Information
    a. Plans shall be drawn to a scale between 1" = 20' and 1" = 50'
    b. Plans should include:
        i. Builder's name, address and telephone number.
        ii. A North arrow, legal description, street right-of-way and street name.
        iii. The site benchmark that will be used to establish the accessory structure and site elevations.
        iv. Soil erosion control location and details for the construction period and the permanent controls that are to be in placed prior to a final Certificate of Occupancy.
        v. The footprint of the accessory structure shall be consistent on the plot plan and the construction drawings
2. Zoning
    Refer to the Building Department's Guide to Residential Zoning Requirements available online at www.rochesterhills.org .
    a. Indicate the location and dimensions of all structures on the lot, including proposed structures and the distances from lot lines and/or existing structures shall be indicated.
    b. Plot Plans shall have all lot dimensions indicated.
    c. Accessory Structures shall be at least 5 feet from the side and rear property lines and at least 10 feet from the house. Accessory Structures may be located closer than 10 feet to the house if they meet the minimum setback requirements for the house.

3. Trees
    a. Tree removal permits are not required for the following
        i. On occupied one-family parcels less than one acre.
        ii. On occupied one-family parcels of one acre or more for construction of appurtenances or structures accessory to existing structures.
    b. Tree removal is not permitted within any right-of-way, conservation easement or natural features setback.

4. Grading and Drainage
    The overall subdivision grading shall remain unchanged. Elevations may deviate slightly to accommodate the construction of the structure.
    a. Indicate existing and proposed elevations and drainage patterns, including all swales, drainage courses, berms, retaining walls, ditches and culverts. The slope of the grade from the edge of the driveway to the culvert invert is not to exceed a 1 foot vertical to 2 feet horizontal slope.
    b. The grade shall have a minimum of 6 inches of fall away from the accessory structure in the first 10 feet and a minimum of 1% grade for the remainder of the property for drainage.
    c. The maximum grade slope allowed is 1 foot vertical to 3 feet horizontal (33%). All slopes exceeding a 1 foot vertical to 3 feet horizontal will require retaining walls with details of construction. Additional information and details may be required for retaining walls. This will be determined during the review process.

5. Utilities
    a. Indicate the location and elevation of all easements and utilities including manholes, gate wells, hydrants, phone, electric, gas, cable, etc. on the property and within 100 feet of the property.

6. Driveways

If the road is gravel, a minimum of 5-feet of the drive approach must be gravel. If the road is paved, a minimum of 5-feet of the drive approach must be paved.

    b. Where sidewalks are required provide elevations at both side property corners and at the driveway. The cross-slope requirements are 2%. The maximum incline is 1 foot vertical to 12 feet horizontal (8.33%). For crosswalks, the maximum incline is 5% (1 foot vertical to 20 feet horizontal).
    c. Indicate the width and type of proposed driveway construction and elevations at the garage floor and at the edge of the road or top of curb at the centerline of the approach. The drive grade requirements are as follows:
        i. Side entrance slab – minimum 2% - maximum 4% slope.
        ii. Slope down to road – minimum 2% - maximum 10% slope.
        iii. Reverse drive slope – minimum 2% - maximum 7% slope.
    d. Indicate all existing curb drops and all proposed curb cuts.
    e. The angle of the driveway should be 90 degrees to the roadway edge wherever possible.
    f. Show all roadside features and the sight distance for the approach.
    g. Driveways on corner lots are required to be a minimum of 25 feet from the property corner at the intersection of the two streets in either direction.
    h. Maintain 5 feet between the driveway and fire hydrant and 6-feet between the driveway and a high back catch basin.
    i. Driveways should avoid all utility manholes. If unavoidable, a permit and inspection from the Department of Public Service is required for the adjustment and isolation of the structure.
    j. Other agency permits will be required when a new approach or alterations to an existing approach are proposed when:
        i. The road your house is on is an Oakland County road. A Drive Approach Permit from the Road Commission for Oakland County (RCOC) is required prior to Plot Plan approval,
        ii. The road your house is on is a State of Michigan road. A drive approach permit from the Michigan Department of Transportation (MDOT) is required prior to Plot Plan approval.

7. Wetlands, Floodplains, and Steep Slopes

If there are wetlands, flood plains, or steep slopes on your lot, a survey from a Licensed Land Surveyor or Engineer, (signed and sealed) may be required. This will be determined during Plan Review.

    a. Indicate any wetland limits with the 25-foot natural features setback and required protective fencing. Activity within 10 feet of the regulated wetlands will require a Wetlands Use Permit. Provide information for the wetlands per the Natural Resources Ordinance, Chapter 126, Article IV.
    b. Indicate the location and elevation of all watercourses and provide the floodplain elevation on the plan. Adhere to the City's Flood Plain Use and Regulation Ordinance, Chapter 114, Article III.
    c. Provide a State of Michigan Department of Environmental Quality permit if the property has state regulated wetlands.

    c. When the accessory structure is to be built on or adjacent to slopes that are greater than 33 percent, provide dimensions from the accessory structure or face of foundation to the toe or the top of the slope as required by the Michigan Residential Code and the City's Steep Slope Ordinance, Section 138-9.200.

d. During the plan review, Building Department will determine if a Steep Slope permit is required from the Department of Public Services.

8. Other Agency Permits That May Be Required

e. If the road that your home is on is a County road, a drive approach permit from the Road Commission for Oakland County (RCOC) is required prior to plot plan approval.
f. If the road that your home is on is a State road, a drive approach permit from the Michigan Department of Transportation (MDOT) is required prior to plot plan approval.
g. If there is a septic system on your property, a permit from the Oakland County Health Department is required prior to plot plan approval.
h. A Soil Erosion Control Permit from the Oakland County Water Resource Commission (OCWRC) is required for all properties with wetlands or flood plain, or located within 500 feet of a lake, stream, storm drain, etc. Please contact the (OCWRC) for further information.

CONSTRUCTION REQUIREMENTS

Accessory Structures

A set of construction drawings is required for accessory structures and shall be submitted with the permit application. To aid in the review process the documents should be prepared utilizing the Standards for Electronic Plan Review Submission guide available online at www.rochesterhills.org. Please see refer to the Sample Plans in the Appendix.

The construction drawings shall meet the following requirements:

1. General
    a. The preferred sheet size is 24" x 36" but no larger than 30' x 42".
    b. Drawing shall be in a scale of not less than 1/8" = 1'-0".
    c. The footprint of the accessory structure shall be consistent on the plot plan and the construction drawings.

The information below is provided in a "User-friendly" format as a general guide to help you apply the standard Building Code requirements to your project. It covers the most common types of projects. The actual Building Code language may contain additional requirements that may apply if your project is beyond the scope of this Guidebook.

Your accessory structure will be reviewed and inspected in accordance with the requirements of the State of Michigan Residential Code (MRC) and the City of Rochester Hills Zoning Ordinance No. 138-41.

1. Foundation
    a. Footings for accessory structures shall be at least 12 inches wide and 12 inches below grade when the structure is built of light-frame construction, less than 600 square feet and has an eave height less than 10 feet. Footings for other than light-framed construction or structures greater than 600 square feet shall be a minimum 42 inches deep.
    b. Alternate foundation systems may be used when approved by the Building Department.
    c. Footings shall rest on undisturbed soil.

2. Concrete Floor - Refer to the "Sample Wall Section" in the Appendix
    a. All vegetation, topsoil and foreign material shall be removed from the proposed floor area.
    a. Fill material shall be free of vegetation and foreign materials.
    b. Fill shall be compacted and shall not exceed 24 inches in depth for sand or gravel and 8 inches for earth.
    c. Concrete slabs shall be at least 3 ½ inches thick with a compressive strength at 28 days of not less than 3,500 pounds per square inch.
    d. Garage floors shall slope toward main vehicle entry door.

3. Framing Wall
    a. Sill plates resting on concrete **or** masonry shall be pressure-treated.
    b. Wood siding, sheathing and wall framing that is less than 6 inches above grade or less than 2" above concrete steps, porch slabs, or patio slabs, are required to be pressure-treated material.
    c. The sill plate shall be anchored to the foundation with ½-inch diameter anchor bolts or equivalent which are 6 feet on center and not more than 12 inches from each end of the plate. Bolts shall extend at least 7 inches into concrete or masonry.
    d. Walls are typically framed using 2 x 4 studs at 16 inches on center with a double top plate.
    e. Cutting or notching of 2 x 4 studs shall not exceed 7/8-inch.
    f. Holes drilled and boring in 2 x 4 studs shall not exceed 1-7/16 inch and shall be at least 5/8-inch from the edge of the stud.
    g. Proper sized headers shall be installed over all window and door openings. A pre-engineered header (Example: Glue-lam, Microlam, or LVL) is typically required for 16-foot wide door openings that are supporting roof construction. Additional engineering may be required.
    h. Headers above man-doors and windows up to 3-foot in width, within bearing walls shall be

i. 2-2 x 4's. Headers above man-doors and windows from 3 ft to 6 ft wide in bearing walls shall be 2-2 x 8's.
j. Walls shall be braced at the ends with 1-inch by 4-inch let-in bracing, approved metal strap devices or structural sheathing.
k. Continuous Sheathing (CS-G) Braced Wall Panel method for 16'-0" wide overhead door opening shall be provided.
l. Portal frame opening framing shall be installed for each overhead door opening. See the Michigan Residential Code for details.
m. Exterior wall covering/siding shall be installed to provide a barrier against weather and insects (building wrap).

4. Garage Doors
   a. Garage doors shall be solid or honeycomb core steel or solid core wood not less than 1 3/8" thick or 20-minute fire rated door or equivalent between the house and garage.
   b. Required exit doors shall be side hinged, a minimum of 32" clear width opening between the face of door and the door stop (when the door is in a 90 degree open position) and 78" in height.

5. Safety Glazing
   a. Safety Glazing is required in all fixed or operable panels within a 24" arc of a door, in fixed panels over 9 sq. ft. and nearer than 18" to the floor or walking surface and with a top edge greater than 36" above the floor and within 36" horizontal of walking surface.
   b. All Safety Glazing shall be clearly labeled.

6. Roof
   a. Roofs shall be designed to support a minimum 25 pounds per square foot live load.
   b. Roof trusses (if used) shall be installed and spaced as required by the truss manufacturer. Manufacturer's truss drawings shall be on site at the frame inspection.
   c. Rafters (if used) shall have the proper size and spacing – (see examples in table below.)

Maximum Allowable Span for Rafters (Spruce-Pine-Fir #2 or Better) Ground Snow Load = 30psf, Ceiling Not Attached to Rafters	
Rafter Size & Spacing	Maximum Span
2 x 6 - 12 inches on center	13'9"
2 x 6 - 16 inches on center	11'11"
2 x 8 - 12 inches on center	17'5"
2 x 8 - 16 inches on center	15'1"
2 x 10 - 12 inches on center	21'4"
2 x 10 - 16 inches on center	18'5"

   d. Ceiling joists (if used) shall have the proper size and spacing to provide a 20 pound per square foot live load when the roof slope is steeper than 3 in 12. (see examples in table below)

Maximum Allowable Span for Ceiling Joists (Spruce-Pine-Fir #2 or Better) Uninhabitable Attics with Limited Storage, Live Load = 20psf	
Ceiling Joist Size & Spacing	Maximum Span
2 x 6 - 12 inches on center	14'9"

2 x 6 - 16 inches on center	12’10”
2 x 8 - 12 inches on center	18’9”
2 x 8 - 16 inches on center	16’3”
2 x 10 - 12 inches on center	22’11”
2 x 10 - 16 inches on center	19’10”

e. Rafter ties are required 4 feet on center when ceiling joists are not installed or ceiling joists are not parallel with rafters.
f. Collar ties are required at 4 feet on center of rafters at the ridge.
g. Cut ends of rafters shall be fully supported at the ridge board and at all walls.
h. The ends of rafters and ceiling joists (if used) shall have at least 1-1/2 inches bearing on the top plate of the wall.
i. Notches at the end of rafters and ceiling joists shall not exceed ¼ the depth. Notches in the top and bottom shall not exceed 1/6 the depth and shall not be located in the middle 1/3 of the span.
j. The tension side of the rafter shall not be notched except for at the ends.
k. Cutting, notching or alterations to manufactured roof trusses are not allowed.
l. 7/16 inch OSB or ½ inch plywood roof sheathing, rated to span the distances between the rafter or roof trusses are typically used for roof sheathing.
m. Asphalt shingles are typically installed when the roof slope is 4 units vertical in 12 units horizontal or greater. One layer of Type 15 felt (tar paper) is required over the entire roof with one layer of No. 40 coated roofing (ice and water shield) from the eaves to a line 24 inches inside the exterior wall.
n. Trusses and rafters shall be connected to the wall plates with approved connectors (typically referred to as “hurricane” clips.)

Appendix

PHONE DIRECTORY
CITY OF ROCHESTER HILLS

Common City of Rochester Hills telephone numbers to refer to as needed during the review, permitting, and building processes.

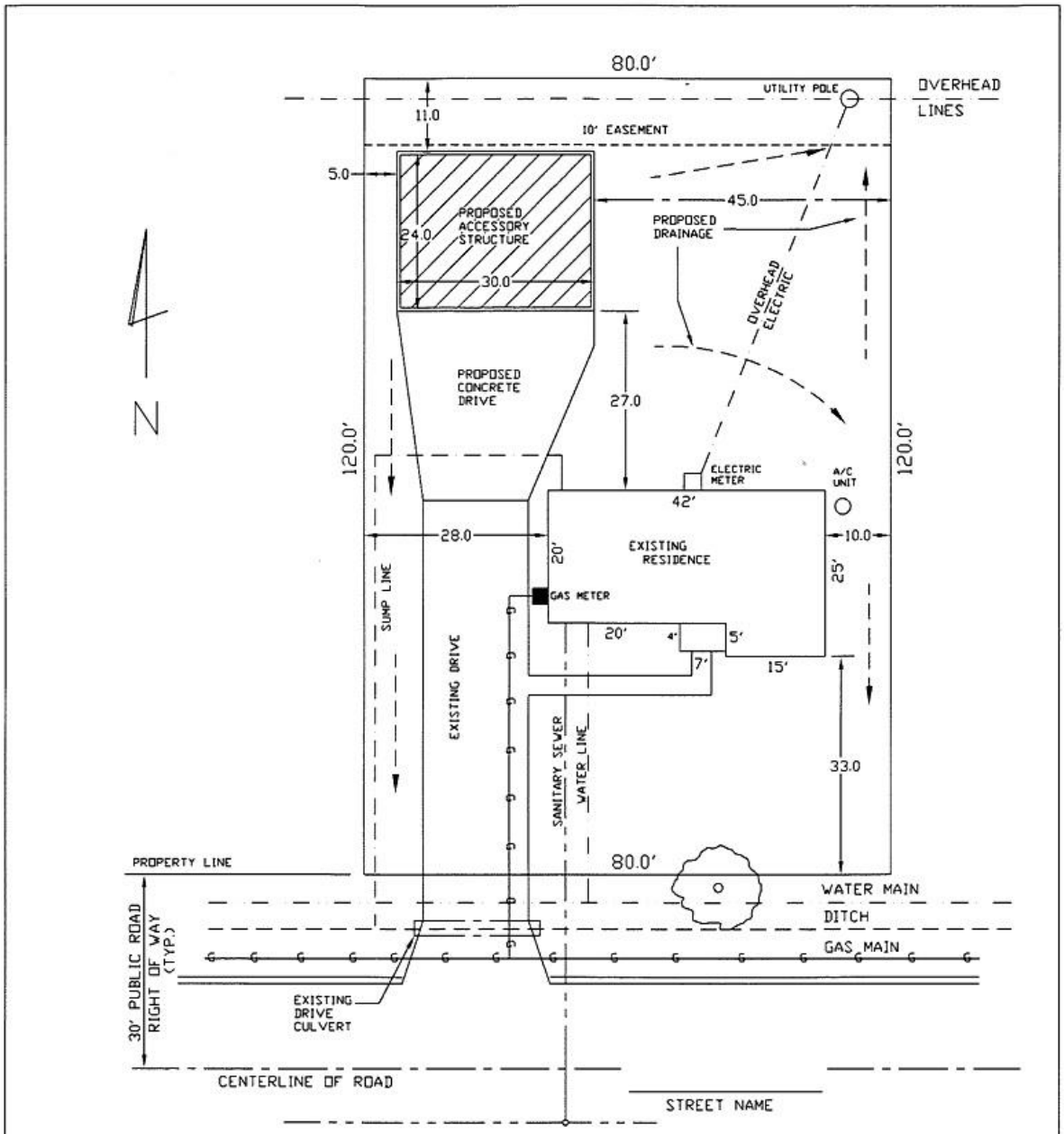
Office Hours: Monday – Friday (except holidays)	8:00 a.m. – 5:00 p.m.
Building Department Inspector Hours	8:00 a.m. – 9:00 a.m. and 3:30 pm – 4:30 pm.

CITY DEPARTMENT:	PHONE	FAX
Accounting	(248) 656-4632	(248) 608-8178
Assessing	(248) 656-4605	(248) 841-2585
Building	(248) 656-4615	(248) 656-4623
Inspection Request Line	(248) 656-4619	
City Clerk	(248) 656-4630	(248) 656-4744
Engineering	(248) 656-4640	(248) 656-4758
Facilities	(248) 656-4658	(248) 656-4670
Fire Prevention	(248) 656-4717	(248) 656-4726
Mayor	(248) 656-4664	(248) 656-4603
Parks, Forestry Division	(248) 656-4673	(248) 841-2576
Planning	(248) 656-4660	(248) 841-2576
Public Service	(248) 656-4685	(248) 656-4758
Water/Sewer Billing	(248) 656-4688	(248) 608-8178

City Website: www.rochesterhills.org

OUTSIDE AGENCIES, PERMITTING AGENCIES:

AT&T (telephone)	1-800-244-4444
Cable:	
Comcast Cablevision	1-800-266-2278
Wide Open West	1-800-848-2278
Consumers Energy	1-800-477-5050
DTE Energy	1-800-477-4747
Michigan Department of Environmental Quality	1-800-662-9278
Michigan Department of Transportation	(248) 483-5100
Michigan Department of Natural Resources	(734) 953-0241
MISS DIG	1-800-482-7171
Oakland County Customer Service	(248) 858-0720
Oakland County Water Resource Commissioner	(248) 858-1105
Oakland County Health Department	(248) 858-1280
Road Commission for Oakland County	(248) 858-4804



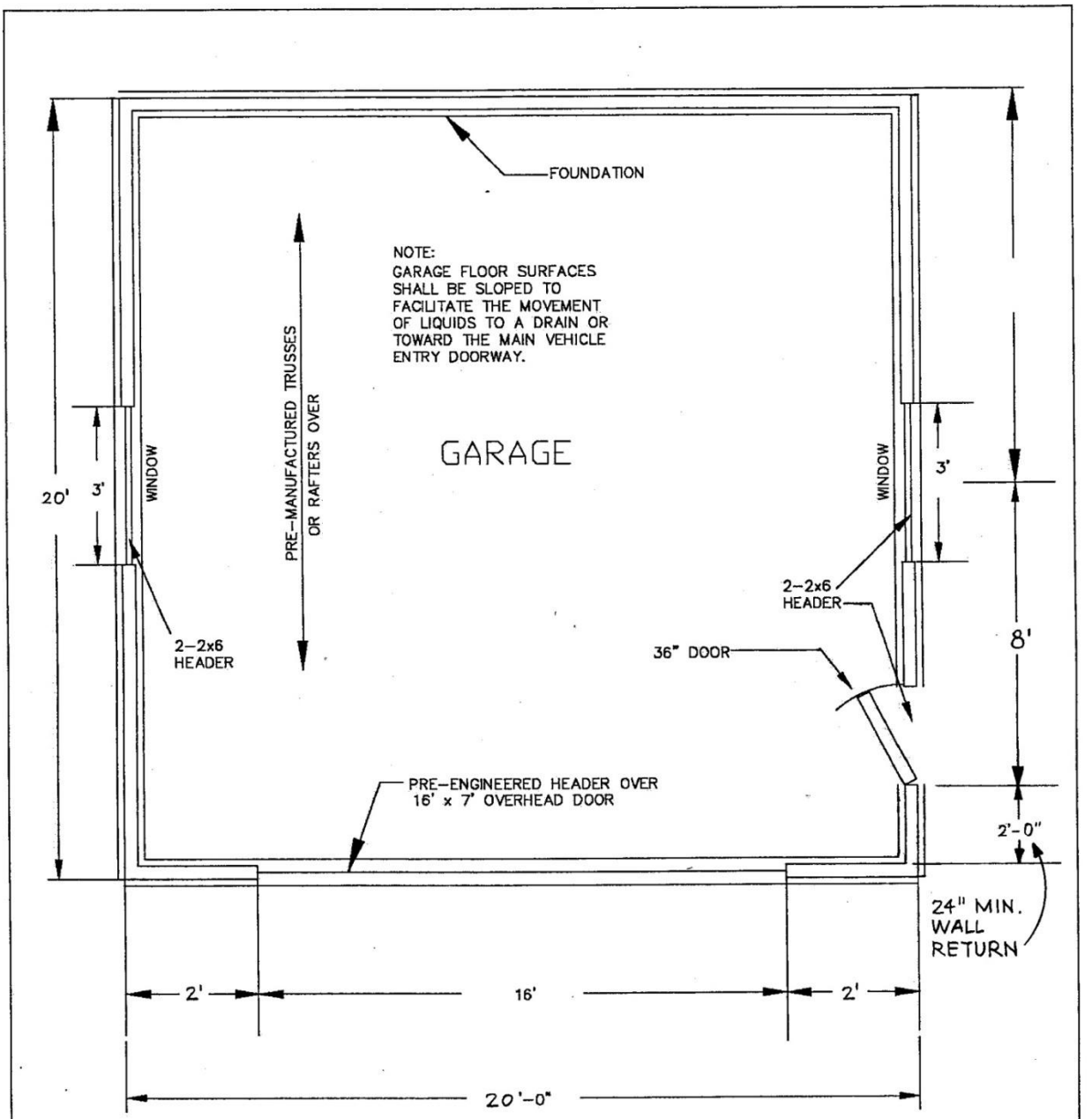
SAMPLE PLOT PLAN

SCALE: 1"=20'

SHOW THE UTILITY LOCATIONS BOTH ABOVE AND BELOW GROUND.
SHOW THE LOCATION OF THE ELECTRIC METER, GAS METER AND A/C UNIT.
SHOW THE LOCATION OF THE WATER, SANITARY, AND SUMP LINES

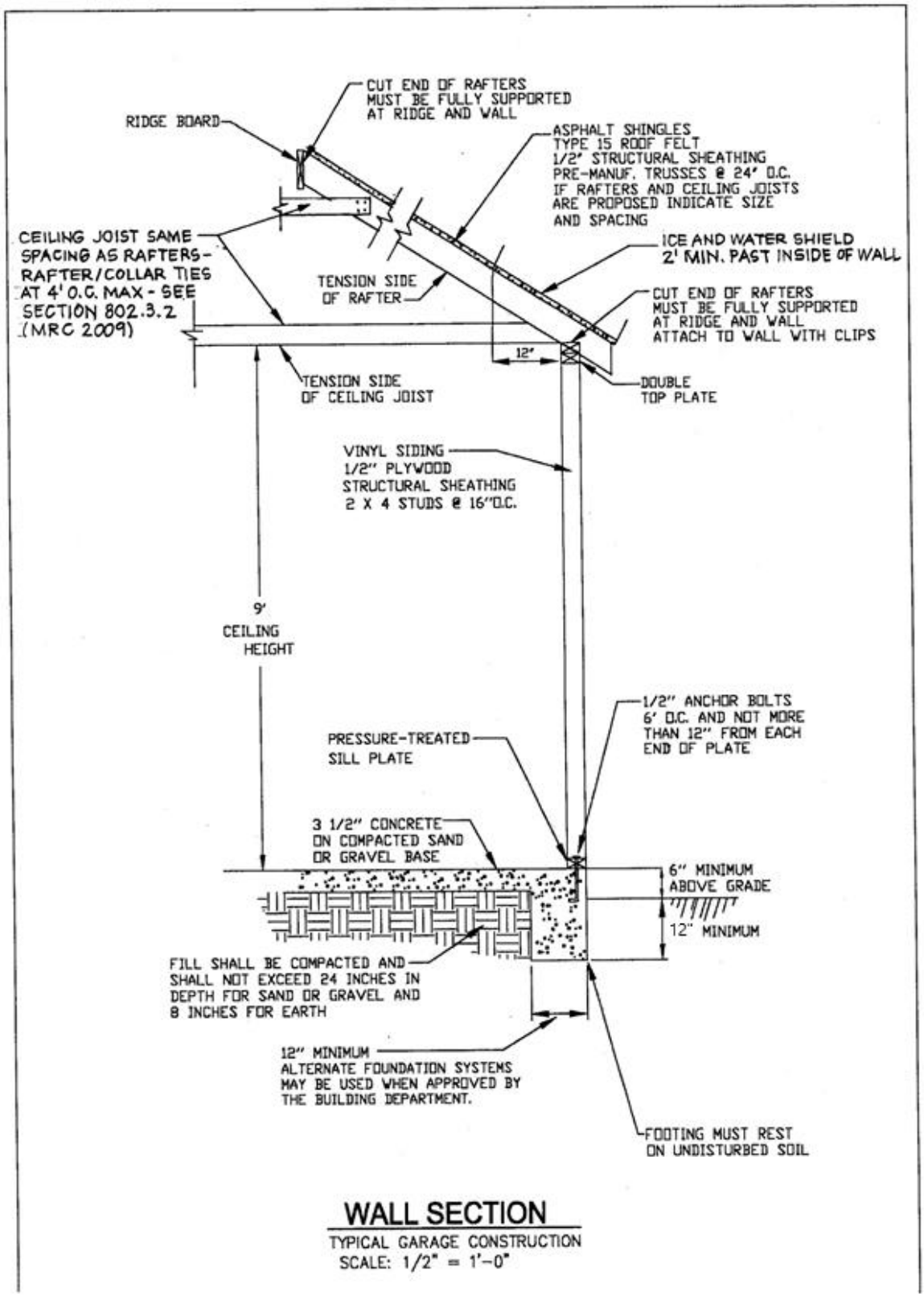
IF A NEW DRIVE OR ALTERATIONS TO AN EXISTING DRIVE ARE PROPOSED, ALL CONSTRUCTION MUST CONFORM TO CURRENT STANDARDS.

BUILDER: XYZ CONST.	
ADDRESS XXX	PHONE XXX
OWNER: RESIDENT	
ADDRESS XXX	PHONE XXX



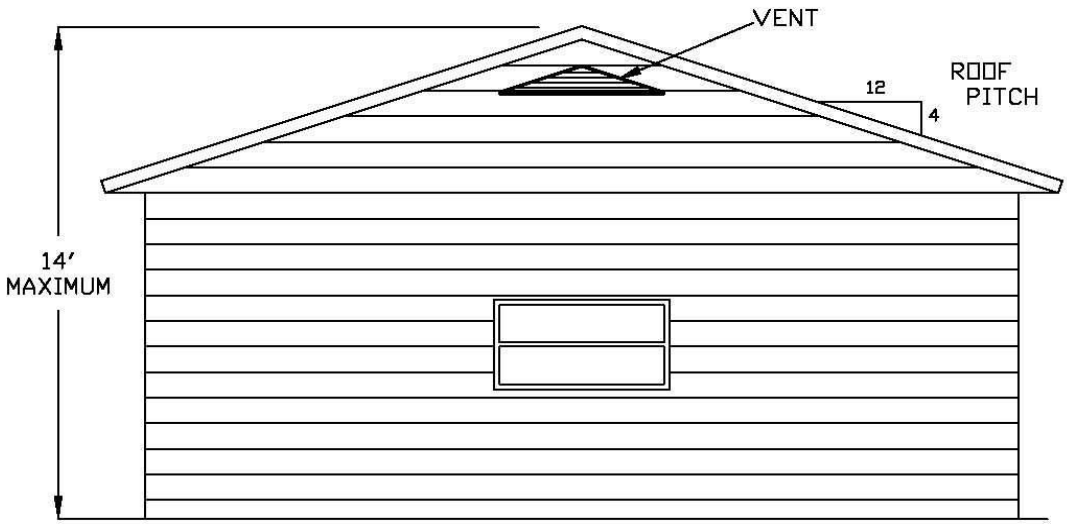
SAMPLE FLOOR PLAN

SCALE:

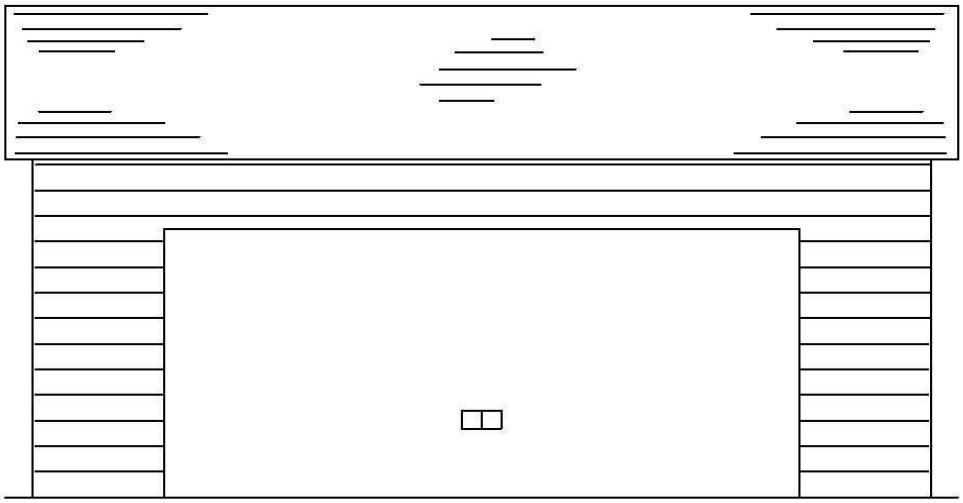


WALL SECTION

TYPICAL GARAGE CONSTRUCTION
SCALE: 1/2" = 1'-0"



SIDE ELEVATION

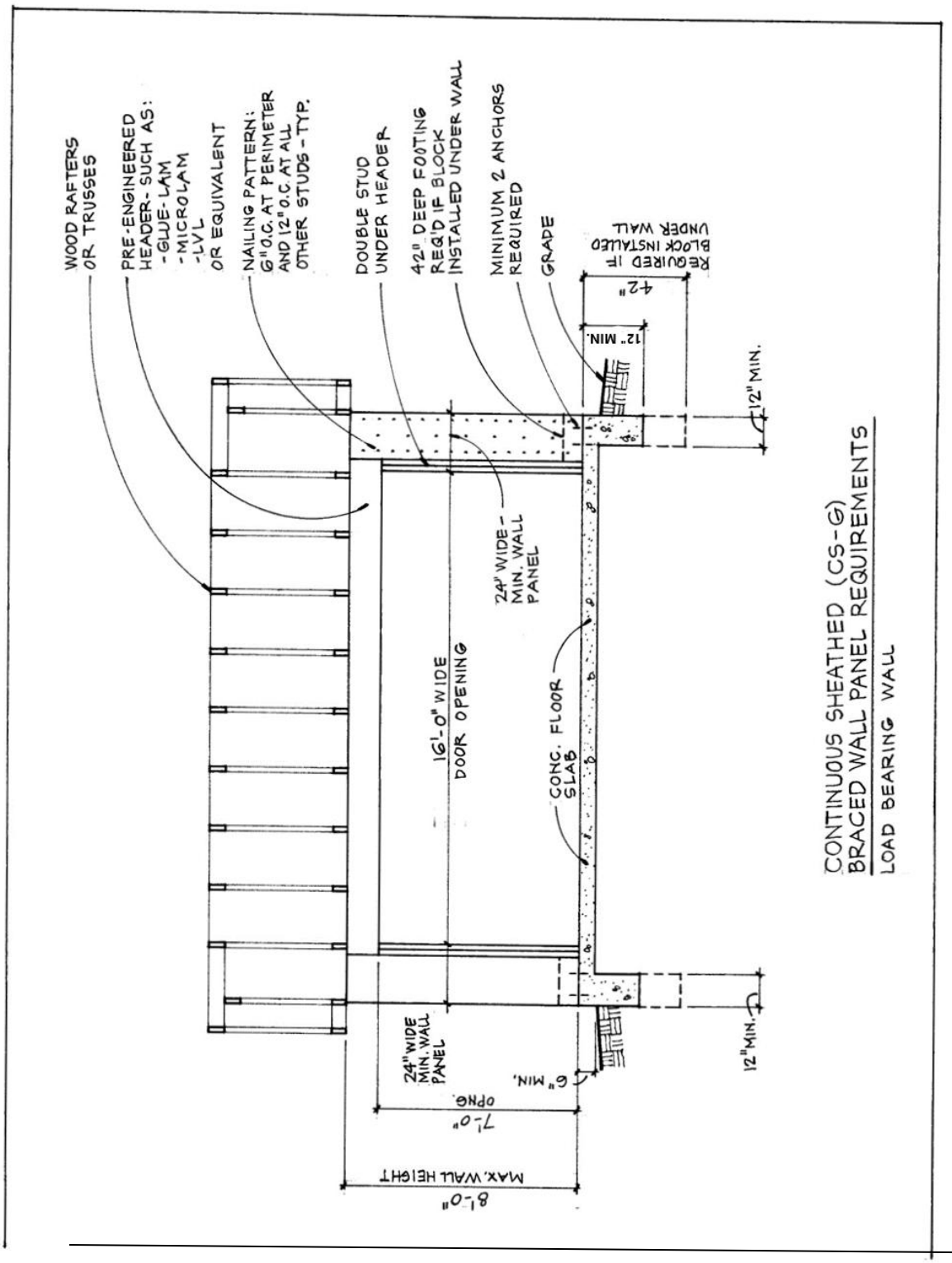


FRONT ELEVATION

SAMPLE ELEVATIONS

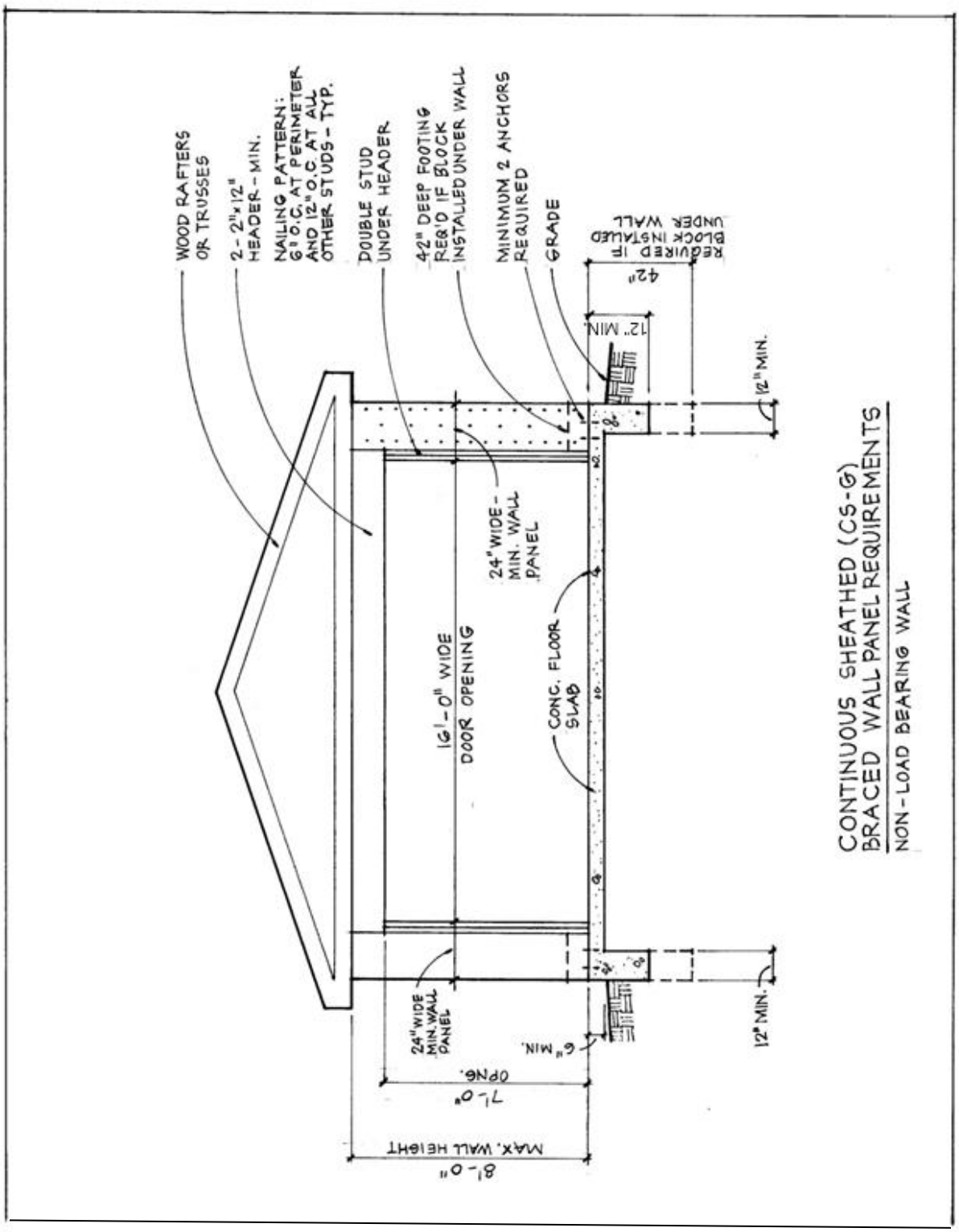
SCALE: 1/4" = 1'

18.



CONTINUOUS SHEATHED (CS-G)
BRACED WALL PANEL REQUIREMENTS

LOAD BEARING WALL



CONTINUOUS SHEATHED (CS-G)
BRACED WALL PANEL REQUIREMENTS

NON-LOAD BEARING WALL