Livonia

New Home Construction

The City of Livonia Inspection Department a Guide to Building a New Home.

Inspection Department
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City Hall Annex
Livonia, MI 48154
(734) 466-2580

INTRODUCTION

New Home Construction Guidebook

The City of Livonia Inspection Department has prepared this Guidebook to assist you in the process of building a new home within our City. 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 home. 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. We want to know how we can help!

Included in this Guidebook is important information to help you understand the Building Permit and construction process, from application to completion. We have included details for areas that have generated confusion or construction delays in the past.

When your Building Permit application is submitted, it will go through a three-step review process:

1. **Grading Review**: This review covers work related to the property, including drainage, sidewalks, driveways, utility locations and connections. We also check for wetlands, steep slopes, watercourses, flood plains and other outside agency permits that may be required.

2. **Zoning Ordinance Review**: This review is performed to verify that your new home will meet the lot coverage, setback, height, and size requirements for your Zoning District. This review will also determine if a Tree Removal Permit or Right-of-Way Tree Permit is required.

3. **Building Plan Review**: This review covers the Michigan Residential Code requirements that apply to your proposed project.

Submitting a complete set of plot plans and construction drawings containing all the necessary information will expedite the plan review process. Details of submittal requirements are included in this Guidebook. The permit applicant will be notified if the information submitted does not meet the City of Livonia Zoning Ordinance, grading requirements or Michigan Residential Code requirements.

This Guidebook is set up to allow you to quickly reference specific areas of interest.

Please Note: This Guidebook is only intended to be a guide and is not all inclusive of the Michigan Residential Code or City Ordinances. For complete details of all requirements, please refer to the Michigan Residential Code. The guidelines in this Guidebook are subject to change without notice.

We hope this Guidebook is helpful and we encourage you to provide us with any suggestions you may have as we continue to work toward improving our permitting process.

Thank you!

The City of Livonia Inspection Department

BEFORE YOU BUILD

New Home Construction

The following should be checked at the beginning of your project. Any of these items can affect the type, location, cost and length of time it takes to build your home.

Permit Process – Please remember to allow time for the Building Permit process. Plan review time varies depending on the Building Department's workload and the completeness of your submittal.

County or State Roads – If your new home will be located on a County or State Road, a Drive Approach Permit is required from the Wayne County Department of Public Service (WCDPS) or the Michigan Department of Transportation (MDOT), depending on your location. These Permits need to be obtained before a Building Permit can be issued.

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. Floodplain Maps are available from the FEMA website. If you are proposing to fill or build within a regulated floodplain, Engineering drawings completed by a licensed surveyor or Civil Engineer registered in the State of Michigan will be required to obtained from permits from EGLE. Please call the Engineering Department at (734) 466-2571 for more information.

Setbacks – The City of Livonia Zoning Ordinance contains minimum dimensions required between your home and the property lines. Please see "Setback Requirements. Additional setbacks are required for properties with regulated steep slopes.

Sump Line – A storm sewer or other approved drainage system is required for the connection of a sump line. Please contact our Plumbing Inspector at (734) 466-2597 if you have any questions. Sump pump discharges are required to be connected to a drainage structure or established drainage path (ditch, swale, floodplain, etc.) In the absence of such an approved outlet, the sump pump discharge may be routed to a "drywell" if soil conditions are shown to be acceptable.

Trees – A Tree Removal Permit is required for parcels regulated by the Tree Conservation Ordinance and for tress located in the Public Street Right-of-Way. Please refer to "Tree Requirements". Tree removal permits for trees located within the public right-of-way can be obtained from the Department of Public Works. Homeowners (or their representatives) are required to fill out an application at the DPW, after which an arborist from the City will inspect the tree(s) and determine if a permit will be required for the homeowner to remove the tree at their own costs, or if the City will place it on its removal list.

Water and Sewer – You may check to see if City water and sanitary sewer are available by contacting the Engineering Department at (734) 466-2571.

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 home will be close to or in regulated wetlands, additional paperwork, including permits, may be required from the City or State of Michigan prior to your Building Permit approval. Please contact the Inspection Department at (734) 466-2580 for more information. Preliminary wetland location maps are available at the Environment, Great Lakes and Energy website (formerly MDEQ) and can be used as a guide as to whether further studies shall be performed. If wetlands are located on the property, permits for any disturbance or filling of those areas will need to be obtained from EGLE prior to any Engineering and Building Department permits being issued. Please contact the Engineering Department for additional information.

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

Miss Dig – Call Miss Dig 811 before you dig. Michigan's free & easy utility notification system.

BUILDING CONSTRUCTION

Important Information
New Home Construction

The Building Construction Section of this Guidebook contains important information to help you understand the process of building a new home in the City of Livonia.

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

Codes Currently in Effect – A list of the current Codes that will apply to your project.

From Application to Completion – Your general guide through the entire process. These pages provide information on application requirements, permits, inspections and Certificates of Occupancy.

Plan Review Checklist – A guide to help you understand the information that is required on your construction drawings. This information should be given to the person preparing your plans. Please take time to make sure your drawings are complete. Construction drawings that contain all the necessary information and details will help expedite the plan review process.

Inspection Requests – This Section 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 and Trade Inspections – Explanation of the standard Building and Trade Inspections required and some of the common items the Inspector checks for during an inspection. This should be used as a guide for Builders, Superintendents and Homeowners to verify the project is ready before calling for an inspection.

Sample Roof Truss Schematic – A sample roof truss layout from a truss manufacturer.

It is very important to include the property address on all documents submitted to the Inspection 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 home.

CODES CURRENTLY IN EFFECT

City of Livonia
March 25, 2020

Following is a listing of the current codes we are enforcing and their effective dates:

Michigan Plumbing Code 2015 (Part 7 Rules)	April 20, 2017
Michigan Mechanical Code 2015 (Part 9 Rules)	April 12, 2017
International Fuel Gas Code (IFGC) 2015	April 27, 2017
Michigan Rehabilitation Code for Existing Buildings 2015	December 13, 2016
Michigan Residential Code 2015 (Part 4 Rules)	February 8, 2016
Michigan Building Code 2015	April 20, 2017
Michigan Electrical Code 2017 (NEC 2017+Part 8 Rules)	January 4, 2019
Michigan Uniform Energy Code (MUEC) 2015 (Part 10 Rules)	February 8, 2016

A. Residential – International Energy Conservation Code 2015 (one and two family)
B. Commercial ASHRAE Standard 90.1/2013 Edition

International Property Maintenance Code 2012 (as modified and adopted in Livonia Ord. 2882 known as Livonia Property Maintenance Code)	April 5, 2012
In addition to the codes our new fee schedule was published on (first adjustment since 1988)	January 22, 2004
Administrative and Special Inspection fees adjusted	April 1, 2020
We adopted the February 2020 ICC Plan Review valuation chart on	April 1, 2020.

Most code books are available for purchase at the Livonia City Clerk's Office.

FROM APPLICATION TO COMPLETION

New Home Construction
A General Guide Through the Entire Process

1. Information required for a Building Permit application:

The following shall be submitted with the application. Please note that all forms need to be filled out completely.

A. **Building Permit Application** *- The Applicant's signature is required.
B. **Application Fee** – Based on cost of construction.
C. **Plot Plan – Three Sets Signed and Sealed** – Please see "Plot Plan Requirements".
D. **Construction Drawings – Two Complete Sets** – Including braced wall design information – Please see "Plan Review Checklist".
E. **Roof Truss Layout – Two Complete Sets** – Please see sample drawing.
F. **Energy Worksheet for New Single-family Residential Buildings** - indicating which method of energy compliance will be used, along with supporting documents.
G. **Address Request Form** - Obtained through the Engineering Department.
H. **Residential Request for Water, Sanitary Sewer and Sump Line Charges** *
I. **Soil Erosion Control Permit * -** Obtained through the Engineering Department.
J. **General Liability Insurance** – When you are building in a subdivision that has sidewalks, a copy of your general liability insurance shall be submitted and accepted before the Building Permit can be issued. Please contact the Inspection Department at (734) 466-2580 for insurance and certificate requirements.

Per State of Michigan Law, Owners may submit a permit application for work on property that is, or will be, on completion, their place of residence.
Please note: Any contractor, hired by the Owner for a contract price of $600.00 or more, shall be licensed in accordance with the State of Michigan Residential Builders Laws.

*Forms are available online www.livonia.gov or at the Inspection Department counter.

2. Registration of Builder's License

- Builders shall be registered with the City of Livonia to submit a Building 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 Builder's License.
  - A copy of the License Holder's Driver's License, if not present in person.
  - A Registration Fee of $15.00.

- Registration is required for your Electrical license. Provide a copy of your current license and a legible copy of License holder's Driver's License. Electrical/Plumbing Contractor's also need a copy of Master license. The fee amount is $10.00 (Electrical & Sign) $15.00 (Mechanical, Building Plumbing).

If registering by mail, a notarized Limited Power of Attorney is required (can be found on our website, www.livonia.gov or the Licensee needs to come in and sign the application in person. Form attached.

We need to see a legible copy of license holder's (contractor and master) Driver's License.

3. Plans Reviewed and Approved

- Building and plot plans are reviewed for compliance with the Michigan Residential Code and City Ordinances.
- Plans are reviewed in the order they are received based on the application date. Plan review time varies depending on the Inspection Department's workload.
- Plans and construction documents that contain all the necessary information and details will help speed up the review process.
- The Permit Applicant will be notified if the information provided does not meet the City of Livonia Zoning Ordinance, grading requirements, or Michigan Building Code requirements, or if any other information is required.

4. Permit Ready

- The Permit Applicant will be called when the Building Permit is ready to be picked up.
- Building Permit fees are due at the time of the Permit issuance. Permit fees can be paid by cash, credit card, debit card or check.
- The Building Permit shall be secured within 6 months of the application date or the application will be canceled.
- Issued Permits that have no activity for more than 6 months will be canceled.

5. Additional Fees – Water, Sanitary Sewer & Sump Line

- Water, sanitary sewer and sump line fees can be paid to the Water & Sewer Billing Department when you pick up your Engineering Permit. These fees shall be paid prior to Water and Sanitary Sewer Open Trench Inspection Permits being issued. Review and Inspection fees for water services, sanitary and storm sewer leads (including sump line connections) within the public right-of-way or easements are paid at the Engineering Department when you pick up your Engineering permit. Water and Sewer connection fees are to be paid at the Water and Sewer Desk on the second floor of City Hall. Engineering, and Water and Sewer connection fees must be paid prior to the issuance of an open trench permit from the Inspection Department.

6. Trade Permits – Plumbing, Mechanical & Electrical

- These types of Permits are required and can be applied for and obtained **after** the Building Permit has been issued.
- All items to be installed shall be listed on the appropriate Permits.
- Items not listed can be added to the appropriate Permits prior to the Final Inspection.
- Please note: A Certificate of Occupancy cannot be issued until all fees have been paid.

7. Additional Permits – Water and Sanitary Sewer Open Trench

- Contractors may obtain Water and Sanitary Sewer Open Trench Inspection Permits; fees and bonds will vary depending on the project. Insurances may be required depending on the project. Contractors wishing to register shall meet the "Contractor Registration Requirements". A Homeowner's permit is also available from Engineering (734) 466-2571.

When the Building Permit has been obtained, construction may begin. Trade permits may be secured after the Building Permit has been issued. Revisions to the building or grade after issuance of the Building Permit will require re-submittal of revised plans, approval from the Inspection Department, and the payment of any additional review and Permit fees.

- The following items shall be installed and maintained throughout the construction process:
  - The Street Address and lot number shall be posted and clearly visible from the street.
  - The Street shall be kept clean at all times.
  - Temporary soil erosion control shall be in place and maintained.
  - All construction materials and debris shall be contained on the property.
  - Tree protection (if required) shall be in place and maintained.

8. **Water Taps**

- Once your Water and Sewer tap fees have been paid, your water tap request will be forwarded to the DPW. When you are ready for the tap to be completed please call the DPW (734) 466-2650 Water Department to schedule the installation. The time it takes to get a water tap varies, based on the Department of Public Works workload, weather conditions, etc. The house service should be run to the property line with a visual marker for location by the City tap crews. The work area where the water tap is to be installed shall be clear of all construction materials, debris, and equipment.

9. **Inspections –** Please refer to Building and Trade Inspections for details regarding Inspections.

- Water & Sanitary Sewer Open-Trench
- Open Rail
- Backfill
- Footings
- Pre-Masonry
- Rough Plumbing
- Rough Mechanical
- Rough Electrical
- Rough Fireplace – Both Masonry Fireplaces and Pre-fab Fireplaces
- Rough Building
- Energy Code Compliance / Insulation
- Basement Stone
- Garage Sand
- Sump Line
- Sidewalks and Drive Approaches

10. **Water Meter Installations**

- You may schedule a water meter installation by calling the Department of Public Works at (734) 466-2650
- Scheduling varies depending on workload. Please allow time for your scheduling.

11. **Final Inspections –** Please refer to Building and Trade Inspections for details regarding Inspections.

- Final Plumbing
- Final Mechanical
- Final Electrical
- Final Fireplace – Both Masonry Fireplaces and Pre-fab Fireplaces
- Final Building and Final Masonry
- Final Grade
- Final Tree – Contact the Engineering Department at (734) 466-2571

12. **Project Close Outs**

- All special bills shall be paid, including:
  - Street cleaning
  - Tap repair
  - Debris removal
  - Any other fees or bills due

13. Certificates of Occupancy (C of O)

- A Certificate of Occupancy (C of O) is required before a new home can be used or occupied.
- A C of O can be requested by calling the Inspection Department at (734) 466-2580.
- All inspections shall be completed and approved before a C of O is requested.
- Please allow time for processing a C of O. State Law allows 5 business days from the time the request is received to the issuance of a C of O. Our normal processing time is 24 hours.

14. Temporary Certificates of Occupancy (TCO)

- A TCO is required before the new home can be used or occupied and is issued **only** when a Certificate of Occupancy cannot be issued as determined by the Inspection Department.
- A TCO can be requested by calling the Inspection Department at (734) 466-2580.
- A TCO is 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.
- There is a fee of $150.00 for each request for a TCO or for an extension and a $1,000.00 cash bond.
- All outstanding items shall be completed and approved by the expiration date indicated on the TCO.
- Proper drainage away from the building is required.
- Temporary soil erosion control shall be installed. Please see the Temporary Erosion Control section of "Building Inspections" for details.
- Two off-street parking spaces usable in all weather conditions are required on site before a TCO can be issued.

This itemized list is provided as a guide to help you understand the process for building a new home in the City of Livonia. It covers the most common types of projects. If your new home is beyond the scope of this Guidebook, it may require additional information, Inspections or Permits. Please call the Inspection Department at (734) 466-2580 if you have any questions on how to apply this Guidebook to your specific project.

*Forms are available online www.livonia.gov or at the Inspection Department counter.

PLAN REVIEW CHECKLIST

New Home Construction

This list is provided as a guide to help you understand what information is required on your new home construction drawings. Please share this information with the person preparing your plans for their use.

New Home construction documents submitted for plan review shall contain the following information:

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

   - Drawings for homes with over 3,500 square feet of habitable space shall include complete construction and plumbing plans. All plans for these sizes of homes shall have the original signature, seal and date of a State of Michigan licensed Architect or Engineer.
   - Electrical plans are required when the electrical system rating exceeds 400 amps.
   - Mechanical (HVAC) plans are required for **all** new homes, regardless of the size. Mechanical (HVAC) plans shall include the following information:
     - Equipment sizing and efficiencies.
     - An indication that all ducts shall be sealed.
     - An indication showing R-values for duct insulation and methods of installation.
     - Manual J calculation.
   - Detailed Electrical, Plumbing and Mechanical requirements are available from the Inspection Department upon request.

2. **Two complete copies of the Michigan Residential Code Energy Worksheet for New Single-family Residential Buildings** along with all supporting documents, signed and dated by the Builder.

3. **Two complete sets of pre-engineered roof truss schematics** (if applicable) with the following information:
   - The location of all bearing walls and point loads for both interior and exterior walls.
   - The location, direction, span and spacing of all trusses including girder trusses (if trusses are being used). Please see "Sample Roof Truss Schematic". Please note – These schematics may be provided to the Building Inspector during the Rough Frame inspection.

4. **Three sets of plot plans** that match your construction drawings. One set approved from Engineering.

5. A **Foundation Plan** that contains the following information:
   - Footing and column pad sizes with all layout dimensions.
   - Sizes and spacing of beams and columns.
   - First floor joist direction, size, spacing and span.
   - Size of support for all bearing walls and point loads from above.
   - Framing details at stair and fireplace openings.
   - Basement floor thickness, type of vapor barrier and a 4-inch sand or gravel base shall be indicated.
   - Basement wall types and thickness, and reinforcing steel sizes and spacing (if applicable).
   - Location and sizes of all emergency egress windows and window wells or doors leading directly to the exterior.
   - Sizes and types of sill plates and size, type, and spacing of anchorage shall be indicated.
   - Energy requirements, if applicable to the foundation. Provide a completed Michigan Residential Code Energy Worksheet and submit supporting documentation.
   - Wall bracing anchor requirements, if applicable (other than typical foundation anchors).

6. **Provide 1st & 2nd Floor Plans** (as applicable) that contain 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.
   - Sizes and locations of all support for bearing walls and concentrated loads.
   - Sizes of all doors and windows. Please note on the drawings any second floor windows greater than 72" above grade & less than 24" above the finished floor.
   - Sizes and types of all headers indicated for every opening.
   - Operable emergency egress windows or exterior doors in all sleeping rooms.
   - Details of the separation required between the attached garage and home.
   - Locations of all smoke and carbon monoxide alarms on every floor.

7. **Provide a Roof Framing Plan** (if applicable) 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 joists, rafters, trusses and girder trusses. Indicate the roof pitch for all portions of the roof.

8. **Provide Building or Wall Sections** showing the following information: (Depending on the complexity of your project, more sections or details may be required.)
   - Footing and basement wall sizes, type and height, and any required reinforcing.
   - Basement wall waterproofing/damp-proofing and drain tile with stone.
   - 1st and 2nd floor ceiling heights.
   - Location of finish grade.
   - All basement egress windows or doors.
   - Insulation types and R-values being used.

9. **Provide Wall Construction Details** including the following information:
   - Interior finishes.
   - Type of exterior sheathing.
   - Anchor bolt size and spacing.
   - Type and thickness of subfloor.
   - Size and spacing of wall studs.
   - Insulation with R values for all areas per the Michigan Residential Code Energy Worksheet for Single-family Residential Buildings.
   - Truss & rafter connectors to plates.
   - Roof construction details with thickness and type of sheathing, felt paper, snow and ice shield, and type of roof covering. Include type and amount of attic ventilation.
   - Brick veneer (if applicable):
     - Base course flashing.
     - Weather-resistant membranes.
     - Lintels and flashing.
     - Brick wall ties and flashing.
     - Weep holes (33 inches on center maximum)
   - Provide details for all walls over 10 feet in height and any walk-out walls. These walls shall be designed to resist wind load and support all other imposed loads.

     Please note: Details may be required to be signed and sealed by a Structural Engineer as determined by the Plan Reviewer.

10. **Provide Crawl Space Details (if applicable)** including the following:
    - Ventilation indicated within 3 feet of each corner.
    - A minimum 18" x 24" access if in the floor, a 16" x 24" access if in a foundation wall.
    - Clearance between ground and floor joists – at least 18 inches required for untreated wood.
    - Clearance between ground and wood beams – at least 12 inches required for untreated wood.

11. **Provide Stair Details** with all tread, riser, guardrail and handrail sizes, heights, spacing, and materials indicated. Indicate headroom height.

12. **Provide Building Elevations** – Front, sides and rear.

- Elevations shall be provided that include the location of proposed grades and clearly indicate all emergency egress windows.

13. **Provide Braced Wall Details** – For each floor

- Details shall clearly indicate the type, size and location of all braced walls, braced wall lines and all related dimensions.
- Details shall be provided for all portal frame openings, including garage door openings.
- References shall be provided showing Michigan Residential Code requirements for each braced wall line vs. what is proposed for each braced wall.
- Any special requirements, including tie-downs, strapping, etc., shall be clearly indicated.

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 REQUESTS

New Home Construction

The Inspection Department offers two convenient methods to allow you to request an inspection:

- An Inspection may be requested by filling out an online form, from our website at www.livonia.gov, Departments, Inspection (Building & Enforcement) "Request An Inspection" or by calling our Inspection Request Line (734) 466-2802 and providing the following information:
  - **The Street Address of the job site.**
  - **The Permit Number.**
  - **The type of Inspection you are requesting.**
  - **Requested Date of Inspection.**

- **QR Code Inspection Scheduling–** Scanning the QR Code at the top of this page will gain you direct access to the same Online Inspection Request Form as mentioned above. You will find the QR Code for scheduling inspections on many of our Inspection Department documents for your convenience.

Inspections scheduled before 4:00 p.m. may be added to the workload for the following working day. Electrical inspections fill up faster than other inspections, they will not be guaranteed the next day. Inspections will be done Monday through Friday from 9:30 a.m. - 3:30 p.m. Inspections may be done earlier or later depending on the Inspector's workload. Inspectors will be available by phone from 8:30 – 9:30 a.m. and 4:00 – 5:00 p.m. See our Staff Directory to call the morning of your inspection for an a.m. or p.m. window. Inspections may be available outside the normal business hours by special arrangement. Additional fees for "After Hours" inspections shall be paid in advance of the inspection.

A request to cancel an Inspection needs to be called in to the Inspection Department at (734) 466-2580 before 9:00 a.m. on the day of the requested Inspection.

Please make sure your project is ready for an Inspection. Inspections will not be done and a re-inspection fee may be charged if the following items are not completed or in place:

- Safe access to the job site and throughout the area to be inspected.
- Approved plans on site.
- The job is ready for inspection (refer to "Building Inspections").
- The Street address and lot number posted and visible from street.
- Temporary soil erosion control properly installed if applicable.
- The Street kept clean.
- All building construction debris and materials contained on the property.
- Tree protection properly installed and maintained if applicable.

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

City of Livonia Sticker	This will have a list of all the inspection groups. If signed and dated at inspection requested the Inspection was Approved.
Inspector's Correction Notice	Inspection not approved. The Inspector's Correction Notice will contain a list of items that need to be addressed before calling for a re-inspection. A re-inspection fee will be due for items not corrected at the time of the second Inspection. Inspections shall 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 the Inspector's Correction Notice. If you have any questions regarding this information, please call your Inspector between 8:30 – 9:30 a.m. and 4:00 – 5:00 p.m. see our Staff Directory online. You can also view your inspection results from the "Online Property Inquiry" link at www.livonia.gov, Departments, Inspection (Building & Enforcement). The link will take you to the Assessor's Office page. Scroll down to the bottom of the page and click on "I agree, to proceed to the online property inquiry system" link. once in BS&A Online enter the address in the search bar. Click on the address when it appears, then click on the Building Department tab. Scroll down to the Permits tab.

BUILDING AND TRADE INSPECTIONS

New Home Construction

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

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

Water & Sanitary Sewer Open-Trench Inspections – Prior to covering any pipes. (for work within the right-of-way, or connections to public facilities, inspections are to be scheduled a minimum of 2 working days prior to any digging)

- Requested by calling Engineering Department at (734) 466-2571.
- Proper type of pipe and fittings will be verified.
- Proper depth, location and installation of pipe will be verified.
- A list of details and requirements is available from the Engineering Department website.

Open Rail Inspections – After the rails are formed for spread footings. This is done to verify:

- Footing sizes.
- That the footings match the approved plot plan.
- That the footings are being placed on solid undisturbed virgin soil.
- That any required reinforcing steel (rebar) is in place.
- Special footings that may require additional inspections prior to pouring are being inspected.
- Any walkout type footings in the basement are properly installed.
- That ground conditions indicate proper soil.
- That any engineered foundation system is being properly installed.
- That any engineered pile foundation system is being properly installed.
- That tree protection is being maintained as required.
- Electrical bonding is in place.

Backfill Inspections – These occur before backfilling, and after drain tile, stone and waterproofing or damp-proofing have been completed.

Note: A preliminary "As-Built" plot plan needs to be submitted and approved by the Inspection Department prior to backfilling and the start of any construction framing. If brick is not being installed on the home, the tar-line height shall be indicated on your construction drawings.

The inspection will verify:

- Proper installation of lead walls with footings to the edge of the excavation.
- 6 inches of stone cover required on drain tile has been installed.
- Foundation anchors have been properly installed.
- Damp-proofing applied from the footings to the proposed grade has been installed.
- Window wells or door openings for the basement are installed per approved plans.

Footing Inspections – Usually for garage and porch trench footings, these inspections verify:

- That footings rest on solid undisturbed soil.
- That footings are 42 inches below grade – minimum.
- That forming may be required to provide protection of footing due to ground conditions.
- That footings are installed in accordance with the approved plans.
- That footing locations and dimensions match the approved construction drawings and plot plan.
- That if required reinforcing steel (rebar) is in place and is of the proper size.

Underground Plumbing Inspections – These inspections are performed after all underground plumbing is installed and verify:

- The type and size of piping being used.
- The slope of pipe – 1/8 inch per foot minimum.
- That stone has been installed around the perforated pipe.
- That traps have been installed at all floor drains.
- That no broken or reclaimed concrete has been placed in contact with any pipe.

Concealed Gas Piping Inspections – These inspections are performed after gas piping that will be concealed is installed and fire-stopped with the proper material. The inspection will verify:

- Gas piping has been properly installed and no leaks exist (as witnessed by a gas pressure test).

Rough Plumbing Inspections – These inspections are performed after bathtubs, showers and all piping to be concealed in walls, floors and attics are installed and fire-stopped with proper material. The inspection will verify:

- The type and size of piping being used.
- That all water, sanitary and vent piping has been properly installed.
- That fire-stopping of all tubs, showers and piping per Michigan Residential Code requirements has been installed.
- Pressure testing for concealed piping, depending on job conditions, as determined by the Inspector.
- Venting methods for each fixture are those allowed for the types of fixtures connected.

Rough Mechanical Inspections – These inspections are performed after all concealed gas piping, duct work, return air, chimneys and electrical wiring are installed and fire-stopped with proper material. Approved Mechanical plans with Manual J calculations shall be on site for all Mechanical inspections. The inspection will verify:

- Proper clearance required between chimneys and combustible materials is maintained.
- Bath fan ducts have been installed and terminate to the outside at an approved location and at least 3 feet from any building opening (door, window, etc.).
- Complete framing and fire-stopping at all chimneys, chimney chases, return air and piping has been properly installed.
- That second floor registers have been covered.
- That floor registers in bathrooms, laundries and kitchen are one (1) inch above the finish floor.
- That floor registers located in bathrooms are located a minimum of 3’ from the water closet.
- That all ductwork has been sealed.
- That any exterior ductwork has been properly insulated and dampered.
- That information showing types, BTU ratings, and efficiencies of all furnaces has been provided and match the approved Mechanical plans.
- That info showing SEER ratings of all AC units has been provided and match the approved Mechanical plans.
- Any ductwork within the thermal envelope assembly and any ductwork outside the thermal envelope shall be leak tested in accordance with the Michigan Residential Code Energy requirements.

Rough Electrical Inspections – These inspections are performed after all wires, boxes and recessed fixtures are installed with grounds and neutrals tied together and all wire holes are fire stopped as required by the Michigan Residential Code. The inspection will verify:

- That wires extend a minimum of 6 inches out from all boxes.
- That all wires are secured as required by the Michigan Residential Code
- That smoke alarms are properly wired and interconnected with 3-wire cable.
- That carbon monoxide alarms are properly located.
- That all wire holes have been fire-stopped with proper material where required by Code.
- That vertical wires are not installed in return air areas.
- That any recessed fixtures installed in insulated ceilings are the proper type fixtures and have been installed per the Michigan Residential Code Energy requirements.
- That all switches, plugs and covers are not installed prior to the rough inspection.

Rough Fireplace

- **Masonry Fireplace Inspections** – These inspections are performed after the damper is installed and the smoke chamber is in place with the first flue set. The inspection will verify:
  - That concealed gas piping has been pressure tested prior to covering.
  - The type of mortar used in the fire box, hearth and smoke chamber construction meets Code requirements.
  - The size and location of the exterior air intake.
  - That a minimum 2-inch clearance from combustibles has been maintained from the first floor through the roof construction.
  - The size and construction of the hearth extension.
  - The flue size.
  - The location and construction of the fire damper and the smoke shelf.
  - The size of mortar joints in the fire box.

- **Pre-Fab Fireplace Inspections (A Mechanical Permit is required) –** These inspections are performed after the fireplace, chimney, and hearth extension protection has been installed as required by manufacturer. The inspection will verify:
  - That everything has been installed per the manufacturer's requirements. Installation instructions need to be on site for this type of inspection.
  - That clearance between the chimney and any combustible material is being maintained per the manufacturer's requirements.
  - That the framing and fire-stopping at fireplace and chimney chase is complete.
  - That any concealed gas piping has been properly installed and pressure tested, and fire blocked at floor penetrations.
  - That a proper hearth extension and protection per the manufacturer has been installed.

Pre-Masonry Inspections – These inspections verify:

- That the weather resistant building wrap has been installed properly with proper overlaps.
- That all joints and utility penetrations have been protected with the proper material.
- That a proper base course flashing material has been used and installed.
- That all door and window flashings have been properly installed.
- That all foundation anchorage has been properly installed.
- That wall bracing requirements have been met.

Rough Building Inspections – These inspections are performed after all rough plumbing, mechanical, electrical and fireplace inspections have been approved. (Approved plans and truss drawings need to be on site for these inspections.)

Floor Framing – These inspections will verify:

- The approved floor joists spans have been maintained.
- That floor trusses (if used) have not been damaged or modified in any way.
- That proper joist hangers have been installed and are properly nailed.
- That floor joists have not been improperly notched or bored.
- That all structural members have proper bearing.
- That there is proper support under all header studs.
- That there is proper support under all heat, cold air and plumbing cut outs.
- That there is proper support under all bearing walls.
- That the stairway will be a minimum 36-inch wide when all the walls are finished.
- That the stair risers are equal and have a maximum rise of 8-1/4 inches.
- That all stair treads are equal and have a minimum 9-inch depth.
- That all stair winders (if applicable) meet tread width and depth as outlined in the Michigan Residential Code.
- That proper headroom is provided in the stairway, 6'-8" minimum (measured from the nosing of the tread)
- That the approved sill plates have been installed at the perimeter of the foundation and have been properly attached with foundation anchors.
- That a minimum 18" x 24" crawl space access (if applicable) has been installed in the floor, or a 16" x 24" crawl space access has been installed in the foundation.
- That crawl space ventilation has been installed within three feet of all corners.
- That the engineered floor system (if applicable) has been properly laid out per the engineering.
- The steel beam sizing and column spacing and sizes of column footings. Proper bearing and connections will also be verified.

Wall Framing – These inspections will verify:

- Proper support under all beams and girders.
- Proper support under all girder trusses (if applicable).
- That studs have been doubled under any cut plates under joists.
- That the garage door header has proper support and any required straps or hold-downs have been secured to the framing.
- That treated plates have been installed where in contact with concrete.
- That any joints in top plates are staggered at least 24".
- That bottom plates have been properly nailed.
- That solid shims have been installed as necessary under any header bearing point.
- That all narrow wall bracing has been installed per Michigan Residential Code requirements.
- That studs have not been improperly notched or bored.
- That all proper wall bracing (exterior and interior walls) has been installed where required.
- That any damaged sheathing (holes) has been repaired.
- That the sheathing, if part of the brace wall design, covers the bond joist.
- That all holes thru plates (from wiring, plumbing, HVAC, etc.) have been properly fire blocked.
- That the chimney chase has been properly fire blocked.
- That all bathtubs and shower pans have been fire blocked completely and are properly insulated.
- That all dead spaces have been properly fire blocked.
- That all furred walls have been properly fire blocked.
- That all windows have been correctly installed and none are missing.
- That all required safety glass has been installed with readable labeling.
- That fire blocking has been installed in walls at 10' intervals both horizontally and vertically.
- That all bedroom egress windows meet the size requirements of the Michigan Residential Code.
- That all studs at wall intersections have been properly nailed.
- That all wall sheathing has been properly nailed.
- That the exterior house wrap has been installed properly.
- That the opening of any operable window is at least 24" above the finished floor if the window opening is more than 72" above the finished grade or surface below.
- That air barriers have been installed per the Michigan Residential Code energy requirements.

Roof Framing – These inspections verify:

- That roof trusses have not been altered or damaged during installation (if applicable).
- That all trusses bear at the design bearing points.
- That properly sized truss hangers have been installed at all girder truss connections.
- That rafters (if used) have not been over spanned.
- That ceiling joists (if used) have not been over spanned.
- That any porch roofs have been properly supported.
- That any bay roof framing has been completed and is weatherproof.
- That the ridge board is not undersized.
- That collar ties and rafter ties have been provided.
- That trusses have been properly braced per manufacturer's requirements and as noted on truss the drawings.
- That roof/ceiling framing members have not been improperly notched or bored.
- That shingles have been installed and nailed properly.
- That the roof sheathing is not over spanned.
- That a 22" x30" attic access has been installed with sturdy sides built up high enough to hold in required depth of blown in attic insulation.
- That all bath fan vents have been connected to their exhaust ductwork.
- That proper roof venting has been provided.
- That all framing hangers have been sized, installed, and nailed correctly.
- That truss drawings have been provided on site.
- That required blocking between trusses or rafters for proper wall bracing has been installed.
- That any valley board that lays on roof framing has been properly sized.
- That there is adequate support at all cut ends of rafters.
- That all truss and rafter wall connectors have been properly installed.
- That multi-ply girders are properly attached together per the truss drawings.

Energy Inspections – These inspections occur after all insulation has been installed. The inspection will verify:

- That insulation has been completed as required by your selected method of energy compliance per the submitted Michigan Residential Code Energy Worksheet for Single-Family Residential Buildings.
- That blown-in attic insulation (if applicable) can be checked at the Final Building Inspection.
- That insulation baffles have been installed for proper attic ventilation.
- That paper facing has been removed within 6 inches of all recessed lighting fixtures.
- That paper facing on insulation will be in substantial contact with wall, ceiling or floor coverings.
- That all doors and windows are labeled showing required U Factors.
- That the house wrap has been installed per manufacturer's installation instructions.

Basement Stone Inspections – These inspections occur after all underground plumbing has been inspected and approved and the floor is ready to pour. This inspection will verify:

- That a 4-inch sand or gravel base with a 6mil vapor barrier has been installed.
- That all foundation and basement walls are free from cracks.
- That the finish floor height matches the approved plot plan.
- The location of columns and column footings are per the approved plan.
- That the columns are installed properly.

Garage Sand Inspections – These inspections occur after all forms are set, the base is compacted, and all required reinforcement is installed. This inspection will verify that:

- A 4-inch sand or gravel base has been installed.
- That any forms required are installed and finish floor height is indicated on the walls.
- That the formwork at the overhead door extends down to top of the footing.
- That reinforcement is installed over the excavated area (by the house typically).
- That the brick ledge and footing have been cleaned off.
- All untreated wood is protected.
- That the floor will slope toward the overhead door.

Sump Line Inspections – These inspections occur after the sump line is installed and connected to the storm lead. An inspection can be requested by calling the Engineering Department at (734) 466-2571. (for work within the right-of-way, or connections to public facilities, inspections are to be scheduled a minimum of 2 working days prior to any digging) The inspection will verify:

- That the installation has been approved before you can request a water meter installation.
- That the inspection takes place prior to any piping being covered.
- The type and slope of piping.
- The connection to the existing storm lead will be checked.
- Connections of sump lines to drywells (if approved) are inspected by the Inspection Department, not the Engineering Department.

Sidewalk and Drive Approach Inspections – These inspections occur prior to concrete installation. Inspections must be scheduled with the Engineering Department a minimum of 2 working days prior.
The inspection will verify:

- That a 4-inch sand or gravel base has been installed and all forms are properly placed.
- The width and location will be checked according to the approved plot plan.
- That structures in or adjacent to the concrete are properly adjusted to match the finished elevation.
- That the property corners have been staked along the right-of-way to ensure proper location.

Sidewalks

- The cross slope will be checked. A maximum slope of 2.0 % is allowed. (1.5% is recommended)
- That there is a 4-inch minimum thickness. (6" minimum thickness for slabs adjacent to driveway approaches)
- That there is a 2-foot clearance from fixed objects (hydrant, utility pedestal, retaining wall, etc).
- That the sidewalk extends to the property lines and matches existing sidewalks.
- The maximum slope for any sidewalk ramp is 8.33% per sidewalk spec. sheet.
- That side yard drainage is not blocked.
- That detectable warnings are installed at all crosswalk ramps per Engineering Department requirements.

Drive Approach Inspections – This inspection will verify:

- The slope of the approach is a minimum 2% and maximum 8%.
- That the approach will have a 6-inch minimum thickness (including sidewalk at drive).
- That a 5-foot clearance between the drive and any hydrant is maintained.
- That the curb and gutter section has been properly curb and/or replaced if necessary.

Final Plumbing Inspections – These inspections take place after the water meter and all fixtures are installed and operational. This inspection will verify:

- That there is hot water to all fixtures.
- That all items installed have been listed on the Plumbing Permit. If additional items were installed, they need to be added to the Plumbing Permit before final approval can be given by the Inspector.

Final Mechanical Inspections – These inspections take place after all gas piping, furnace, duct work and return air is installed and operational. **Approved Mechanical Plans shall be on site for all inspections.** This inspection will verify:

- That the furnace manufacturer's installation instructions are on site.
- That all ductwork has been sealed and air tested as necessary.
- That dampers have been installed for all intake and exhaust openings.
- That all items installed have been listed on the Mechanical Permit. If additional items were installed, they need to be added to the Mechanical Permit before final approval can be given by the Inspector.

Final Electrical Inspections – These inspections take place after all electrical equipment, switches, plugs, covers and fixtures are installed and operational. This inspection will verify:

- That the electrical panel has been properly labeled indicating all circuits.
- That smoke alarms and carbon monoxide alarms are installed and operational.
- That light bulbs have been installed in all fixtures.
- That all items installed have been listed on the Electrical Permit. If additional items were installed, they need to be added to the Electrical Permit before final approval can be given by the Inspector.

Final Fireplace Inspections

- **Masonry Fireplace** – These inspections take place during the final Building Inspection. These inspections will verify:
  - That the fireplace and hearth are completed.
  - That proper clearance between the fireplace opening and any combustible materials has been maintained.
- **Pre-fab Fireplace** – These inspections take place after the fireplace surround and hearth extension have been installed as required by manufacturer. The inspection will verify:
  - That the manufacturer's installation instructions are on site.
  - That clearances between the fireplace surround and the fireplace meet the manufacturer's requirements.

Final Building Inspections – These inspections take place after final plumbing, mechanical, electrical, and fireplace inspections have been inspected and approved. This inspection will verify:

- That smoke alarms are interconnected and working properly.
- That carbon monoxide alarms are installed and working properly.
- That there is proper and equal height stair risers and tread widths on all stairs.
- That exterior painting and caulking has been completed.
- That proper drainage away from the building has been provided.
- That there is complete fire separation between the home and the garage.
- That all handrails have been terminated properly and meet the grasp ability requirements of the Code.
- That there is a properly installed address on the building.
- That there is at least 6 inches between the final grade and any untreated wood.
- That guardrails have been installed at all raised floor surfaces and open sided stairs located more than 30 inches above the floor or grade below.
- That all intermediate rails or ornamental closures in guardrails do not allow passage of an object 4 inches or more in diameter, or 4-3/8" in diameter for guardrails at stairways.
- That any doors leading to a deck or stairs that are not in place have been secured shut and are not openable.
- That all weep holes and flashing are visible where required by Michigan Residential Code.
- That all windows in bedrooms and basement areas meet emergency egress requirements.
- That the opening of operable windows is at least 24" above the finished floor if the window opening is more than 72" above the finished grade or surface below.
- That safety glazing properly identified and installed in all hazardous locations.
- All energy compliance items have been completed, including energy information installed by label.
- That the Insulator's Certificate has been provided for all blown insulation.
- That the results of the Blower Door Test have been provided.

Final Grade Inspections

An As-Built plot plan, signed and sealed by a Licensed Surveyor or Engineer showing what was actually constructed at your site, including all sidewalks, driveways, and grading elevations, shall be submitted and approved by the Inspection Department prior to a Final Grade Inspection request.

Permanent Erosion Control Inspections – These inspections verify:

- That all permanent erosion controls have been installed and are being maintained as required by Ordinance.
- That sod or grass seed at least 50% germinated is installed in the areas noted below:
  - The Right-of-Way, from the edge of the road to private property (typically 16.5 ft.).
  - All ditches.
  - The house side of any bike path or sidewalk.
  - At all slopes greater than 1 foot in 5 feet.
  - 10 feet around catch basins and storm manholes.
  - Any other areas prone to erosion as determined by the Inspector.
- The lot and the adjacent properties are free of debris.
- That the As-Built plot plan has been submitted and approved by the Engineering Department.
- That temporary controls have been removed and debris taken off-site by the developer.

Please note – You will need to locate and expose:

- Any gatewells.
- All fire hydrants.
- Any D-Boxes.
- The water stop box.
- All sanitary manholes.
- All storm manholes and catch basins.
- Property Corners.

Items to be Installed per the Approved Plot Plan

- Any ditches.
- All culverts.
- The drive apron and drive material.
- The sump pump discharge.
- Any right side yard swales.
- Any rear yard swales.
- Any left side yard swales.
- All required lot grading.
- Tree protection. (Engineering Department at (734) 466-2571 for final approval).
- All sidewalks.

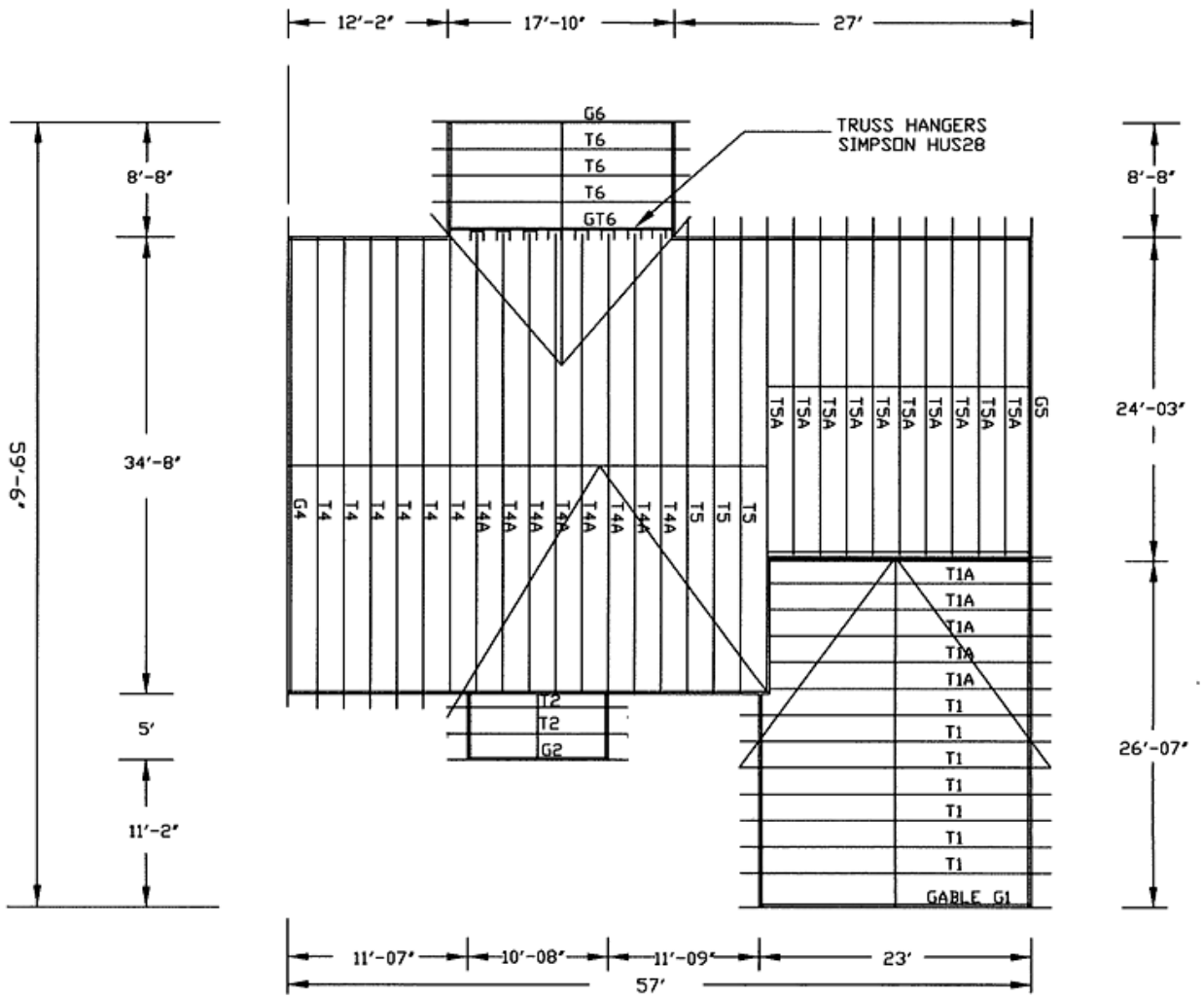
A grade inspection for a Temporary Certificate of Occupancy may be done prior to submitting an As-Built plot plan and grading completion if, in the opinion of the Building Official, weather conditions prevent the work from being completed.

Temporary Erosion Control shall be installed. Approval of the installation will be performed by the Engineering Department. Soil erosion fabric or silt fencing shall be installed at the following locations:

- The Right-of-Way.
- All ditches.
- The home side of the bike path or sidewalk.
- 10 feet around catch basins and storm manholes.
- Any other areas prone to erosion as determined by the Inspector.

NOTE: All wetland, floodplain, and steep slope requirements must be completed and approved by the proper agencies prior to Final Grade approval.

XYZ BUILDERS
LOT 13
XXXX STREET
ROCHESTER HILLS, MI.



ROOF TRUSS NOTES

TRUSS SPACING: 24" O.C.
LOADING: 47 PSF
TOP LL = 30
TOP DL = 7
BOT DL = 10
PITCH = 7/12
TYP OH = 16"

WALL HEIGHTS
1ST FLOOR: 9'-1 1/8"
2ND FLOOR 9'-1 1/8"

1. INDICATE SIZE, TYPE AND LOCATION OF ALL TRUSS HANGERS.

SAMPLE TRUSS SCHEMATIC

ZONING & GRADING

IMPORTANT INFORMATION
New Home Construction

The Zoning and Grading section of this Guidebook contains important information to help you submit a complete set of plot plans for a new home in the City of Livonia.

The following pages of information are included in this document:

Ordinances and Publications – A list of the Ordinances and publications used to compile the plot plan requirements.

Setback Requirements – Information to help you determine where your house can be located on your property.

Subdivision Zoning Districts – A list of all the City's subdivisions and their zoning classification.

Building Height – A detail page showing how the height of a house is calculated.

Plot Plan Requirements – A list of the items required to be shown on your 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 help speed up the review process.

Sample Plot Plan – A sample plot plan is enclosed.

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.

PLEASE NOTE: A Soil Erosion Control Permit from the Engineering Department is required prior to permitting for all New Home applications.

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

ORDINANCES AND PUBLICATIONS

New Home Construction

- City of Livonia Zoning Ordinance #543

- City of Livonia Codified Ordinance
  - Chapter 15.04 – Building & Construction
  - Chapter 15.04.280 – Fees
  - Chapter 12.04 – Sidewalks & Streets
  - Chapter 16.08.060 – Utilities
  - Chapter 16 - Land Development Regulations
  - Chapter 28.01 – Flood Plains
  - Chapter 2.56 – Historical Preservation
  - Chapter 12.20 -Natural Resources (wetland)
  - Chapter 16.16 – Planning – Unplatted Land
  - Chapter 15.36 – Soil Erosion

- Wayne County Department of Public Service (WCDPS)

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

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. To find your Zoning Code go to the Online Property Inquiry to determine your specific zoning classification. Then, refer to the chart below to determine the setback requirements for your area. To verify your correct Zoning District, please contact the Inspection Department at (734) 466-2580.

Zoning District	Front Setback	Side Setback	Rear Setback
R-1	25	5	30
R-2	30	6	30
R-3	35	8	30
R-4	40	10	35
R-5	50	12	45
RUF	50	10	50
AG	50	50	60
R-6	30	6(+)	50
R-C	50(c)	25(b)	50(c)
R-7	50(c)	30(b)	50(c)

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 setbacks. For example, you find from the chart above that your side yard setback is required to be a minimum of 25 feet, however, the average side yard setback of two at least is 60 feet, however, the average side yard setback is 30 feet.

(c) Footnote (c) applies to that when any front, rear or side yard abuts a single family residential district or a major thoroughfare of one-hundred-twenty (120) feet or more as indicated on the Master Thoroughfare Plan of the City of Livonia, the minimum setback shall be seventy-five (75) feet.

(+) The intent of Footnote (+) is to allow lots in R-6 Districts on which a one family dwelling is established shall have two (2) side yards, one with a minimum width of not less than six (6) feet and the aggregate width of both side yards shall not be less than sixteen (16) feet. All lots in R-6 Districts on which a two (2) family dwelling is established shall have two (2) side yards of not less than ten (10) feet each. In R-6 Districts, the width of side yards abutting upon a street shall not be less than seventeen (17) feet at the first floor level when rear yards abut rear yards; however, in case of a rear yard abutting a side yard of an adjacent lot, the side yard abutting upon a street shall be not less than thirty (30) feet. Every lot on which a building or structure used for a non-dwelling purpose, other than an accessory building is erected, shall have a side yard on each side of such lot, and each such yard shall be not less than fifteen (15) feet in width with an increase of one (1) foot in width for each five (5) feet or part thereof by which the said building or structure exceeds thirty-five (35) feet in over-all dimension along the side yard and also of an additional one (1) foot for every two (2) feet in height in excess of thirty-five (35) feet.

BUILDING HEIGHT

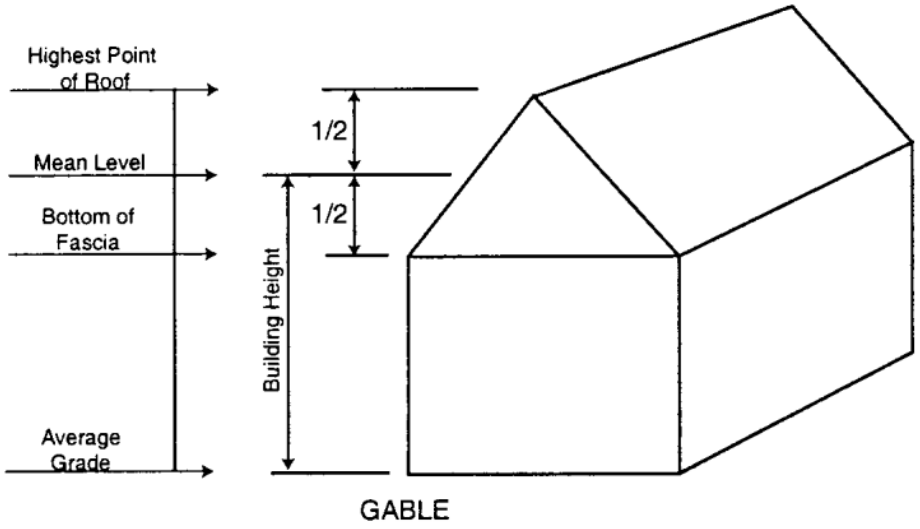
How Do You Calculate the Building Height?

Building Height means 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 - R-5 One Family Residential	35 feet (Maximum 2 stories)
RUF One Family Residential	35(+) feet (Maximum 2 stories)
AG One Family Residential	35(u) feet (Maximum 2 stories)
R-6 One & Two Family Residential	35(+) feet (Maximum 2 ½ stories)
R-C Condo Multiple Residential	35(+) feet (Maximum 2 stories)
R-7 Multi Apartment Residential	35(+) feet (Maximum 2 stories)

EXCEPTIONS

Footnote (+) of Zoning Ordinance 18.41 to 18.44 Building Heights

No residential buildings hereafter erected or altered shall be more than two (2) stories in height nor exceed thirty-five (35) feet in height, except as provided in Section 18.41 to 18.44, inclusive, of this ordinance.

Footnote (u) of Zoning Ordinance 6.09 Building Height.

No residential buildings hereafter erected or altered shall be more than two (2) stories in height nor exceed thirty-five (35) feet in height, except as provided in Section 18.41 to 18.44, inclusive, of this ordinance. No barn or accessory building shall exceed forty (40) feet in height.

PLOT PLAN REQUIREMENTS

New Home Construction

Three sets of plot plans with a current detailed topographic survey, prepared by a Professional Land Surveyor, Engineer or Architect, are required by Ordinance. Please see "Sample Plot Plan".

These plans shall contain the following information:

General:

The preferred plan size is 8-1/2" x 14". If it is necessary to go to a larger size, please do not exceed 18" x 24".
Builder's name, address and telephone number.

- A North arrow, legal description, street right-of-way and street name.
- The site benchmark that will be used to establish the home and site elevations.
- The dimensions required by the Michigan Residential Code if the building is built on or adjacent to slopes greater than 1 unit vertical to 3 units horizontal.
- A Plan scale between 1" = 20' and 1" = 50'
- Soil erosion control details for temporary construction control and for permanent controls to be placed prior to a final Certificate of Occupancy. (Placement of erosion controls are required to be shown on the plot plan for an approval from the Building Department).

A Soil Erosion Control Permit from Engineering is required prior to plot plan approval.

For all lots on public roads with sidewalks, liability insurance is required. Please call the Inspection Department at (734) 466-2580 for additional information.

Zoning:

- All the dimensions of the proposed structure and the lowest floor and first floor elevation.
- Exact lot dimensions and all setbacks from all sides of the home, measured at 90 degree angles to the property lines. (Setbacks must comply with Ordinance requirements. Please see "Setback Requirements").

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

Trees:

- 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.
- 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 home in the first 10 feet and a minimum of 1% grade for the remainder of the property for drainage.
- 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.
- 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 drains are not available in the subdivision.
- The exterior home elevations at no less than the four corners. If the brick ledge of the home drops 2 feet or more, show the location and elevation of the drop. The brick ledge should be stepped uniformly. If the home has a walkout basement proposed, label and show the location and elevation of the walkout area.
- The location and elevation 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 home.

Utilities:

- All existing and proposed utilities, including septic systems and wells with elevations.
- If a sanitary sewer lead is not available for the home, contact Engineering Services at (734) 466-2571 for a right-of-way permit to tap the main. This permit is required prior to plot plan approval.
- The sidewalk (if applicable) with elevations at both side property corners and at the driveway. The cross slope requirements are 2% (1.5% is recommended). 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).
- 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 Engineering Department at (734) 466-2571 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.

- 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.
- All existing curb drops and all proposed curb cuts.
- The angle of the driveway (should be 90º to the roadway edge).
- All roadside features and the sight distance for the approach.

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.

Minimum Driveway Clearance:

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 Engineering Department is required for the adjustment and isolation of the structure (Detail available). For information, call (734) 466-2571.

Wetlands and Floodplains:

Please 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 12.20.

Also, please show the location and elevation of all watercourses and provide the floodplain elevation on the plan. Adhere to the City of Livonia Flood Plain Ordinance Chapter 28.01.

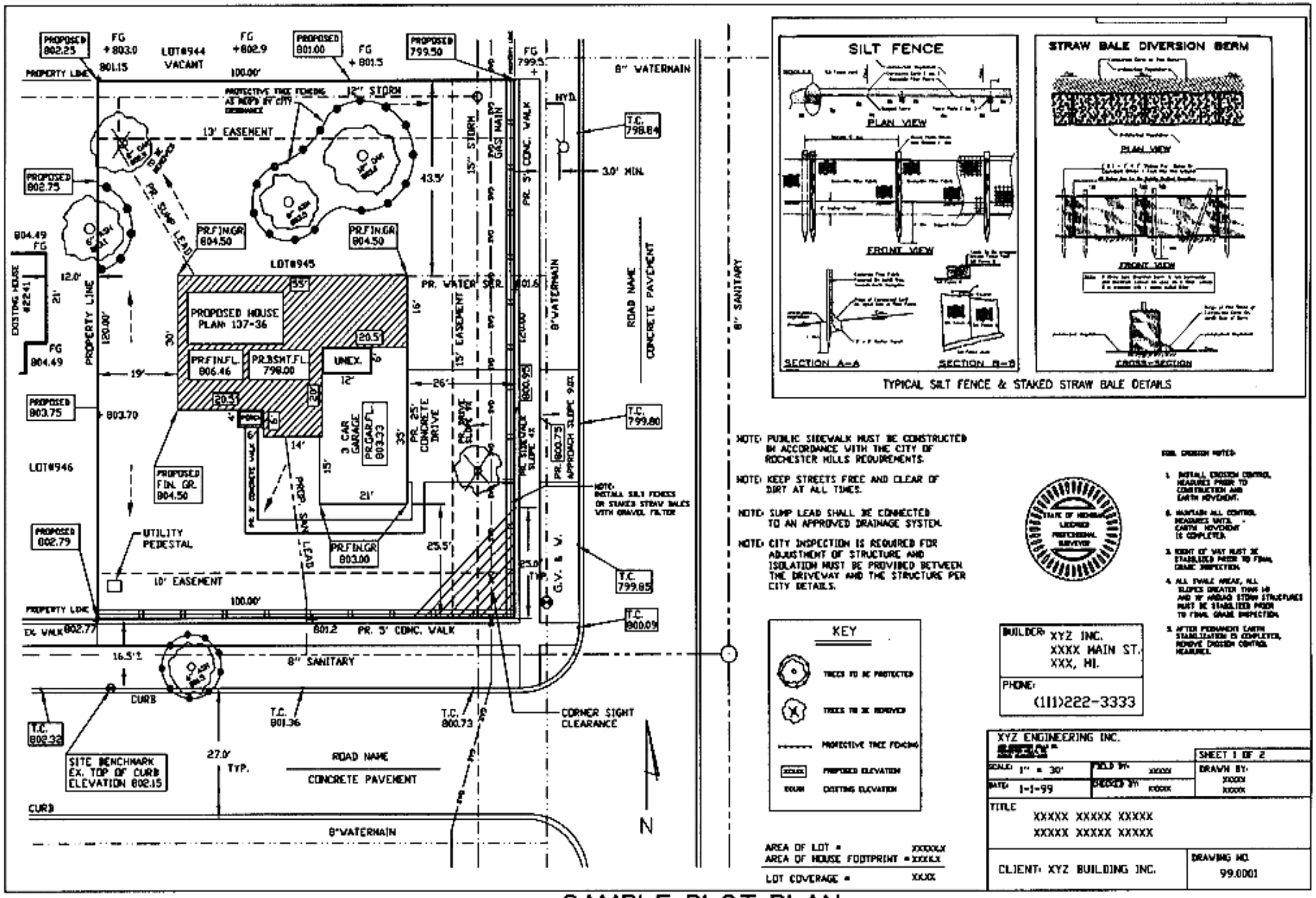
Provide a State of Michigan Department of Environmental Quality permit if the property has state regulated wetlands.

Other Agency Permits That May Be Required:

Wayne County Department of Public Service (WCDPS)

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.

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



TYPICAL SILT FENCE & STAKED STRAW BALE DETAILS

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.

KEY

- TREES TO BE PROTECTED
- TREES TO BE REMOVED
- PROTECTIVE TREE FENCING
- PROPOSED ELEVATION
- EXISTING ELEVATION

AREA OF LOT = XXXXX
AREA OF HOUSE FOOTPRINT = XXXX
LOT COVERAGE = XXX

SOIL EROSION NOTES:

1. INSTALL EROSION CONTROL MEASURES PRIOR TO CONSTRUCTION AND EARTH MOVEMENT.
2. MAINTAIN ALL CONTROL MEASURES UNTIL EARTH MOVEMENT IS COMPLETED.
3. SOIL OF VAST MUST BE STABILIZED PRIOR TO FINAL GRADE INSPECTION.
4. ALL SWALE AREAS, ALL SLOPES GREATER THAN 1:3 AND BY AROUND STORM STRUCTURES MUST BE STABILIZED PRIOR TO FINAL GRADE INSPECTION.
5. AFTER PERMANENT EARTH STABILIZATION IS COMPLETED, REMOVE EROSION CONTROL MEASURES.

STATE OF MICHIGAN LICENSED PROFESSIONAL SURVEYOR

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

PHONE: (111)222-3333

XYZ ENGINEERING INC.

SHEET 1 OF 2

SCALE: 1" = 30'
DATE: 1-1-99
FIELD BY: XXXXX
CHECKED BY: XXXXX
DRAWN BY: XXXXX XXXXX

TITLE
XXXXX XXXXX XXXXX
XXXXX XXXXX XXXXX

CLIENT: XYZ BUILDING INC.

DRAWING NO. 99.0001

SAMPLE PLOT PLAN