



NEW HOUSE CONSTRUCTION

*A guide to building
a new house
in the City of Rochester Hills*



INTRODUCTION

New House

The City of Rochester Hills has prepared this manual to assist you in the process of building a new house within our City.

This manual contains important information that will help you understand the building permit and construction process from application to completion. We have included details for areas that have generated confusion or delays in the past.

When your permit application is submitted it will go through a three-step review process.

1. A **Grading Review** covers the work related to the property, such as drainage, sidewalks, driveways, as well as utility locations and connections. We also check for wetlands, watercourses, flood plains and other agency permits that may be required.
2. A **Zoning Ordinance Review** is performed to verify that your new house will meet the lot coverage, setback, height and size requirements for your zoning district. As a part of this review it will be determined if a tree removal permit or right-of-way tree permit is required.
3. A **Building Plan Review** covers all the construction code requirements that apply to your construction drawings.

Submitting a complete set of plot plans and construction drawings containing all the necessary information will expedite the review process. Details of these requirements are included in this manual. The permit applicant will be notified if the information provided does not meet zoning ordinance, grade or building code requirements.

This guide contains many new changes in procedures and requirements, so we urge you to read through it completely. It may save you valuable time in building your new house.

We hope this manual is helpful and we encourage you to provide us with any suggestions you may have as we continue to work toward improving our development process. A customer survey form is included at the back of this manual.

Note: This manual is only intended to be a guide and is not all inclusive of the Building Code. For complete details of all requirements, consult the Michigan Residential Code. The guidelines in this booklet are subject to change without notice.

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- Contractor Registration
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> *All forms are
available online*

HOW TO USE THIS MANUAL

This manual is set up to allow you to quickly reference specific areas of interest. The titles of the information provided in each section are listed below along with an explanation of what is contained on that sheet with a page number for quick reference.

BUILDING CONSTRUCTION SECTION

Codes Currently in Effect Page 2

- A list of the current codes that will apply to your project.

Application to Completion Pages 3-8

- This is intended to be your general guide through the complete process. It provides information on the application requirements, permits, inspections, Certificate of Occupancy and bond refund.

Building Permit Fees Page 9

- A list of all the fees related to building a new house.

Plan Review Checklist Pages 10-11

- A guide to help you understand the information that must be contained in the construction drawings. This information should be given to the person preparing your plans. Please take the time to make sure your drawings are complete. Construction drawings that contain all the necessary information and details will expedite the review process.

Inspection Request Page 12

- Contains details required for requesting an inspection, making sure your job is ready for inspection, the time inspections are done and what the inspection tags mean.

Building Inspections Pages 13-19

- Explanation of the standard building inspections required and some of the common items the inspector checks for during the inspection. This should be used as a guide by builders, superintendents and homeowners to review the project before calling for an inspection.

Sample Roof Truss Schematic Page 20

- Roof truss layout from the truss manufacturer

ZONING AND GRADING SECTION

Ordinances and Publications Page 21

- A list of the ordinances and publications used to compile the plot plan requirements.

Tree Requirements Page 23

- An explanation of when a Tree Removal Permit is required.

Setback Requirements Page 24
- A sheet to help you determine where your house can be located on your property.

Subdivision Zoning Districts Pages 25-26
- A list of all the city’s subdivisions and their zoning classification.

Building Height Page 27
- A detail sheet showing how the height of a house is calculated.

Plot Plan Requirements Pages 28-31
- A list of the items required to be shown on the plot plan. This list should be given to your plot plan preparer. Please take time to make sure your drawings are complete. Plot plans that contain all the necessary information and details will expedite the review process.

Sample Plot Plan Page 32
- A sample plot plan is enclosed.

DEPARTMENT OF PUBLIC SERVICE SECTION

Department of Public Service Fees Page 33
- A list of the water, sewer and sump line fees that may apply to your project.

Contractor Registration Requirements Page 34
- A list of requirements for registering and obtaining permits for the installation of municipal water and sanitary sewer service lines.

BEFORE YOU BUILD

These issues should be checked at the beginning of your project. They can affect the type, location, cost and length of time it takes to build your house.

Permit Process - Allow time for the permit process. Plan review time varies depending on the Building Department's work load.

County or State Roads - If your house will be located on a County or State road, a drive approach permit is required from the Road Commission for Oakland County or the Michigan Department of Transportation.

Flood Plains - Flood plains are usually associated with lakes, streams, rivers and drainage courses. They are areas designated to flood during times of rain. Building in these areas is strictly regulated. If your house is built in a floodplain, it may require a structural engineer's design and a floodplain use permit prior to building permit approval. Call Engineering Services at (248) 656-4640 for more information.

Historic District - If your house will be built in a Historic District, it must be approved by the Historic Districts Commission. The Planning Department can help you understand the process and explain what you need to provide. Call (248) 656-4660 for more information.

Setbacks - The Zoning Ordinance contains minimum dimensions required between your house and the property lines. See "Setback Requirements" page 24.

Sump Line - A storm sewer or other approved drainage system must be provided for the connection of your sump line. Contact the Building Department at (248) 656-4615 if you have any questions.

Trees - A tree removal permit is required for parcels regulated by the Tree Conservation Ordinance and for trees located in the street right-of-way. See "Tree Requirements" page 23.

Water and Sewer - Check to see if city water and sanitary sewer is available by contacting the Department of Public Service at (248) 656-4685. When water and/or sanitary sewer is not available, a well and/or septic complying with Oakland County standards must be installed. Additional permits and inspections are required from the Oakland County Health Department.

Wetlands - These areas have been determined to be indispensable and are to be protected as a natural resource, which provides numerous beneficial functions such as wildlife habitat, water quality, flood control, pollution reduction, erosion control, open space, recreation areas and aesthetics. If your house will be close to or in regulated wetlands, additional paperwork, including permits, may be required from the City or State of Michigan prior to building permit approval. Contact the Building Department at (248) 656-4615 for more information.

These are some of the common items that may cause delays in the permit process. If your project is beyond the scope of this manual, additional requirements may be necessary. Please call the Building Department at (248) 656-4615 if you have any questions.

PHONE DIRECTORY

CITY OF ROCHESTER HILLS

Office Hours: Monday - Friday (except holidays) 8:00 a.m. - 5:00 p.m.

<u>DEPARTMENT</u>	<u>PHONE</u>	<u>FAX</u>
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) 608-8178
Engineering	(248) 656-4640	(248) 656-4744
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

Ameritech (telephone).....	1-800-244-4444
Cable:	
Comcast Cablevision (formerly AT&T Cable).....	(248) 334-1144
Wide Open West (formerly Americast Cable).....	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 Drain Commission	(248) 858-1105
Oakland County Health Department	(248) 858-1280
Pontiac, City of (Drain Layer License Information)	(248) 857-5670
Road Commission for Oakland County	(248) 858-4804

IMPORTANT INFORMATION

The building section of this manual contains important information to help you understand the process of building a new house in the City of Rochester Hills.

The information is presented in a start-to-finish sequence to guide you as you progress through your project.

The following information is provided:

Codes Currently in Effect Page 2

- A list of the current codes that will apply to your project.

Application to Completion Pages 3-8

- This is intended to be your general guide through the complete process. It provides information on the application requirements, permits, inspections, Certificate of Occupancy and bond refund.

Building Permit Fees Page 9

- A list of all the fees related to building a new house.

Plan Review Checklist Pages 10-11

- A guide to help you understand the information that must be contained in the construction drawings. This information should be given to the person preparing your plans. Please take the time to make sure your drawings are complete. Construction drawings that contain all the necessary information and details will expedite the review process.

Inspection Request Page 12

- Contains details required for requesting an inspection, making sure your job is ready for inspection, the time inspections are done and what the inspection tags mean.

Building Inspections Pages 13-19

- Explanation of the standard building inspections required and some of the common items the inspector checks for during the inspection. This should be used as a guide for builders, superintendents and homeowners to review the project before calling for an inspection.

Sample Roof Truss Schematic Page 20

- Roof truss layout from the truss manufacturer.

It is very important to include the property address on all documents submitted to the Building Department. The use of lot numbers without addresses may cause a delay in responding to your request.

Please take the time to review this information. It may save you valuable time in building your new house.

CODES CURRENTLY IN EFFECT

City of Rochester Hills

August 1, 2008

Building:

Commercial: MBC 2006 (Michigan Building Code 2006)
Effective August 1, 2008

Residential: MRC 2006 (Michigan Residential Code 2006)
Effective August 1, 2008

Plumbing:

Commercial: MPC 2006 (Michigan Plumbing Code 2006)
Effective January 24, 2008

Residential: MRC 2006 (Michigan Residential Code 2006)
Effective August 1, 2008

Mechanical:

Commercial: MMC 2006 (Michigan Mechanical Code 2006)
Effective December 3, 2007

Residential: MRC 2006 (Michigan Residential Code 2006)
Effective August 1, 2008

Electrical:

Commercial: NEC 2005 (State of Michigan Electrical Code)
2005 National Electrical Code with Part 8 Amendments
Effective November 23, 2007

Residential: MRC 2006 (Michigan Residential Code 2006)
Effective August 1, 2008

Rehab:

REHAB 2006 (Michigan Rehabilitation Code 2006)
Effective August 1, 2008

Fire Suppression:

Commercial: NFPA 13 (2002)

Residential: NFPA 13D (2002)

Multiple Family: NFPA 13R (2002)

Fire Alarm

Commercial: NFPA 72 (2002)

Kitchen Hoods: NFPA 17A (2002)

Paint Booths: NFPA 17 (2002)

Residential: NFPA 72 (2002)

The Building, Plumbing, Mechanical, Electrical, and Rehabilitation Codes can be purchased by going to the:

Michigan Department of Labor & Economic Growth

Bureau of Construction Codes & Fire Safety

2501 Woodlane Circle

Okemos, MI

Please call (517) 241-9313 to inquire if the Code Books are in stock before visiting the Bureau.

Or visit their website at: www.michigan.gov/bcc - Codes and Standards

The codes noted above are adopted by the City of Rochester Hills Codified Ordinance Section 18-41 and 18-136.

APPLICATION TO COMPLETION

New House

A General Guide Through The Complete Process

1. Information required for permit application

A. **Building Permit Application ***

- Applicant signature required

B. **Application Fee \$100.00**

- See "Building Permit Fees" - page 9

C. **Plot Plan - Three Sets**

- See "Plot Plan Requirements" - pages 28-31

D. **Construction Drawings - Two Sets**

- See "Plan Review Checklist" - pages 10-11

E. **Roof and Floor Truss Layout - Two Sets**

- See sample drawing - page 20

F. **Michigan Uniform Energy Code Compliance Form * - Two Copies**

- Energy Code information is available from the Building Department

G. **Address Request Form ***

H. **Residential Request For Water, Sanitary Sewer and Sump Line Charges ***

I. **Owners** may submit a permit application for work on property that is, or will be, on completion, their place of residence.

Be advised: Any contractor, hired by the owner for a contract price of \$600.00 or more, must be licensed in accordance with the State of Michigan Residential Builders Laws.

* *Form is available online at www.rochesterhills.org*

Note: All information noted above must be submitted with the building permit application. All forms to be filled out completely.

2. Registration of Builders License

- Builders must be currently registered with the City of Rochester Hills to submit a permit application.

- All registrations expire on May 31st.

- Builders not currently registered can register at the time of application by providing the following:

- The original or a copy of your builders license

- Registration fee of \$45.00 for one year or \$65.00 for two years

- Contractor Registration form

- The form must have an original signature by license holder

- The form must be notarized (if not presented by license holder)

- A Contractor Registration form is available online at www.rochesterhills.org

3. Plans Reviewed and Approved

- Building and plot plans are reviewed for compliance to City codes and ordinances. See pages 2 and 22.

- Plans are reviewed in the order they are received based on the application date. Plan review time varies depending on the Building Department's work load.

- Plans that contain all the necessary information and details will expedite the review process.
- The permit applicant will be notified if the information provided does not meet zoning ordinance, grade or building code requirements or if any additional information is necessary.

4. Permit Ready

- The permit applicant will be called when the building permit is ready to be picked up.
- A soil erosion control permit from the Oakland County Drain Commission is required for all new house permits. A copy of the permit must be submitted to the city prior to issuing the building permit.
- When you are building in a subdivision with sidewalks, a copy of your general liability insurance must be submitted and accepted before the building permit can be issued. Contact the Building Department at (248) 656-4615 for insurance and certificate requirements.
- Building permit fees are due at the time of issuance.
- Permit fees can be paid by cash, credit card, debit card or check.
- The building permit must be issued within 6 months of the application date or the application will be canceled.
- Permits that have no activity for more than 6 months will be canceled.

5. Water, Sanitary Sewer and Sump Line Fees

- Common practice is to pay the water, sanitary sewer and sump line fees to the Department of Public Service when you pick up your building permit. These fees must be paid prior to water and sanitary sewer open trench inspection permits being issued. (page 33)

6. Plumbing, Mechanical and Electrical Permits are required and can be obtained after the building permit has been issued.

- All items to be installed must be listed on the appropriate permits.
- Items not listed must be added to the appropriate permits prior to the final inspection.

7. Water and Sanitary Sewer Open Trench Permit

- Only contractors registered with the Department of Public Service may obtain water and sanitary sewer open-trench inspection permits (\$25.00 each). A list of currently registered contractors is available by contacting the Department of Public Service at (248) 656-4685. Contractors wishing to register must meet the “Contractor Registration Requirements” (page 34). A homeowner’s permit is also available.

When all the required permits are obtained, construction may begin. Revisions to the building or grade after issuance of the building permit will require re-submittal and approval.

The following items must be installed and maintained throughout the construction process:

- Street address and lot number posted & clearly visible from the street
- Street must be kept clean
- Temporary soil erosion control
- All construction materials and debris must be contained on your property
- Tree protection
- **Work hours sign** shall be posted in a conspicuous location on the building site printed on contrasting background, with letters at least two inches in height, so as to be readily visible

from fifty feet. The notice shall state:

NOTICE

WORK PERMITTED ONLY DURING THE HOURS OF 7 A.M. TO 8 P.M., MONDAY THROUGH SATURDAY. SUNDAY AND HOLIDAY WORK WITHOUT SPECIAL WRITTEN PERMISSION FROM THE MAYOR IS PROHIBITED BY CITY ORDINANCE.

8. Water and Sanitary Sewer Open Trench Inspection

- To request a water and sanitary sewer open trench inspection call the Department of Public Service at (248) 656-4685 before 2:00 P.M. and your inspection will be scheduled for the next business day.

9. Water Tap

- When your water and sewer open trench inspections have been approved, your house will automatically be scheduled for a water tap. The wait for a water tap varies, based on the City's work load, weather conditions, etc. The work area required for the water tap must be clear of construction materials, debris, and equipment.

10. Open Rail Inspection

- Before basement footings are poured
- See "Inspection Request" - page 12
- Note: For details of all inspections see "Building Inspections" - pages 13-19

11. Backfill Inspection

- Before backfill, after drain tile, stone and water/damp-proofing have been completed.

Note: A preliminary as-built plot plan must be submitted and approved prior to backfill and the start of any framing.

12. Footing Inspection

- Usually for garage and porch trench footings
- Required before pouring concrete

13. Rough Plumbing Inspection

- After bathtubs, showers, and all concealed piping in walls, floors and attics are installed and fire-stopped.
- The rough inspection includes all rough and underground plumbing.
- A separate underground inspection can be requested prior to the rough inspection for an additional fee of \$30.00 per inspection. This fee must be paid when the plumbing permit is issued or prior to final plumbing inspection.

14. Rough Mechanical Inspection

- After all concealed gas piping, duct work, return air, chimneys and electrical wiring is installed and fire-stopped.

15. Rough Electrical Inspection

- After all recessed fixtures, wires and boxes are installed with grounds and neutrals tied together.

16. Rough Fireplace Inspection

- Masonry fireplace
 - Damper inspection required
 - After damper is installed and smoke chamber is in place with first flue set.
 - Inspection required for concealed gas piping prior to covering.
- Pre-fab fireplace
 - Requires a mechanical permit
 - After fireplace, chimney and hearth extension protection are installed as required by the manufacturer.
 - Framing and fire-stopping at the fireplace and chimney chase must be completed.
 - Manufacturer's installation instructions to be on site at inspection.

17. Rough Building Inspection

- After rough plumbing, mechanical, electrical and pre-fab fireplace inspections are **approved**.
- Prior to installation of insulation
- Approved plans and truss drawings must be on site at inspection

18. No Insulation Inspection is Required

- The house must be insulated in accordance with the Michigan Uniform Energy Code Part 10.
- A "Statement of Energy Code Compliance" must be completed and on site at the final building inspection. (Form is included in the back of this manual).

19. Basement Stone Inspection

- After underground plumbing is approved
- Stone base and vapor barrier installed

20. Garage Sand Inspection

- After all forms are set, the base is compacted and all required reinforcement is installed.

21. Sump Line Inspection

- To request a sump line inspection, call the Department of Public Service at (248) 656-4685 before 2:00 P.M. and your inspection will be scheduled for the next business day.
- Must be approved before requesting water meter installation
- After sump line is installed and connected to storm lead

22. Sidewalk and Drive Approach Inspection

- Call the Building Department inspection line. See "Inspection Request" - page 12
- After forms are set and the base is compacted prior to concrete pour

23. Water Meter Installation

- Schedule installation by calling the Department of Public Service at (248) 656-4685
- Schedule varies depending on workload. Please allow time in your scheduling.

24. Final Plumbing Inspection

- After water meter and all fixtures are installed and operational

- All items installed must be listed on the permit. If additional items are installed they must be added to the permit before final approval.
- 25. Final Mechanical Inspection**
- After gas piping, furnace, duct work, and return air is installed and operational.
 - Furnace manufacturer's installation instructions to be on site
 - All items installed must be listed on the permit. If additional items are installed they must be added to the permit before final approval.
- 26. Final Electrical Inspection**
- After all electrical equipment, switches, plugs, covers and fixtures are installed and operational.
 - All items installed must be listed on the permit. If additional items are installed they must be added to the permit before final approval.
- 27. Final Fireplace Inspection**
- Masonry fireplace
 - Done at final building inspection
 - After fireplace and hearth are completed
 - Pre-fab fireplace
 - After fireplace surround and hearth extension is installed as required by manufacturer.
 - Manufacturer's installation instructions to be on site
- 30. Final Building and Final Masonry Inspection**
- After final plumbing, mechanical, electrical and pre-fab fireplace inspections have been approved.
 - A "Statement of Energy Code Compliance" must be completed and on site at the final building inspection.
 - Includes brick and weep holes
- 31. Final Grade Inspection**
- After final grading and all exterior work is completed, an as-built plot plan prepared by a professional land surveyor or engineer must be submitted for review.
 - Can be done anytime after final as-built plot plan has been submitted and accepted.
- 32. Final Tree Inspection**
- Contact the Forestry Division at (248) 656-4673
- 33. Certificate of Occupancy**
- Required before house can be used or occupied
 - Requested by calling the Building Department at (248) 656-4615
 - All inspections must be completed and **approved** before Certificate of Occupancy is requested.
 - Please allow time for processing. The Building Department by state law has 5 business days from the time the request is received to issue the Certificate of Occupancy. The normal processing time is 24 hours.
- 34. Temporary Certificate of Occupancy**
- Required before house can be used or occupied
 - Requested by calling the Building Department at (248) 656-4615

- May be issued for a limited length of time for uncompleted grading issues only, when, in the opinion of the Building Official, weather conditions prevent the work from being completed.
- Fee is \$50.00 for each request or extension
- Each request is evaluated based on the job site and weather conditions to determine if a Temporary Certificate of Occupancy will be issued. The length of time given for the completion of unfinished work will be determined by the building department.
- All outstanding items must be completed and approved by the expiration date on the Temporary Certificate of Occupancy
- A cash grade bond must be submitted for all outstanding grading issues. The bond amount is based on the cost to complete all the remaining items. The inspector will determine the grade bond amount at the grade inspection.
- Proper drainage away from the building is required
- Temporary soil erosion control must be installed. See the Final Grade section of “Building Inspections” on pages 18-19 for details
- Two off-street parking spaces usable in all weather conditions are required

35. Bond Refund

- The final water meter reading must be requested and the water bill paid (Builders Only). Contact Water and Sewer Billing at (248) 656-4688
- All special bills must be paid
 - Street cleaning
 - Tap repair
 - Debris removal
 - Any other fees or bills due
- The building bond and grade bond (if required) will be processed after the items noted above are completed, all inspections are approved and the Certificate of Occupancy has been issued.
- Once all requirements have been met, allow 4-6 weeks for the bond refund
- **The City shall pay no interest on cash bonds submitted to the City. The City shall not return any interest accrued on cash bonds.**

This itemized list is provided as a guide to help you understand the process for building a new house in the City of Rochester Hills. It covers the most common types of projects. If your house is beyond the scope of this manual, it may require additional information, inspections or permits. Please call the Building Department at (248) 656-4615 if you have any questions on how to apply this manual to your specific project.

construction drawings. It should be given to the person preparing your plans.

New house construction drawings submitted for review must contain the following information:

1. Two sets of construction drawings meeting the following requirements:
 - Drawn to scale in a draftsman-like manner. Scale not less than 1/8" = 1'0"
 - Drawings must be clear and readable
 - Drawing sets shall consist of a single sheet size no larger than 24" x 36"

Houses over 3,500 square feet must have complete construction and plumbing plans. Electrical plans are required when the electrical system rating exceeds 400 amps. Mechanical plans are required when the heating system input rating is over 375,000 BTU's. BTU input rating must be indicated on all plans. All plans must have the original signature, seal and date of a State of Michigan licensed Architect or Engineer. Detailed electrical, plumbing and mechanical requirements are available upon request.

2. Two copies of the "Michigan Uniform Energy Code Compliance Form." The form is available online at www.rochesterhills.org.
3. Two sets of pre-engineered roof truss schematics with the following information:
 - Location of all bearing walls and point loads, both interior and exterior
 - Location, direction, span, and spacing of all trusses including girder trusses. See "Sample Roof Truss Schematic".
4. Construction drawings must match the submitted plot plan
5. **Foundation plan** must contain the following information:
 - Footing and column pad size and layout with all dimensions
 - Beam size and column spacing
 - First floor joist direction, size, spacing and span
 - Size of support for all bearing walls and point loads above
 - Framing at stair and fireplace openings
 - Basement floor thickness, vapor barrier and 4-inch stone base
 - Basement wall type and thickness
 - Egress window and well or door to exterior
6. **1st and 2nd floor plan** with the following information:
 - Full dimensions and use of all rooms
 - Ceiling height of all rooms
 - 2nd floor joist direction, size, spacing and span
 - Roof framing direction, size, spacing and span
 - Size and location of all support for bearing walls and concentrated loads
 - Size of all doors and windows
 - Size of all headers

- All sleeping rooms must have at least one operable window or exterior door approved for

- emergency egress
 - Details of the separation required between the attached garage and house
 - Location of all smoke detectors
7. **Roof framing plan** indicating the location, direction, size, spacing and span of all roof and ceiling framing members. Indicate support for all bearing walls and concentrated loads from ends of hip and valley rafters, ceiling joist, rafters, trusses and girder trusses. Also indicate roof pitch for all portions of the roof.
8. **Building or wall section** with the following information: (Depending on the complexity of your project, more sections or details may be required.)
- Footing and basement wall size, type and height
 - Basement wall waterproofing/damp-proofing and drain tile
 - 1st and 2nd floor ceiling height
 - Location of finish grade
 - Basement egress window or door

Wall construction details

- Interior finish
 - Type of exterior sheathing
 - Anchor bolt size and spacing
 - Type and thickness of flooring
 - Roof construction details with thickness and type of sheathing, felt and snow and ice shield. Include type and amount of attic ventilation.
 - Brick veneer
 - Base course flashing
 - Weather-resistant membrane
 - Lintels and flashing
 - Brick wall ties and flashing
 - Weep holes 33 inches on center
 - Provide details for all walls over 10 feet in height and walk-out walls. These walls must be designed to resist wind load and support all other imposed loads.
9. **Crawl space details**
- Ventilation required within 3 feet of each corner
 - 18" x 24" access required if in floor, 16" x 24" if in wall
 - Clearance between ground and floor joists must be at least 18 inches
 - Clearance between ground and wood beams must be at least 12 inches
10. **Stair detail** with all tread riser, guardrail and handrail requirements
11. **Building Elevations**
- Front, sides and rear with location of proposed grades

Please note: This is not an all-inclusive list. Depending on the type and complexity of your project, more details or engineering by a state licensed Architect or Engineer may be required.

INSPECTION REQUEST

New House

24-hour Inspection Request Line (248) 656-4619

The Building Department will only accept inspection requests called in on the inspection line. The inspection line is for Building Department inspection requests only.

The telephone recorder will ask you the following information:

- The street address of the job site
- The lot number
- The permit number
- The type of inspection requested

Inspections called in before 7:00 a.m. that have been verified will be scheduled for that same day between 9:00 a.m. and 4:00 p.m. Inspections may be done earlier or later depending on the inspector's workload. Inspections will be done Monday through Friday. Inspections may be available outside the normal business hours by special arrangement; there may be an additional fee for these inspections.

A request to cancel inspections must be called in to the Building Department at (248) 656-4615 before 9:00 a.m. on the day of the requested inspection.

Make sure your project is ready for the inspection. No inspection will be done and a \$50.00 re-inspection fee may be charged if the following items are not completed or in place:

- Provide safe access to the job site and throughout the area to be inspected
- An adult must be present if valuables are left in the house (e.g. tools, materials)
- Approved plans and truss drawings must be on site
- Job must be ready for inspection. Refer to "Building Inspections" pages 13-19
- Street address and lot number posted and visible from street
- Work hours sign posted. See page 5
- Temporary soil erosion control properly installed and street clean
- All construction materials and debris must be contained on your property
- Tree protection properly installed

Inspection tags will be left on site after each inspection has been completed.

Green - Inspection approved

Red - Inspection not approved. The red tag will contain a list of items that must be addressed before calling for a re-inspection. A \$50.00 re-inspection fee may be charged for items not corrected at the time of the second inspection. Inspections must be approved before proceeding with the next phase of construction.

It is your responsibility as the permit holder to check the job site for the inspection results. Please read the information on all inspection tags, green and red. If you have any questions regarding this information, call (248) 656-4615 between 8:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 4:30 p.m. to speak with the inspector.

BUILDING INSPECTIONS

New House

This list is intended to help you understand the standard inspections and some of the common items the inspector looks for during the inspection. This is not intended to be an all-inclusive list. Additional inspections may be required depending on the type and complexity of the project.

A safe access must be provided to the inspection site and through all areas to be inspected.

Water & Sanitary Sewer Open Trench - Prior to covering pipes

- Requested by calling Department of Public Service at (248) 656-4685
- Proper type pipe and fittings
- Proper depth, location, and installation of pipe
- A list of details and requirements is available from Department of Public Service

Open Rail - After the rails are formed for spread footings

- Footing size
- Footing must match approved plot plan
- Footing must be down to solid undisturbed virgin soil
- Special footings may require additional inspection prior to pouring
- Walkout footing
- Bad ground condition
- Engineered foundation system
- Engineered pile foundation
- Tree protection maintained as required

Backfill - Before backfill, after drain tile, stone and waterproofing or damp-proofing have been completed.

Note: A preliminary as-built plot plan must be submitted and approved prior to backfill and the start of any framing. When no brick is to be installed on the house, the tar-line is to be submitted.

- Properly install lead walls with footing to the edge of the excavation
- 6 inches of stone cover required on drain tile
- Properly installed foundation anchors
- Damp-proofing applied from footing to proposed grade
- Window well or door opening for basement

Footings - Usually for garage and porch trench footings

- Footing must rest on solid undisturbed soil
- Footing must be 42 inches below grade - minimum
- Forming may be required to prevent projection of footing due to ground conditions
- Footing must be installed in accordance with the approved plans
- Footing location and dimensions must match approved construction drawings and plot plan

Underground Plumbing - After all underground plumbing is installed

- Type and size of piping
- Slope of pipe - 1/8 inch per foot minimum
- Stone installed around perforated pipe
- Traps installed at all floor drains

Rough Plumbing - After bath tubs, showers and all concealed piping in walls, floors and attics are installed and fire-stopped with proper material

- Type and size of piping
- All water, sanitary and vent piping installed
- Fire-stopping of all tubs, showers and piping per code requirements
- The inspector may require pressure testing for concealed piping depending on job conditions.

Rough Mechanical - After all concealed gas piping, duct work, return air, chimneys and electrical wiring are installed and fire-stopped with proper material

- All concealed gas piping must be pressure tested. A letter indicating a pressure test has been completed shall be submitted prior to final mechanical inspection.
- Proper clearance required between chimneys and combustible materials
- Bath fan duct installed and terminated to the outside
- Complete framing and fire-stopping at all chimneys, chimney chases, return air and piping
- Cover second floor registers
- Floor registers in bathrooms, laundries and kitchens must be one (1) inch above the finish floor
- floor registers located in bathrooms shall be located 3' from water closet

Rough Electrical - After all wires, boxes and recessed fixtures are installed with grounds and neutrals tied together and wire holes are fire-stopped as required by code

- Wires must extend a minimum of 6 inches from boxes
- All wires must be secured as required by code
- Smoke detectors wired and interconnected with 3-wire cable
- Fire-stop wire holes where required by code with proper material
- Vertical wires are not permitted in return air areas
- Recessed fixtures installed in insulated ceilings must be ICT type
- Switches, plugs and covers shall not be installed prior to rough inspection
- Arch fault circuit interrupters in bedrooms

Rough Fireplace

- Masonry fireplace - Damper inspection required
 - After damper is installed and smoke chamber is in place with first flue set
 - Inspection required for concealed gas piping prior to covering
 - Type of mortar used in fire box, hearth and smoke chamber construction
 - Size and location of exterior air intake
 - 2-inch clearance from combustibles required from floor through roof
 - Size and construction of hearth extension
 - Flue size
 - Location and construction of fire damper and smoke shelf
- Pre-fab fireplace
 - Requires a mechanical permit
 - After fireplace, chimney, and hearth extension protection is installed as required by manufacturer
 - Install per manufacturer's requirements. Installation instructions to be on site
 - Clearance between chimney and combustible material per manufacturer
 - Complete framing and fire-stopping at fireplace and chimney chase

- Concealed gas piping installed
- Proper hearth extension and protection per manufacturer
- Please read and follow all manufacturer's installation instructions

Pre-Masonry

- Proper type weather resistant sheathing required with proper lapping
- Joints protected with proper material
- Proper base course flashing material and installation

Rough Building - After rough plumbing, mechanical, electrical and fireplace inspections have been approved. Approved plans and truss drawings must be on site.

Floors

- Floor joists spans
- Floor truss damaged or modified
- Joist hangers installed
- Properly nailed joist hangers
- Improper notching or boring of floor joist
- Improper bearing
- Support under header studs
- Support under heat, cold air and plumbing cut out
- Support under bearing walls
- Stairway must be 36-inch wide minimum when all walls are finished
- Stair risers to be equal - maximum rise 8 1/4 inches
- Stair treads to be equal - minimum 9-inch width
- Check winder stair tread width
- Proper headroom at stair - 6'8" minimum
- Proper sill plate on foundation
- Properly attached foundation anchors
- 18" x 24" minimum access to crawl space in floor, 16" x 24" for foundation
- Crawl space ventilation
- Check proper layout for engineered floor system
- Check steel beam sizing and column spacing and size of column footing. Proper bearing and connections required.

Walls

- Support under beam/girder
- Support under girder truss
- Double studs at cut plates under joist
- Support garage door header studs
- Treated plates required in contact with concrete
- Joint in top plates unsupported
- Bottom plates not properly nailed
- Shim header bearing point
- Improperly notched studs
- Improperly bored studs
- Improper or lack of wind bracing
- Repair damaged sheathing (holes)
- Cover bond joist
- Fire-stop all holes thru plates (wiring, plumbing, HVAC)

- Fire-stop chimney chase
- Fire-stop drop ceiling completely
- Fire-stop bathtub/shower pan completely
- Fire-stop dead spaces
- Fire-stop furred walls
- Windows missing
- Required safety glass
- Fire-stop walls at 10' intervals both horizontally and vertically
- Bedroom egress window size
- Properly nailed studs at wall intersections
- Properly nailed wall sheathing
- Exterior house wrap

Roof Framing

- Roof trusses altered/damaged
- Trusses not bearing at design bearing points
- Provide properly sized truss hangers at girder truss connection
- Rafters over spanned
- Ceiling joists over spanned
- Support porch roof
- Complete bay roof (must be weatherproof)
- Ridge board undersized
- Provide collar ties
- Brace trusses per manufacturer's requirements noted on truss drawings
- Improper notching/boring of roof/ceiling framing members
- Shingles nailed properly
- Roof sheathing over spanned
- 22" x 30" attic access required
- Connect bath fan vents
- Proper roof venting required
- Properly nailed hangers
- Properly sized hangers and connectors
- Provide truss drawings on site
- Valley board undersized at lay on roof framing
- Support cut ends of rafters
- Truss and rafter connectors

Insulation- After insulation is installed (optional-not a required inspection)

- Complete insulation as required by your energy calculation worksheet
- Blown in attic insulation will be checked at final building inspection
- Install insulation baffles for proper ventilation
- Secure insulation behind pre-fab fireplace
- Insulate behind bathtubs
- Paper backing to be removed within 6 inches of recessed light fixtures
- Paper backing on insulation must be in substantial contact with wall, ceiling or floor covering

Basement Stone - After underground plumbing approval and floor is ready to pour

- 4-inch stone base, 6 mil vapor barrier installed
- Check for cracks in foundation and basement wall
- Finish floor height indicated

- Location of columns and column footings per approved plan
- Columns installed properly

Garage Sand - After all forms are set, the base is compacted and all required reinforcement is installed

- 4-inch sand base
- All forms installed and finish floor height indicated
- Form at overhead door must be down to top of footing
- Reinforcement installed over excavated area
- Clean off brick ledge and footing
- Protect untreated wood
- Floor must slope toward overhead door

Sump Line - After sump line is installed and connected to storm lead

- Requested by calling Department of Public Service at (248) 656-4685
- Must be approved before requesting water meter installation
- Inspection required prior to covering pipe
- Type and slope of pipe
- Check connection to existing storm lead

Sidewalk and Drive Approach - Prior to concrete installation

- 4-inch sand base and forms properly placed
- Check width and location according to approved plot plan
- Structures in or adjacent to concrete must be properly adjusted to match finish elevation

Sidewalks

- Cross slope - minimum 2% - maximum 4%
- 4-inch minimum thickness
- 2-foot clearance from fixed objects (hydrant, utility pedestal, retaining wall, etc.)
- Sidewalk extended to property line and match existing sidewalk
- Slope for crosswalks - minimum 2% - maximum 5% per sidewalk spec. sheet
- Verify that side yard drainage is not blocked

Drive approach

- Cross slope - minimum 2% - maximum 10%
- 6-inch minimum thickness (including sidewalk at drive)
- 5-foot clearance between drive and hydrant

Final Plumbing - After water meter and all fixtures are installed and operational

- Hot water to all fixtures
- All items installed must be listed on the permit. If additional items are installed they must be added to the permit before final approval.

Final Mechanical - After gas piping, furnace, duct work and return air is installed and operational

- Furnace manufacturer's installation instructions to be on site
- All items installed must be listed on the permit. If additional items are installed they must be added to the permit before final approval.

Final Electrical - After all electrical equipment, switches, plugs, covers and fixtures are installed and operational

- Label electrical panel
- Smoke alarms must be installed and operational
- All light bulbs to be installed

- All items installed must be listed on the permit. If additional items are installed they must be added to the permit before final approval.

Final Fireplace

- Masonry fireplace
 - Done at final building inspection
 - After fireplace and hearth are completed
 - Clearance between fireplace opening and combustible materials
- Pre-fab fireplace
 - After fireplace surround and hearth extension are installed as required by manufacturer
 - Manufacturer's installation instructions to be on site
 - Clearance between fireplace surround and fireplace must meet manufacturer's requirements

Final Building - After final plumbing, mechanical, electrical and pre-fab fireplace inspections have been approved

- Smoke detectors interconnected and working
- Improper and unequal height, risers and tread width on stairs; consider finish floor height
- Complete exterior painting and caulking
- Provide proper drainage away from building
- Complete fire separation in garage
- Graspable and returned handrail
- Properly installed address
- 6 inches between grade and untreated wood
- Install guardrails at raised floor surfaces and open sided stairs located more than 30 inches above floor or grade below
- Intermediate rails or ornamental closures in guardrails shall not allow passage of an object 4 inches or more in diameter
- Secure door if deck or stairs are not in place
- Weep holes, flashing, lintels
- Window flashing and weep holes below brick sill
- Egress windows including basement

Final Grade

An As-Built plot plan, signed and sealed by a Licensed Surveyor or Engineer showing what was actually constructed, including all sidewalk, driveway, and grading elevations, must be submitted and accepted prior to a final grade inspection request.

Permanent Erosion Control must be installed as required by ordinance.

- Sod or grass seed at least 50% germinated must be installed in the areas noted below:
 - Right-of-Way - From edge of road to private property (typically 16.5 ft.)
 - Ditches
 - House side of bike path or sidewalk
 - Slopes greater than 1 foot on 5 feet
 - 10 feet around catch basins and storm manholes
 - All other areas prone to erosion as determined by the inspector

Locate and Expose

- Gatewell Manhole
- Hydrant
- D-Box

- Water stop box
- Sanitary Manhole
- Storm Manhole and catch basin

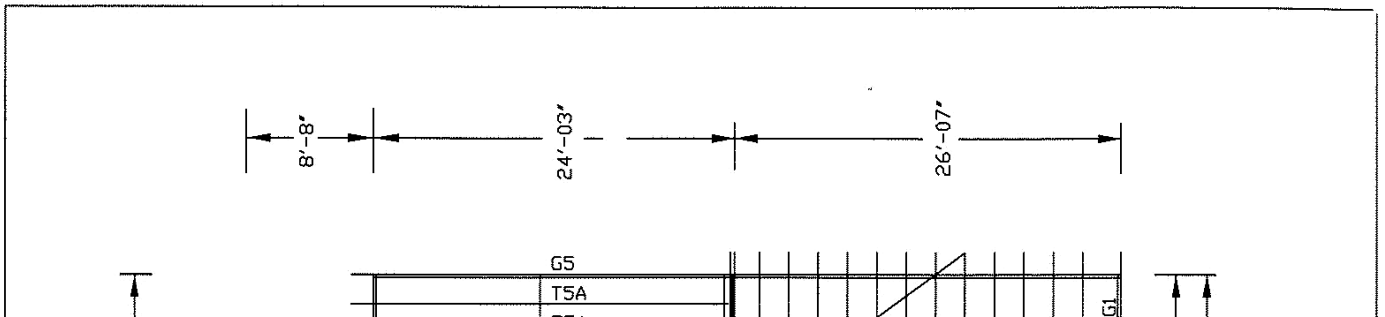
Items to be Installed per Approved Plot Plan

- Ditch
- Culverts
- Drive Apron/Material
- Sump pump discharge
- Side yard swale right
- Rear yard swale
- Side yard swale left
- Lot Grading
- Tree protection. Contact the Forestry Division at (248) 656-4673 for final approval
- Sidewalks
- Lot and the adjacent lot free of debris
- As-Built plot plan submitted and accepted

A grade inspection for a Temporary Certificate of Occupancy may be done prior to As-Built plot plan and grading completion if, in the opinion of the Building Official, weather conditions prevent the work from being completed. See page 8, item #33 for more information.

Temporary Erosion Control must be installed and acceptable.

- Soil erosion fabric, silt fencing or straw bales staked in place shall be installed at the following locations:
 - Right of Way
 - Ditches
 - House side of the bike path or sidewalk
 - 10 feet around catch basins and storm manholes
 - All other areas prone to erosion as determined by the inspector



IMPORTANT INFORMATION

The Zoning and Grading section of this manual contains important information to help you submit a complete plot plan for a new house in the City of Rochester Hills.

The following sheets of information are provided:

Ordinances and Publications.....Page 22

- A list of the ordinances and publications used to compile the plot plan requirements.

Tree RequirementsPage 23

- An explanation of when a Tree Removal Permit is Required.

Setback RequirementsPage 24

- A sheet to help you determine where your house can be located on your property.

Subdivision Zoning DistrictsPages 25-26

- A list of all the city’s subdivisions and their zoning classification.

Building HeightPage 27

- A detail sheet showing how the height of a house is calculated.

Plot Plan RequirementsPages 28-31

- A list of the items required to be shown on the plot plan. This list should be given to your plot plan preparer. Please take time to make sure your drawings are complete. Plot plans that contain all the necessary information and details will expedite the review process.

Sample Plot PlanPage 32

- A sample plot plan is enclosed.

Please take time to review this information. It may save you valuable time in building your new home.

The Zoning and Grading Section is a general guide provided in a format that is more “user friendly” to help you apply the ordinance requirements to your project. The actual ordinance language may contain additional requirements or exceptions.

NOTE: A SOIL EROSION CONTROL PERMIT FROM THE OAKLAND COUNTY DRAIN COMMISSION IS REQUIRED PRIOR TO PERMITTING FOR ALL NEW HOUSE APPLICATIONS.

ORDINANCES AND PUBLICATIONS

- City of Rochester Hills Zoning Ordinance #138

- City of Rochester Hills Codified Ordinance Chapter #18 – Building Regulation
Chapter #54 – Fees
Chapter #94 – Sidewalks & Streets
Chapter #102 – Utilities
Chapter #110 – Land Development Requirements
Chapter #114 – Flood Plains
Chapter #118 – Historical Preservation
Chapter #126 – Natural Resources (wetland)
Chapter #130 – Planning – Unplatted Land

- Oakland County Standards - Procedures for Plat Development
and Standards and Specifications

- Oakland County Soil Erosion Control Manual

- State of Michigan Department of Transportation
 - Road and Bridge plans
 - Administrative Rules Regulating Driveways

TREE REQUIREMENTS

When Is A Tree Removal Permit Required?

If trees are on or adjacent to the property, a Tree Removal Permit may be required. Please refer to the following criteria:

Trees In The Public Street Right-of-Way

- All trees located between the property line and the street are regulated by the Street Tree Ordinance and require a Tree Removal Permit.
- Application Fee \$50

Trees On Private Property

- All property platted prior to August 3, 1988 is not regulated by the Tree Conservation Ordinance and does not require a Tree Removal Permit.
- All property platted after August 3, 1988, as well as unplatted property with trees 6 inches in diameter and larger at 4-1/2 feet above ground, is regulated by the Tree Conservation Ordinance and requires a Tree Removal Permit.

Application Fee \$90

- Exceptions to Tree Removal Permit requirement
 - On occupied one-family parcels less than one acre, a permit is not required.
 - On occupied one-family parcels one acre or more for construction of appurtenances or structures accessory to existing structures, a permit is not required.
 - Neither of the above exceptions apply to public right-of-way trees or historic and landmark trees. These trees will require a permit.

For further information regarding the need for a Tree Removal Permit, contact the Building Department at (248) 656-4615. For Tree Removal Permit requirements, contact the Planning Department at (248) 656-4660.

For trees in the public street right-of-way requirements, contact the Forestry Division at (248) 656-4673.

SETBACK REQUIREMENTS

How Close Can I Build To My Property Line?

The distance between your house and your property line is called “**setback.**” The Zoning Ordinance outlines specific requirements for minimum setbacks depending on the zoning district you live in. Find your subdivision name on the “Zoning District” list to determine your specific zoning classification. Then, refer to the chart below to determine the setback requirements for your area. Zoning districts followed by an “OS” indicates an Open Space Subdivision. If you need further assistance, contact the Building Department at (248) 656-4615.

<u>Zoning District</u>	<u>Front Setback</u>	<u>Side Setback</u>	<u>Rear Setback</u>
R-1	40(b)	15(c)	35(x)
R-1OS	30	10	35
R-2	40(b)	15(c)	35(x)
R-2OS	30	10	35
R-3	30(b)	10(c)	35(x)
R-3OS	25	10	35
R-4	25(b)	10(c)	35(x)
R-4OS	25	10	35

Exceptions may apply to the above setback requirements. Please contact the Building Department if any of the following situations apply.

(b) The intent of Footnote (b) is to maintain some consistency in those residential areas where the houses have varying front yard setbacks. For example, you find from the chart above that your front yard setback is required to be a minimum of 40 feet, however, the average front yard setback on your block is 70 feet. The ordinance requires you to comply with the average front yard setback on your block, less 10 feet, but shall not require more than 50 feet, or less than the minimum required in the chart above. You may choose to set your house back further than the minimum required.

(c) Footnote (c) applies to corner lots. The setback for a side yard abutting a street shall not be less than the minimum front yard setback in the table above.

Also, any interior or corner lot less than 60 feet wide may have a reduced side setback of 5 feet provided the total of the two side yard setbacks is at least 15 feet.

(x) The intent of Footnote (x) is to allow a less restrictive rear yard setback of 30 feet for lots that border land permanently dedicated for park, recreation and/or open space, provided that the width of the park, recreation or open space area is not less than 100 feet measured at the point where it abuts the rear yard.

SUBDIVISION ZONING DISTRICTS

ABERDEEN	R4	EASTHAMPTON	R4
ADAMS OAKS	R4	EASTHAMPTON II	R4
ADAMS WEST (aka OXFORD)	R2OS	EDDINGTON FARMS	R3/R4OS
ARCADIA PARK	R4OS	EDDINGTON WOODS	R4
ASHFORD FARMS	R1	EDINSHIRE	R4
AUBURN HIGHLANDS	I1	ELDON ACRES	R4
AUTUMN HILLS	R4	ELMDALE	R4
AVON HEIGHTS	R1	EYSTERS AVON GARDENS	R3
AVON HILLS	R1	EYSTERS BLOOMER PARK	R3
AVON HILLS VILLAGE	R4	EYSTERS AUBURN ACRES	R4
(Phase 3 aka SYCAMORES)		EYSTERS AVON ESTATES	R1
AVON HOLLOW	R3		
AVON LAKES VILLAGE	R4	FAIRGROVE MANOR	R4
AVON MANOR ESTATES	R3	FAIRVIEW FARMS	R1OS
AVON MEADOWS	R1	FALCON ESTATES	R2
AVON POINTE	R3OS	FERRYVIEW HOMELANDS	R4
AVON RAVINES	R3	FIELDCREST	R3
AVON WOODS	R4	FITZPATRICK	R4
AVONCROFTS	R3	FLAGSTONE MANOR	R4
AVONDALE FARMS	R4/O1	FLOWING SPRING ACRES	R2/R4
		FOXBORO	R3
BASSET & SMITH	R2/R4		
BELLARMINE HILLS	R1	GABELMAN	R4
BELLE CONE GARDENS	R4	GEORGETOWN (aka CHICHESTER)	R1OS
BLACKETTS FLORAL GARDEN	R3	GLIDEWELL	R4
BOGARTS PLACE	R3	GOLDEN HILLS	R4
BRABACH ORCHARDS	R1	GOLFVIEW ESTATES	R4
BRIDGEWOOD FARMS	R2	GRANDVIEW	R4
BROOKEDALE WEST	R2OS	GRANT M JOHNS	R4
BROOKEDALE WOODS	R2/R3OS	GREAT OAKS	R3
BROOKLANDS	R3/R4	GREAT OAKS WEST #1	R2
BROOKLANDS PARK	R4	GREAT OAKS WEST #2	R2
BROOKWOOD	RCD	GROSSE PINES	R3
BROOKWOOD GOLF CLUB	R3OS	GUNTHAR'S RUN	R4
BUTLER RIDGE I & II	R2		
		HAMLIN ESTATES	R3
CHICHESTER (aka GEORGETOWN)	R2/R1OS	HAMLIN PLACE FARMS	R3
CHICHESTER EAST	R2OS	HAMPTON PARK	R4
CHRISTIAN HILLS	R1	HAMPTON PINES	RM1
CLEAR CREEK	R1OS	HAWTHORN	R1
CLEAR CREEK II	R1OS	HAWTHORN HILLS	R2OS
CLEAR CREEK III	R1OS	HAZELWOOD	R4
CLINTON RIVER VALLEY	R2OS	HAZELWOOD HILLS	R4
C O RENSHAW ADDITION	R3	HEARTPEACE HILLS	R2
COOLIDGE HIGHWAY	R4	HEATHERVIEW ESTATES	RM1
COUNTRY CLUB MEADOWS	R2	HEATHERWOOD VILLAGE	R3/R4OS
COUNTRY CLUB VILLAGE	R3OS	HERITAGE OAKS	R2OS
COVINGTON PLACE	R3	HILLCREST	R4
CRISSFIELD	R3	HILLSIDE CREEK	R1
CROOKS CROSSING EAST	R4	HILLVIEW	R1
CROSS CREEK (LOTS 1-13)	R1OS	HILLWOOD	R1
CROSS CREEK (LOTS 14-61)	R3OS	HITCHMANS HAVEN	R1
CROSS CREEK (LOTS 62-121)	R4OS	HOMESTEAD ACRES	R4
CUMBERLAND HILLS	R3	HUNTERS CREEK	R3OS
CUMBERLAND WOODS	R3OS		
		INGRAM ACRES	R4
DEER RUN	R3OS		
DEE'S SUBDIVISION	R4	JOHN R HIGHLANDS	R3/O1
DENISON ACRES	R3	JUDSON PARK	R1
DODGE AUBURN PARK	R4	JUENGELS ORCHARDS	R1
		JUNCTION LAND CO	R4

KENSINGTON FOREST	R4	SANCTUARY IN THE HILLS	RCD
KINGSTON POINTE N	R4	SHADOW WOODS PHASE 1	R2/R3OS
KINGSTON POINTE S	R4	SHADOW WOODS PHASE 2	R4
KLEM GARDENS	R4	SHORTRIDGE ESTATES	R1/R2OS
KNAPPS FARM	R4	SKYVIEW	R4
KNORRWOOD HILLS	R1	SOUTH BOULEVARD GARDENS	R1
KOLLIN WOODS	R1	SPRING HILLS	R3
		STARR ESTATES	R4/SP
LEGGET REIHER	R4	STONY CREEK	R1
LOCHMOOR HILLS	R2	STONY HOLLOW	R2/R3
LONG MEADOWS	R2	STRATFORD KNOLLS	RM1
		STREAMWOOD ESTATES	R4
MAC KARY	R4	SUGAR CREEK	R4
MANCHESTER	R4	SUNNYDALE GARDENS	R4
MANCHESTER KNOLLS	R1	SUPERVISORS PLAT #1	R4
MARTIN FARMS	R4	SUPERVISORS PLAT #2	R4
MEADOW CREEK I & II	R4	SUPERVISORS PLAT #5	R3/R4
MEADOW BROOK	R1	SUPERVISORS PLAT #6	R4
MEADOWBROOK VALLEY	R2OS	SUPERVISORS PLAT #7	R3
MEADOWVIEW	R1	SUPERVISORS PLAT #8	R3
MESSMORE FARMS	R4	SUPERVISORS PLAT #9	R4/I1
MICHELSON MEADOWS	R3	SUPERVISORS PLAT #11	R4
MIDVALE	R4	SUPERVISORS PLAT #12	R4/B5
MILL STREAM VILLAGE	RCD	SYCAMORES	R4
		(aka AVON HILLS VLG. PHASE 3)	
NORTH FAIRVIEW FARMS	R2OS		
NORTH HILLS	R4	THORNRIDGE	R2OS
NORTH HILL GARDENS	R4	TIENKEN MANOR ESTATES	R2
NORTH OAKS	R1		
NORTHBROOKE	R4	UNIVERSITY HILLS	R3
OAK POINTE ESTATES	R2	VALLEY STREAM	R3OS
OAKLAND VIEW	SP/R3	VILLAS	RCD
OXFORD ESTATES	R2OS	VINTAGE ESTATES	R1OS
(aka ADAMS WEST)			
		WALNUT BROOK ESTATES	R4
PAINT CREEK HILLS	R1	WALNUT CREEK	R3OS
PARKE VALLEY	R4	WALTONSHIRE ESTATES CONDO	R3
PERRYDALE	R1	WAVERLY WOODS	R1
PHEASANT RING	R2	WEAVERS ACRES	R4
PINE CREEK ESTATES	R2	WHEATON & WORRALS AVON H.E.	R4
PINE TRACE VILLAGE	R4	WHISPERING WILLOWS	R3
PINE TRAIL	R3	WILDFLOWER	R4OS
PON-AVON FARMS	R4	WILLOWOOD	R2OS
		WINCHESTER VILLAGE	RM1
QUAIL CREST	RCD	WINKLER MILL ESTATES	R1
QUAIL RIDGE	R2		
		YAWKEY & CHAPMANS ADD	R4
REGAL COLONY CONDO	R3	YORKTOWNE COMMONS	R4OS
REGENCY PARK CONDO	RM1		
RELYEA ACRES	R1		
RIVERSIDE HIGHLANDS	R1		
ROCHDALE	R1		
ROCHELLE PARK CONDO	RCD		
ROCHESTER GLENS	R4		
ROCHESTER HEIGHTS	R4		
ROCHESTER HILLS	R1		
ROCHESTER HILLS HEATHERS	R3		
ROCHESTER KNOLL	R1/R3		
ROCKHAVEN ESTATES	R4		
ROOKERY WOODS	R2OS		

NOTE: THIS CHART IS TO BE USED AS A GENERAL GUIDE ONLY. IT DOES NOT REPLACE THE DISTRICT REGULATIONS OR ANY OTHER PROVISIONS OF THE ZONING ORDINANCE.

BUILDING HEIGHT

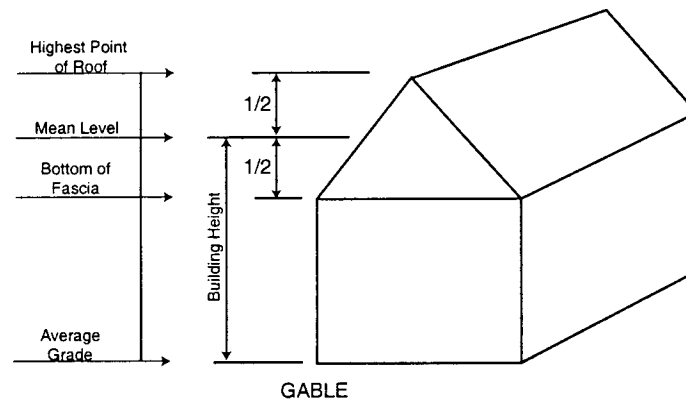
How Do You Calculate the Building Height?

Building Height shall mean the vertical distance from “average” grade to:

The mean level of the highest gable.

Where buildings have multiple or conflicting roof styles, the most restrictive method applies.

Average Grade shall mean a reference plane representing the average of the finished ground level adjoining the building at the front exterior walls.



Maximum Building Height of Structures

R-1 and R-2 One Family Residential	35 feet (Maximum 2 stories)
R-3 and R-4 One Family Residential	25(z) feet (Maximum 2 stories)

EXCEPTIONS

Footnote (z) of Zoning Ordinance 138-1111

In the R-3 and R-4 Districts, building heights may be increased up to thirty-five (35) feet when **ALL** of the following conditions are met:

- (1) The building site shall contain at least 13,500 square feet of lot area.
- (2) The minimum lot width shall be at least 90 feet in the R-3 District and 80 feet in the R-4 District.
- (3) Minimum side yard setbacks, including the total of 2 in Section 138-1112, shall be increased by one-half foot for each one foot or part thereof by which the proposed building height is in excess of 25 feet.
- (4) If an increase in building height is proposed on a lot which shares a common side yard with a lot occupied by an existing dwelling, the increased height of the proposed dwelling shall not be more than 190 percent of the height of a dwelling on a lot sharing a common side yard.

PLOT PLAN REQUIREMENTS

Three sets of plot plans with a current detailed topographic survey, prepared by a Professional Land Surveyor, Engineer or Architect, are required by ordinance. See "Sample Plot Plan" on page 32. These plans must contain the following:

General:

Builder's name, address, and telephone number.

Show the north arrow, legal description, street right-of-way and street name.

Indicate the site benchmark that will be used to establish the house and site elevations.

If the building is built on or adjacent to slopes greater than 1 unit vertical to 3 units horizontal, show the dimensions as required by the Michigan Residential Code.

Plan scale is to be between 1" = 20' and 1" = 50'.

The preferred plan size is 8-1/2" x 14". If it is necessary to go to a larger size, do not exceed 18" x 24".

Provide soil erosion control details for temporary construction control and for permanent controls to be placed prior to final certificate of occupancy. (Placement of erosion controls are required to be shown on the plot plan for an approval).

A Soil Erosion Control permit from the Oakland County Drain Commission is required prior to plot plan approval.

For all lots on public roads with sidewalks, liability insurance is required. Please call 248-656-4615 for additional information.

Zoning:

Show all the dimensions of the proposed structure and the lowest floor and first floor elevation.

Provide exact lot dimensions and all setbacks from all sides of the house, measured at 90 degree angles to the property lines. Setbacks must comply with ordinance requirements. See "Setback Requirements" on page 24.

The plot plan footprint and the construction drawings must be consistent.

Trees:

Show the location of all trees and the existing and proposed elevation at the base of all trees, including off site trees and trees located in the public right-of-way.

Show the drip line to scale of all trees proposed to be saved. Clearly show which trees will be removed. The drip line is the outer edge of the tree branches where the water drips to the ground.

Grading and Drainage:

The subdivision master grade plan shall be used as a guide. Elevations may deviate slightly to accommodate the natural topography and drainage requirements.

A minimum of 6 inches of fall away from the house in the first 10 feet and a minimum of 1% grade for the remainder of the property is required for drainage.

Indicate existing and proposed elevations and drainage patterns, including all swales, drainage courses, berms, retaining walls, ditches and culverts. The grade slope from the edge of the driveway to the culvert invert is not to exceed a 1 foot vertical to 2 feet horizontal slope.

Provide existing and proposed elevations along all property lines, including property corners, at a minimum of 25-foot intervals, on site and to 100 feet beyond the property line. The survey should continue as far as a storm sewer outlet or “natural” outlet if storm is not available in that subdivision.

Show the exterior house elevations at no less than the four corners. If the brick ledge of the house drops 2 feet or more, show the location and elevation of the drop. The brick ledge should be stepped uniformly. If the house has a walkout basement proposed, label and show the location and elevation of the walkout area.

Show the location and elevations of all easements and utilities including manholes, gatewells, hydrants, phone, electric, gas, cable, etc. on the property and within 100 feet of the property.

The maximum 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.

Special Note:

If the drainage design for a specific lot has rear to front water drainage, and the rear yard exceeds a 1 foot vertical to 10 feet horizontal slope (10%), then a minimum of 12 inches of fall is required from the finish grade to the rear yard protection swale at a minimum of 10 feet away from the rear of the house.

Utilities:

Show all existing and proposed utilities, including septic systems and wells with elevations.

If a sanitary sewer lead is not available for the house, contact Engineering Services at (248) 656-4640 for a right-of-way permit to tap the main. This permit is required prior to plot plan approval.

Show the sidewalk (if applicable) with elevations at both side property corners and at the driveway. The cross slope requirements are minimum 2% - maximum 4%. 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).

Show the sump line location and indicate on the plan "Sump pump discharge water shall be connected directly to an approved drainage system." If there is no drainage system for this property, contact the Building Department at (248) 656-4615 for additional information.

Driveway:

If the road is gravel, the drive approach must be gravel. If the road is paved, the drive approach must be paved.

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:

Side entrance slab - minimum 2% - maximum 4% slope.

Slope down to road - minimum 2% - maximum 10% slope.

Reverse drive slope - minimum 2% - maximum 7% slope.

Show all existing curb drops and all proposed curb cuts.

The angle of the driveway should be 90% to the roadway edge.

A circle drive may be permitted if the lot frontage is 75 feet or more and the distance between the drives is a minimum of 45 feet center to center.

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.

Show all roadside features and the sight distance for the approach.

Minimum Driveway Clearances:

5 feet between the driveway and fire hydrant.

6 feet between the driveway and a high back catch basin.

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 (Detail available). For information, call (248) 656-4640.

Wetlands and Floodplain:

Show the 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.

Show the location and elevation of all watercourses and provide the floodplain elevation on the plan. Adhere to the City of Rochester Hills Flood Plain Ordinance Chapter 114.

Provide a State of Michigan Department of Environmental Quality permit if the property has state regulated wetlands.

Other Agency Permits That May Be Required:

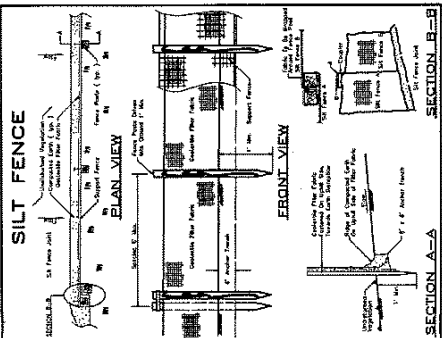
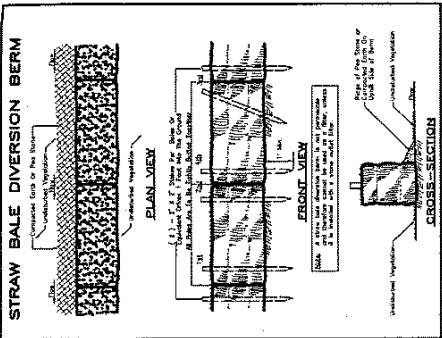
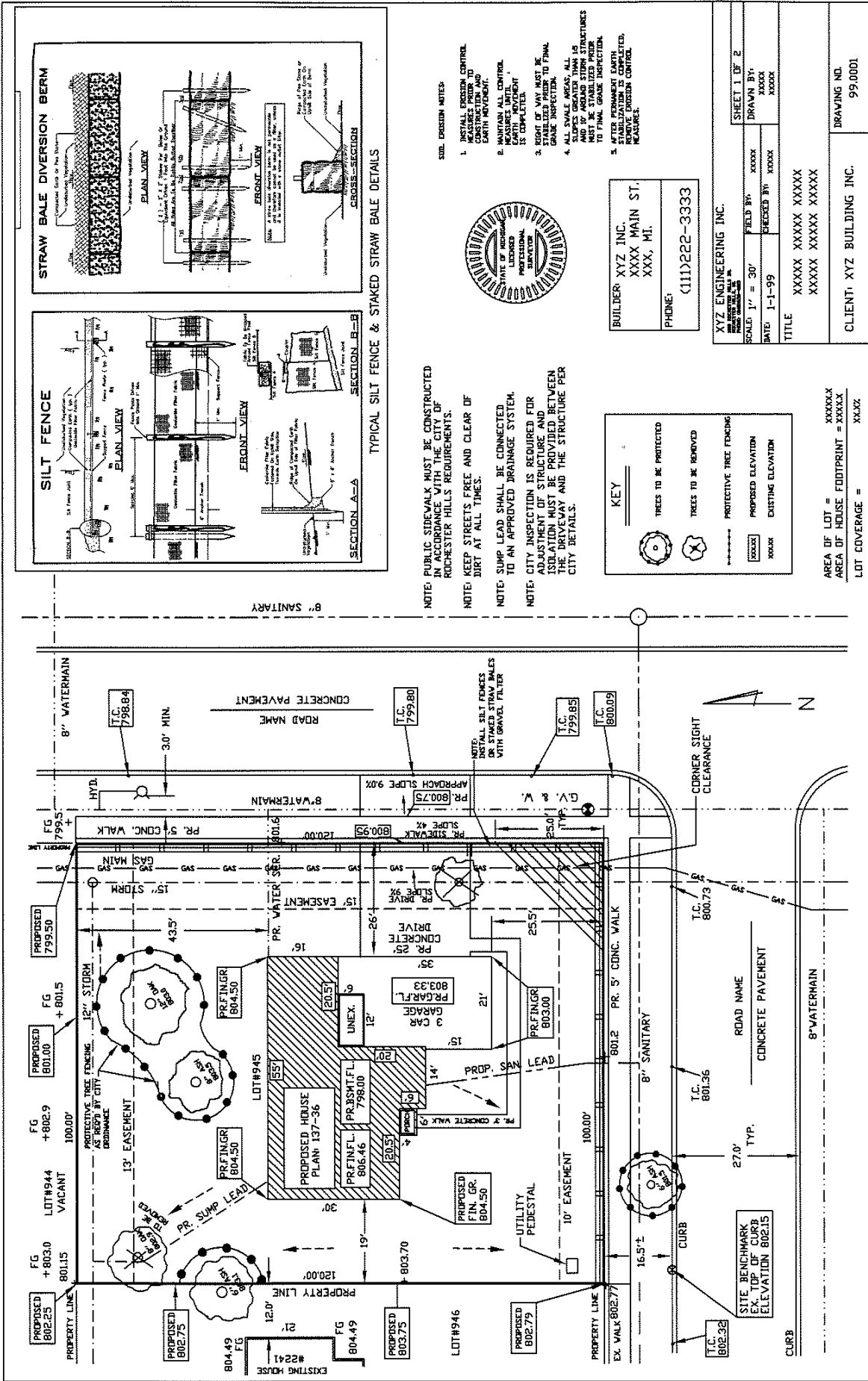
If the road that your house is on is a County road, a drive approach permit from the Road Commission for Oakland County (RCOC) is required prior to plot plan approval.

If the road that your house is on is a State road, a drive approach permit from the Michigan Department of Transportation (MDOT) is required prior to plot plan approval.

If there is a septic system on your property, a permit from the Oakland County Health Department is required prior to plot plan approval.

A soil erosion control permit from the Oakland County Drain Commission (OCDC) is required for all new house permit applications.

Sump lines that are connected to an Oakland County storm sewer may require a permit from the Oakland County Drain Commission (OCDC).

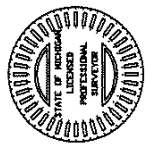


NOTE: PUBLIC SIDEWALK MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS REQUIREMENTS.

NOTE: KEEP STREETS FREE AND CLEAR OF DIRT AT ALL TIMES.

NOTE: SUMP LEAD SHALL BE CONNECTED TO AN APPROVED DRAINAGE SYSTEM.

NOTE: CITY INSPECTION IS REQUIRED FOR ADJUSTMENT OF STRUCTURE AND ISOLATION MUST BE PROVIDED BETWEEN THE DRIVEWAY AND THE STRUCTURE PER CITY DETAILS.



BUILDER: XYZ INC.
 XXXX MAIN ST.
 XXXX, MI.

PHONE: (111)222-3333

XYZ ENGINEERING INC.
 12345 MAIN ST.
 XXXX, MI.

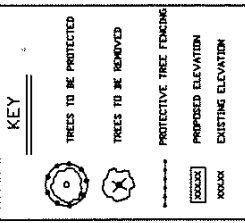
SCALE: 1" = 30'

DATE: 1-1-99

TITLE: XXXXX XXXXX XXXXX
 XXXXX XXXXX XXXXX

DRAWING NO.: 99.0001

CLIENT: XYZ BUILDING INC.



AREA OF LOT = XXXXX.X
AREA OF HOUSE FOOTPRINT = XXXXX.X
LOT COVERAGE = XXXX.X

SAMPLE PLOT PLAN

DEPARTMENT OF PUBLIC SERVICE FEES

Water, Sanitary Sewer, and Sump Line Fees

The following is a list of possible fees.

Sewer Capital	\$1150.00
Sewer Lateral	\$1850.00*
Water Capital	\$850.00
Water Lateral	\$1300.00*
Water Tap (based on size)	\$1242.00 – 1-inch \$1350.00 – 1 1/2- inch
Water Meter (based on size)	\$227.00 – 5/8-inch \$323.00 – 1-inch \$595.00 – 1 1/2-inch \$816.00 – 2-inch + \$130.00 – Additional Fee for Radio Read Unit
Construction Water Usage	\$15.00 (per month)
Water Inspection Permit	\$70.00
Sewer Inspection Permit	\$70.00
Sump Line Inspection	\$70.00*

*May not apply in some situations. For more information pertaining to your specific lot or address, contact the Department of Public Service at (248) 656-4685.

Construction Water Usage

For all new water connections, a minimum fee of \$15.00 will be charged each month for construction water. Construction water usage starts from the date the City tap crew taps the main and continues until the water meter is installed. The first month's \$15.00 must be paid in advance and therefore will be added to your water and sewer connection fees. You will be billed for each additional month on your water and sewer bill. Any partial-month period beyond the first month will be pro-rated. This procedure is in accordance with City of Rochester Hills Codified Ordinance, Chapter 54-776.

The Department of Public Service fee requirements are taken from the City of Rochester Hills Codified Ordinance, Chapter 54.

CONTRACTOR REGISTRATION REQUIREMENTS

Department of Public Service

The following requirements must be met in order to register to obtain permits for installation of municipal water and sanitary sewer lines within the City of Rochester Hills Department of Public Service.

1. You must hold either a **Master Plumber's License** or a **Drain Layer's Class A or B License** administered through the City of Pontiac. Either type license must be renewed every year and a current copy presented to the Department of Public Service at time of new registration and annual re-registration.
2. A **\$1,000.00 cash bond** must be posted when performing sanitary sewer line installation. This will be held for 10 months after last approved inspection in the City. **The City shall pay no interest on cash bonds submitted to the City. The City shall not return any interest accrued on cash bonds.**
3. Registration fees are as follows:
 - 1) New registration, Master Plumber \$ 1.00
 annual re-registration \$ 1.00
 - 2) New registration, Drain Layer \$ 25.00
 annual re-registration \$ 15.00
4. If your water and/or sanitary sewer line installation involves working in the road right-of-way, the following additional requirements are necessary to pull permits:
 - 1) A Certificate of Insurance must be presented with a minimum of \$500,000 for General Liability and a \$1,000,000 umbrella. (If you have \$1,000,000 or more under your general liability, the umbrella coverage is not required.) The City of Rochester Hills must be named as a certificate holder. The City of Rochester Hills requires the Cancellation Clause portion of the Certificate to read:

"Should any of the above described policies be canceled before the expiration date thereof, the issuing company will mail 60 days written notice to the Certificate Holder named to the left."
 - 2) An approved road right-of-way permit must be obtained from the City of Rochester Hills Engineering Department.

The registration period begins on the day of registration and ends on March 31st the following year. If re-registration has not been obtained by March 31st, all permits and inspections will cease until re-registration has occurred. Registration can be performed at the Department of Public Service, 1000 Rochester Hills Drive, Rochester Hills, MI 48309. If you have any questions with regard to insurance, cash bonds, etc., please contact our office at (248) 656-4685.