

Department of Public Services

Building • Engineering • Planning • Maintenance

Address:

Lot#\_\_\_\_\_

# POOL, HOT TUB & SPA REQUIREMENT CHECKLIST

1.	a. b. c.	ete Application Page 1, filled out accordingly Signed in two (2) places (pgs. 1 & 3) Total % of rear yard lot coverage Total cost of improvement If Contractor, must fill out pg. 3; Contractor	
2.	Signed Contract With Homeowner (If using a contractor)		
3.	Homeowner's Association Approval		
4.	a. b.	Heater information Deck, patio, concrete, pavers?	
5.	Yard &	wo (2) Complete Site Plans w/Setbacks to rear (ard & side yards) a. Show pool equipment location	
6.	Fence a. b.	Application Submitted At The Same Time Can be combined on one permit application Brochure or detail drawing showing type of fence & dimensions between vertical & horizontal members	
7.	Must apply for all applicable mechanical & 🗌		
8.	Contractor's license & Driver's license; if required *Builders not currently registered can register at the time of c the following:		

- \*Builders not currently registered can register at the time of application by providing or presenting the following:
  The original or a copy of your Builder's License
- The original or a copy of your Driver's License
- Registration fee is \$35.00 until the end of the License.

\*\*NOTE: this packet does not include all code sections that might apply to your particular project. It is your responsibility to make sure your project complies with the Michigan Residential Code. It is also your responsibility to complete your project and have all necessary inspections that may be required.

# **SEE PORTION OF THE CODES BELOW:**

# Swimming Pools, Spas, Hot Tubs & Other Similar Devices

The Charter Township of Northville Zoning Ordinance, Chapter 170, Article 3, §170-3.3, E. Swimming pools, spas, hot tubs, and other similar devices shall be subject to the following:

- 1. Facilities shall not be located in any front yard.
- 2. Swimming pools, spas, hot tubs and other similar facilities, including surrounding decks, walks or other accessories, shall be setback ten (10) feet from adjacent lot lines. There shall be a minimum ten (10) feet separation between an outdoor pool and the principal dwelling.
- 3. When said facilities contain 24 inches or more of water at any point, a fence or enclosure is required. Enclosures, including the gate, lock and fence must be approved by the Chief Building Official and comply with the Building Code.
- 4. Hot tubs or other similar facilities must be enclosed by a fence or shall include a locking lid.

# **GUIDELINES**:

# BEFORE YOU BUILD Residential Swimming Pools, Hot Tubs and Spas

**Location** – Residential swimming pools, hot tubs, or spas shall not be located within any easement, above a septic field or tank, or water well. Overhead wires (electric, phone, cable) shall not be located over a pool, diving structure, any pool platform or within 10 feet of the water's edge. All wires beyond 10 feet must be at least 22-1/2 feet above the ground, deck, patio, or other walking surface below the wires. You may verify the location of all underground utilities by calling Miss Dig at 1-800-482-7171.

<u>Setbacks</u> – All residential swimming pools, hot tubs and spas shall be at least 10 feet from the side and rear property lines, 10 feet from the home and shall not be located within any front yard. The setback distance is measured from the walking surface to lot line.

**Drainage** – Will the existing yard drainage be affected by the location of the proposed pool? All changes to the existing drainage shall be shown on the Plot Plan. If large grade changes and/or slopes are proposed, retaining walls or special grading may be required. See "Plot Plan Requirements" – pages 13-15. If you have any questions, please call the Building Department at (248) 348-5830.

<u>Flood Plains</u> – 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 you are proposing to build a residential swimming pool, hot tub or spa or place fill in a floodplain, it may require a Structural Engineer's design and a Floodplain Use Permit prior to Building Permit approval.

<u>Wetlands</u> – These areas have been determined to be indispensable and are to be protected as a natural resource. They provide numerous beneficial functions such as wildlife habitat, water, quality, flood control, pollution reduction, erosion control, open space, recreation areas and aesthetics. If your residential swimming pool, hot tub or spa will be close to or in regulated wetlands, additional paperwork, including permits, may be required from the Township or State of Michigan prior to Building Permit approval.

<u>Pool Fences/Barriers to Create an Enclosure</u> – All residential swimming pools (and hot tubs and spas not provided with a protective cover) shall be protected by fences/barriers to create an enclosure to make the area inaccessible to small children. Enclosures may include approved fencing, the walls of a house, the walls of above-ground pools, gates, and door and window alarms. See "Construction Requirements".

These are some of the common items that may cause delays in the permit process. If your project is beyond the scope of this guide, additional requirements may be necessary.

#### PERMITTING PROCESS:

#### Permits

Construction drawings will be reviewed for compliance with Township Ordinances, the Michigan Residential Code (MRC), and the International Swimming Pool and Spa Code (ISPSC). Plans are reviewed in the order they are received, based on the application date. Plan Review times

vary depending on the Building Department's workload.

Plans that contain all the necessary information and details will help speed up the plan review process.

The Permit Applicant will be notified if the plans do not meet Michigan Residential Code requirements, or if any additional information is required by email.

#### Permit Ready

When a Permit has been processed, the Permit Applicant will be emailed when the Building Permit is ready to be picked up.

**Mechanical and Electrical Permits** are typically required and can be obtained after the Building Permit has been issued.

\*All items to be installed shall be listed on the appropriate permits.

\*Items not listed shall be added to the appropriate permits prior to the Final Inspection.

# When the required permits are obtained, construction may begin. Revisions to the residential swimming pool, hot tub or spa or grade after issuance of the Building Permit may require re-submittals and re-approval from the Building Department.

The following items shall be maintained throughout the construction process:

\*The street address shall be posted on the house and visible from the street.

\*The street shall be kept clean.

\*All construction materials and debris shall be contained on the property.

\*Temporary soil erosion control shall be erected and maintained (as applicable).

Inspections (See "Inspection Requests") Once your Building Permit has been issued, you can begin construction. Approved plans shall be on site for all inspections. Your residential swimming pool, hot tub, or spa will be reviewed and inspected in accordance with the requirements of the Michigan Residential Code (MRC). As your project progresses, the Building Department will need to perform the following inspections (as applicable to your type of project):

# A. Underground Mechanical Inspection (as applicable)

\*Underground gas lines shall be inspected before covering. \*All work shall comply with the Michigan Residential Code (MRC).

- B. Underground Electrical Inspection After grounding, bonding and all underground Electrical work is completed, the Electrical work shall be inspected before covering. The following will be verified:
   \*Proper materials approved for pool installations have been used. Contact the Electrical Inspector at (248) 348-5830 between the hour of 8:00-9:00 A.M. if you have questions.
   \*Wiring from house to pool is at least 18 inches below grade.
   \*All work complies with the Michigan Residential Code (MRC).
- **C. Steel or Structural Inspection** (for In-Ground Pools only) Required before concrete, gunite or backfill. The following will be verified:

\*Structural steel and reinforcement shall be installed in accordance with the approved plans and the manufacturer's requirements.

- **D. Final Mechanical Inspection (as applicable)** After all Mechanical equipment and gas piping are installed and operational. The following will be verified:
  - \*Above-ground gas piping and pool heater have been properly installed with the correct materials.
  - \*Pool heaters have been provided with a readily accessible on/off switch to allow shutting off the heater without adjusting the thermostat setting.
  - \*Pool heaters do not have continuously running pilot lights.
- E. Final Electrical Inspection After all Electrical equipment, switches, plugs, covers and fixtures are installed and operational. The following will be verified:

\*All grounding and bonding has been completed.

\*Ground fault circuit interrupters operate properly. The proper breaker size has been installed.

\*Timer switches have been installed that can automatically turn off and on heaters and pumps according to preset schedules.

**Please Note:** The Inspector may need access to the inside of the house to complete the Electrical inspection. An adult will need to be present for the Inspector to enter the house.

- **E. Final Building Inspection** After Mechanical and Electrical inspections (as applicable) are done and the pool enclosure/barrier is completed.
  - \*A Final Inspection is required for all residential swimming pools, hot tubs, and spas.
  - \*Common items the Inspector looks for are:
    - Window and door alarms have been installed on all required windows and doors
       (Please Note: An adult will need to be home to allow access to check the alarm operation.)
    - $\circ$   $\,$  The proper type and installation of fencing and gates.
    - $\circ$   $\;$  Swimming pool walls and floor slope.
    - o Diving board requirements (if applicable).
    - A vapor retardant pool cover is available, on the water surface of the pool or nearby.
    - A safety cover has been installed on the hot tub or spa if a barrier is not being installed.
    - Ladder installation (as applicable).
    - Grading has been done in accordance with approved plot plan.

This itemized list is provided as a guide to help you understand the process for installing a residential swimming pool, hot tub or spa in the Township of Northville. It covers the most common types of projects. If your project is beyond the scope of this guide it may require additional information, inspections or permits. Please call the Building Department at (248) 348-5830, if you have any questions on how to apply this guide to your specific project.

#### **BUILDING PERMIT FEES**

Residential Swimming Pools, Hot Tubs and Spas

1.	Application Fee_       \$2         Non-refundable and due when the permit application is submitted.	25.00	
2.	<b>Building Permit Fee</b> Based on the Contract Value of the project excluding site work. Refer to Fee Chart below.		
	Construction Value (A) \$1000.00 and under	60.00	
	(B) \$50,001.00 to \$100,000.00- \$795.00 plus \$10.00 for each additional \$1000.00 or part thereof over \$50,001.0	00	
	(C) \$100,001.00 to \$250,000.00- \$1,295.00 plus \$5.00 for each additional \$1000.00 or part thereof over \$100,000	0.00	
3.	Building Plan Review Fee         \$50	0.00	
4.	Registration Fee for Residential Builder Licenses \$35.00 until end of calendar year		
5.	Re-inspection Fee\$5	50.00	

#### **INSPECTION REQUESTS**

#### The Building Department offers two convenient methods to allow you request inspections:

- Inspection Request Line An Inspection may be requested by calling our Inspection Request Line at (248) 348-5830 and providing the following information:
  - The Street Address of the job site.
  - The Permit Number.
  - The type of Inspection you are requesting.

Please Note: All requests must be made by 3:30 p.m. for next day inspections.

• Online Inspection Requests – Inspections may also be requested by visiting the Building Department's website www.twp.northville.mi.us. Register with BSA online and call us at 248-348-5830 to link your username. Once linked, you will be able to schedule your inspections online.

Inspections scheduled before 3:30 p.m. that have been verified by the Building Department Staff will be scheduled for the next business day between 9:00 a.m. and 4:00 p.m. Inspections may be done earlier or later depending on the Inspector's workload.

# A request to cancel an Inspection needs to be called in to the Building Department at (248) 348-5830 before 9:00 a.m. on the day of the requested Inspection.

Please make sure your project is ready for your inspection. If your project is not ready for an inspection, the inspection will not be done and an \$50.00 re-inspection fee may be charged. The following items shall be completed or in place at the time of the inspection:

- Safe access to the job site and throughout the area to be inspected.
- Approved plans on site.
- The job ready for inspection.
- The Street address and lot number posted and visible from the street.
- Temporary soil erosion control properly installed.
- The street kept clean.
- All construction materials and debris contained on the project property.
- Any required tree protection properly installed and maintained.

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

Green TagYour Inspection has been approved.Red Tag/Inspector's ReportYour Inspection has not been approved. The Report will contain a list ofitems that need to be addressed before calling for a re-inspection. An \$50.00 re-inspection fee will becharged for any items not corrected at the time of the second inspection. Inspections need to beapproved before proceeding with the next phase of your construction project.

It is your responsibility as the permit holder to check the job site for the inspection results. Please read the information on all Inspection Reports. If you have any questions regarding this information, call (248) 348-5830 between 8:00 a.m. and 9:00 a.m. and ask to speak with the Inspector that wrote the Inspector's Report.

# **CONSTRUCTION REQUIRMENTS**

#### **Residential Swimming Pools, Hot Tubs and Spas**

Your residential swimming pool, hot tub or spa will be reviewed and inspected in accordance with the following:

Building Code:	2015 Michigan Residential Code (2015 MRC) and, by reference, the 2015 ICC International Swimming Pool and Spa Code (2015 ISPSC)
Mechanical Code:	2015 Michigan Residential Code (2015 MRC)
Electrical Code:	2015 Michigan Residential Code (2015 MRC)
Plumbing Code:	2015 Michigan Residential Code (2015 MRC)

#### 1. Setbacks:

All residential swimming pools, hot tubs and spas shall be at least 10 feet from the side and rear property lines and shall not be located in the front yard. The setback distance is measured from the walking edge.

# 2. Residential Swimming Pool, Hot Tub, and Spa Construction:

The residential swimming pool, hot tub, or spa shall be installed and/or constructed in accordance with the manufacturer's installation instructions, the approved construction drawings and the approved Plot Plan.

**Safety Precautions** shall be maintained throughout construction. Residential swimming pools, hot tubs or spas shall not be filled with water until the pool fence/barrier requirements of the Michigan Residential Code are completed. See Pool Fence/Barrier Used as an Enclosure information.

**Wall Slopes:** (this typically applies to In-Ground pools only) The wall slopes around the pool shall not exceed 11% to a depth of 2 feet 9 inches from the top. Please provide wall slope details on your pool sections. See "Pool Section Details".

**Floor Slopes:** (this typically applies to In-Ground pools only) The slope of the floor on the shallow side of the transition point shall not exceed one-unit vertical to seven units horizontal. Please provide floor slope details on your pool sections. See "Pool Section Details".

**Surface Cleaning:** All residential swimming pools shall be provided with a re-circulating skimmer or overflow gutters to remove scum and foreign matter from the surface of the water. Please indicate the type of

surface cleaning to be used.

**Steps and Ladders:** At least one way to get out of the swimming pool shall be provided. Treads of steps and ladders shall have a slip resistant surface. All steps and ladders shall comply with the requirements outlined in the Michigan Residential Code and the International Swimming Pool and Spa Code. Construction plans shall show the location and details of the steps and/or ladders.

**Water Treatment:** Swimming pool filters shall have the capacity to filter the total volume of water in the pool at least once every 12 hours. The pool Owner shall be instructed in the care and maintenance of the pool by the Supplier or Builder, including treatment.

**Diving Boards:** (this typically applies to In-Ground pools only) The International Swimming Pool and Spa Code referenced in the Michigan Residential Code has specific requirements for the installation of diving boards, dependent on your residential swimming pool configuration. Please refer to the International Swimming Pool and Spa Code for specific requirements. if your residential swimming pool will have a diving board, you will need to provide information that shows how your diving board will comply with the International Swimming Pool and Spa Code requirements.

# 3. Pool Fence/Barrier Used as an Enclosure

All residential swimming pools, hot tubs, or spas shall be protected by a fence/barrier enclosure to make the area inaccessible to small children. Approved fencing, walls of the pool, walls of the house, gates, and door and window alarms may be part of fence/barriers used as enclosures. Enclosures are not required for hot tubs or spas when an approved lockable safety cover that has been tested in accordance with ASTM F-1346-91 (2010) and bears a tag stating compliance has been installed. Enclosures are also not required for residential swimming pools protected with an approved safety cover.

Residential swimming pool, hot tub and spa enclosures shall meet the following requirements:

# Fence/Barrier:

The fence/barrier shall be 48 inches above the grade measured on the side of the fence/barrier that faces away from the swimming pool, hot tub or spa.

**Please Note:** If property within 3 feet of a fence/barrier slopes upward, or contains a retaining wall or some similar climbing feature, the fence/barrier will have to either be increased in height or moved further back onto the property containing the residential swimming pool, hot tub or spa to accommodate the height difference at the adjacent property. This requirement ensures that the 48" barrier/fence height is properly maintained around and within 3 feet of the entire residential swimming pool, hot tub or spa and that higher surfaces cannot be used to help climb over the fence/barrier.

The maximum vertical clearance between the fence/barrier and surfaces that are not solid, such as grass or gravel shall be 2 inches measured on the side of the fence/barrier that faces away from the residential swimming pool, hot tub or spa.

The maximum vertical clearance between the barrier and a solid surface such as concrete shall not exceed 4" measured on the fence/barrier that faces away from the residential swimming pool, hot tub or spa.

Openings in the fence/barrier shall not allow the passage of a 4-inch diameter or larger sphere (openings shall be less than 4").

Solid fences/barriers such as brick or masonry walls shall not contain indentations or protrusions that would

create a toe-hold or make the fence/ barrier climbable.

**Closely Spaced Horizontal Members** - Where the fence/barrier is composed of horizontal and vertical members (wood, aluminum, picket, etc.) and the distance between the tops of the horizontal members is less than 45 inches, the horizontal members shall be located on the residential swimming pool, hot tub or spa side of the fence/barrier. Spacing between vertical members shall not exceed 1-3/4".

**Widely Spaced Horizontal Members** - Where the fence/barrier is composed of horizontal members and the distance between the tops or the horizontal members is 45" or more, spacing between vertical members shall not exceed 4". (This typically applies to wrought iron fencing.)

**Lattice fencing** may be used as a fence/barrier when properly supported and the opening formed by the diagonal members is not more than 1-3/4 inches. The angle of the diagonal members from horizontal shall not be less than 45 degrees.

# Gates:

\*Access gates shall comply with the fence/barrier requirements.

\*Gates shall be equipped to accommodate a locking device.

\*Pedestrian access gates shall open outward away from the residential swimming pool, hot tub or spa and shall be self-closing and have a self-latching device.

\*Utility or service gates not intended for pedestrian use shall remain locked when not in use.

\*Double or multiple gates shall have at least one leaf secured in place and the adjacent leaf shall be secured with a self-latching device. The release mechanism is required to be 54" above the grade. \*If the release mechanism of the self-latching device is located less than 54 inches from the grade, the following requirements apply:

- The release mechanism shall be located on the swimming pool, hot tub or spa side of the gate at least 3 inches below the top of the gate.
- The gate and fence/barrier shall not have an opening greater than ½ inches within 18 Inches of the release mechanism.

# **Doors and Windows:**

Doors and windows that form part of a residential swimming pool, hot tub or spa fence/barrier enclosure and provide direct access to the residential swimming pool, hot tub or spa from a house or garage area shall comply with the following requirements:

\*Each door and window shall contain a listed and labeled hazard entrance alarm (per UL 2017) that produces an audible warning when the door or window and its screen, if present, are opened. \*The audible warning shall start immediately after the door or window and its screen, if present, are opened.

\*The audible warning shall sound continuously for at least 30 seconds.

- The alarm shall be capable of being heard throughout the house.
- The alarm shall automatically reset under all conditions.
- The alarm shall be equipped with a deactivation device such as a touch pad or switch.
- The deactivation device shall temporarily deactivate the alarm for not more than 15 seconds to allow a single opening for the door from either direction.
- The deactivation device shall be located at least 54 inches above the floor.

\*A listed and labeled safety cover that meets the requirements of ASTM 1346 may be used in lieu of door and window alarms.

#### Above-Ground Residential Swimming Pools:

The walls of the above-ground residential swimming pool can be used as part of the fence/barrier if the top of the pool walls are at least 48 inches above the grade for the entire perimeter within 3 feet of the pool and the pool manufacturer allows the walls to serve as the fence/barrier.

Ladders or steps used to access the residential swimming pool, hot tub or spa shall be capable of being secured, locked, or removed to prevent access. Ladders or steps may be enclosed with fencing/barriers and gates that meet fence/barrier requirements.

#### Hot Tubs and Spas:

Hot tubs and spas shall be provided with an approved lockable safety cover that has been tested in accordance with ASTM F-1346-91 (2010). All approved safety covers shall have a tag indicating that the cover has passed the ASTM F-1346-91 (2010) test.

Safety covers are not required when hot tubs or spas are enclosed by a fence/barrier that meets all the guidelines mentioned above.

#### **Entrapment Protection:**

Residential swimming pools, hot tubs and spas shall have suction outlets provided in accordance with ANSI/ASPS/ICC-7 2103.

#### Wood Decks Constructed Near a Residential Swimming Pool, Hot Tub or Spa:

Wood decks constructed near a residential swimming pool, hot tub or spa shall comply with the requirements of the Residential Wood Deck Construction Guide (based on the Michigan Residential Code) and the International Swimming Pool and Spa Code (General requirements and requirements for above-ground pools). Additional wood deck permit maybe required.

# <u>PLOT PLAN REQUIREMENTS</u> Residential Swimming Pools, Hot Tubs and Spas

Two sets of Plot Plans containing all the information and details noted below shall be submitted with the Building Permit application. See "Sample Plot Plans". The Plot Plans can be drawn by the Homeowner, Contractor, Land Surveyor, Engineer or Architect. Special circumstances may require Plot Plans to be drawn by a licensed Engineer, Architect or Land Surveyor. This will be determined during the Plan Review process.

The Plot Plans shall contain the following information:

#### <u>General</u>:

Builder's name, address, and telephone number.

The North arrow, street right-of-way and street name.

The plan scale shall be between 1'' = 20' and 1'' = 50'.

The preferred plan size is  $8 \frac{1}{2}$ " x 11". If it is necessary to go to a larger size, please do not exceed 18" x 24".

Temporary soil erosion control measures may be required based on the field conditions.

Permanent soil erosion control measures may be required for Final Grade approval.

#### Zoning and Building:

Show lot dimensions.

Show the location and dimensions of the proposed residential swimming pool, hot tub, or spa and ALL structures on the lot.

Indicate the distance from the walking surface to all property lines, easements and buildings.

Show the location of all fencing and gates.

Indicate the location of all above-ground and underground utilities. Include septic and well, if applicable.

Show the location of all overhead wires. Include the distance between the wires and the water's edge, and the height of the wires above the ground, deck, patio, or other walking surface below the wires.

Overhead wires (electrical, phone or cable) shall not be located over a pool or within 10 feet of the water's edge. All wires beyond 10 feet, shall be at least 22-1/2 feet above the ground, deck, patio, or other walking surface below the wires.

The Plot Plan footprint and the construction drawings shall be consistent.

# Grading and Drainage:

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 are required for drainage.

Indicate existing and proposed drainage patterns.

Show the location and elevations of all easements and utilities including manholes, gate wells, hydrants, phone, electric, gas, cable, etc.

The maximum slope allowed is 1-foot vertical to 3 feet horizontal (33%). All slopes exceeding 1foot 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 Plan Review process.

#### Wetlands and Floodplain:

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

Show the wetland limits, natural features setback and protective fencing.

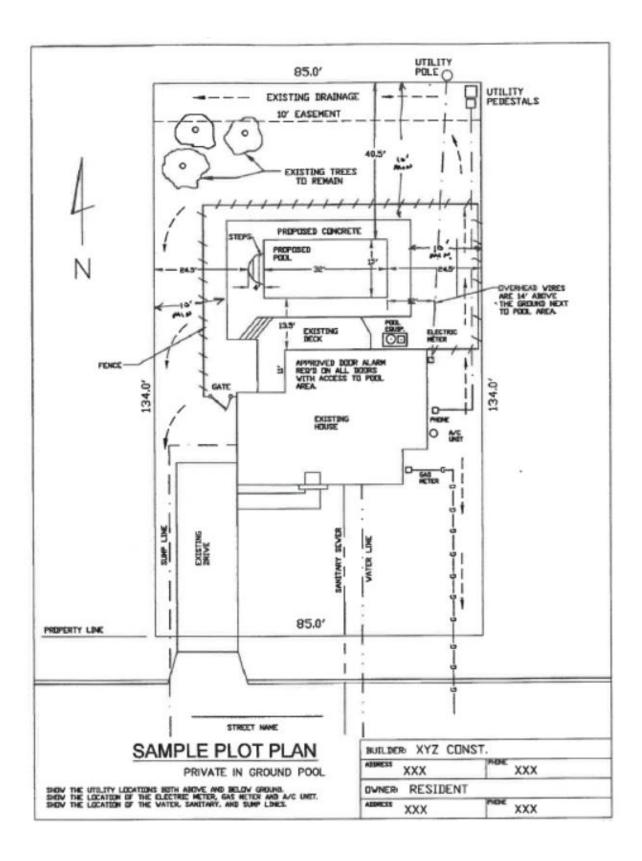
Show the location and elevation of all watercourses and provide the flood plain elevation on the plan.

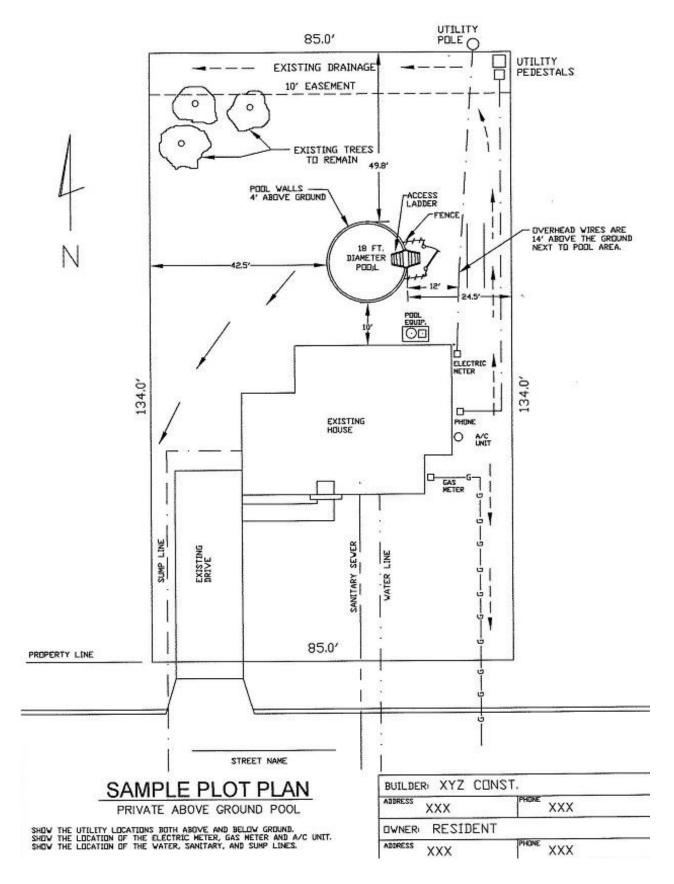
Provide a State of Michigan Department of Environmental Quality Permit if the property has state-regulated wetlands.

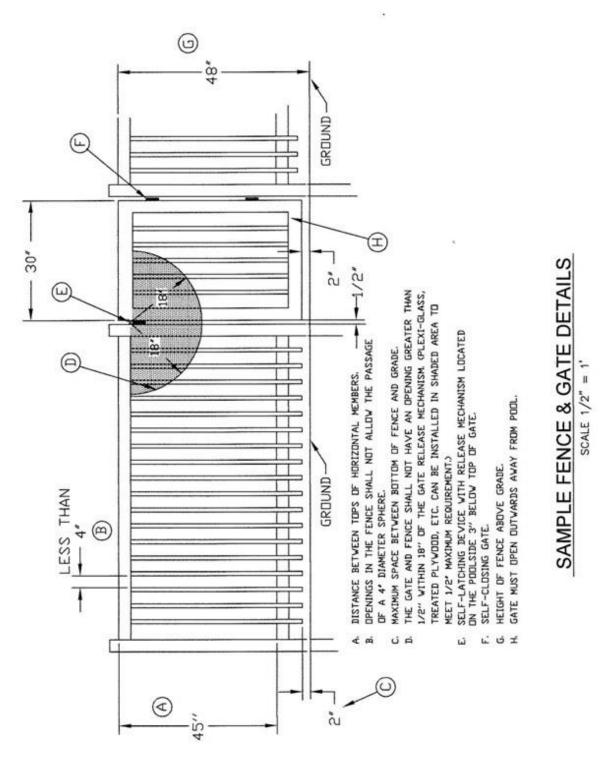
The requirements noted above are taken from the following Codes, Ordinances, and publications:

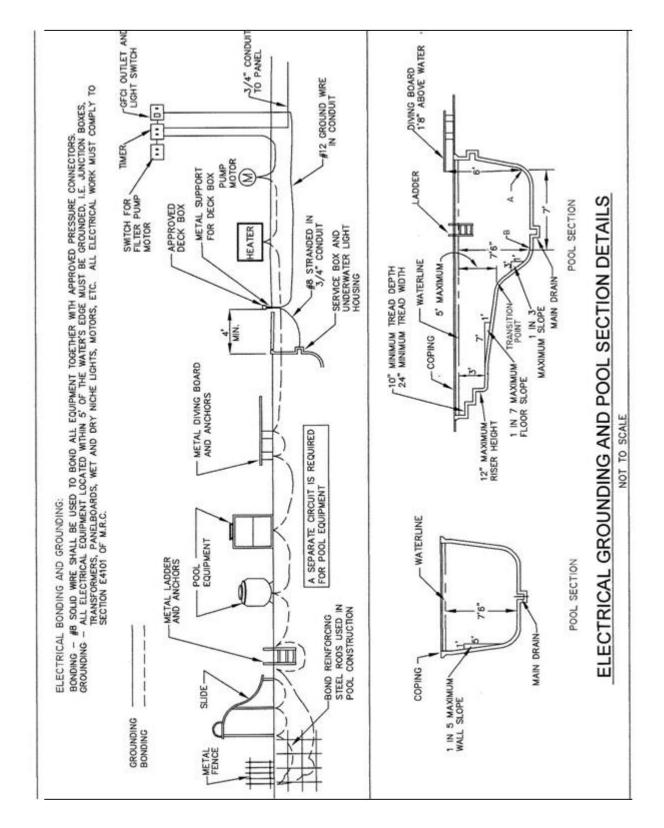
Michigan Residential Code (MRC) International Swimming Pool and Spa Code (ISPSC)

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









www.twp.northville.mi.us • 44405 Six Mile Road • Northville, Michigan 48168 • Ph. 248.348.5830