



CITY OF SOLON RESIDENTIAL DRIVEWAY/SIDEWALK/PATIO PERMIT APPLICATION

PERMIT #: _____

The following applicant hereby applies for a permit for the construction, addition or replacement of a driveway, sidewalk or patio in the City of Solon. Upon approval of this permit, the applicant agrees to comply with all applicable codes, regulations and policies of the City of Solon. The applicant further agrees to repair to the satisfaction of the City, any damage to City or private property. This includes, but is not limited to, damage to manholes, water boxes or cleanout(s) caused by the applicant's activities or by others working for or under the direction of the applicant.

Owner's Information		
Name:	Email:	Phone:
Address:	Property Address (if different):	
Contractor's Information		
Name:	Email:	
Address:	Estimated Cost of Job: \$	
Company Phone:	Cell:	Fax:
Acknowledgement of Notice (required): By signing this form you are acknowledging that you have been notified of the detailed specifications, as attached, which you as the applicant agree to comply with in the performance of the work contemplated under this application.		
Signature of Applicant		Date

Existing Type:	<input type="checkbox"/> Concrete	<input type="checkbox"/> Asphalt	<input type="checkbox"/> Stone	Driveway:	<input type="checkbox"/> New Home	<input type="checkbox"/> Addition to Existing
Proposed Type:	<input type="checkbox"/> Concrete	<input type="checkbox"/> Asphalt	<input type="checkbox"/> Other		<input type="checkbox"/> Existing (Replace w/ changes)	<input type="checkbox"/> Existing (Replace as is)
MUST PROVIDE DIMENSIONS:				Patio:	<input type="checkbox"/> Replace existing	<input type="checkbox"/> Addition
	Length (ft)	Width (ft)	Total Area (sq ft)	Sidewalk:	<input type="checkbox"/> Replace existing	<input type="checkbox"/> Addition
Existing Driveway				For driveway or sidewalk answer the following:		
Driveway Addition					Yes	No
Patio				Requesting Curb Cut	<input type="checkbox"/>	<input type="checkbox"/>
Apron				Cleanout(s), Manhole, Catch Basin	<input type="checkbox"/>	<input type="checkbox"/>
Sidewalk				Cleanout(s), Manhole(s) / Catch Basin(s) in proposed expansion area	<input type="checkbox"/>	<input type="checkbox"/>
Project Description:				Water Box(es)	<input type="checkbox"/>	<input type="checkbox"/>
				Culvert	<input type="checkbox"/>	<input type="checkbox"/>

The applicant shall attach a detailed drawing with exact dimensions of the existing driveway, sidewalk or patio and also include the limits of the proposed in regard to the property lines. In addition, exact dimensions shall be provided by applicant when changing the existing.

- Prior to removal of existing driveway, sidewalk or patio, the City will perform an inspection to verify dimensions.**
- Contractors must be **registered** with the City of Solon at the Building Department.
- Two Inspections are required during the construction of a concrete driveway or sidewalk.** (See attached detail specifications). Please call the Engineering Department at (440) 349-6745 to schedule the necessary inspections at least **24 hours** in advance.
- The cost of the permit is \$50.00 Residential. All commercial permits are issued by the Building Department.
- There will be a re-inspection fee of \$100.00 for any inspection that is not cancelled prior to the scheduled inspection, the contractor is not on site or the work is not ready for inspection.**
- In accordance with Codified Ordinance 1424.99(a)(1), a minimum fine of \$150.00 will be assessed for any work commenced without first obtaining the required permit.**

FOR OFFICE USE ONLY

APPROVED IN ACCORDANCE WITH:

- | | |
|--|--|
| <input type="checkbox"/> Verification by _____ approval on _____. | <input type="checkbox"/> Registration active for current year. |
| <input type="checkbox"/> Certificate of Zoning Compliance dated _____. | <input type="checkbox"/> Penalty fee of _____ applies. |

APPROVAL & DATE: _____ **SERVICE DEPT:** _____ **Completed on:** _____

PERMIT ISSUE DATE: _____ **BASE INSPECTION DATE:** _____ **BY:** _____ **Pass / Fail**
(Circle One)

PAID DATE & CHECK #: _____ **POUR INSPECTION DATE:** _____ **BY:** _____



CITY OF SOLON
ENGINEERING DEPARTMENT
STATEMENT ON CONCRETE AND SIDEWALK DRIVEWAY INSTALLATION

MARCH, 2015

Many different factors control the proper installation of a concrete drive or sidewalk. Not only is the concrete design important, but also the temperature at time of installation, base condition, proper installation methods and curing are just as important to a proper driveway installation. The City of Solon Engineering Department attempts to regulate this procedure within its authorized guidelines. The City of Solon requires that all concrete installers be registered and be experienced in material and forming to ensure proper thickness of concrete and stone base. The testing of concrete as to its chemical make up, gradation and proper mix is beyond the scope of this service.

In some cases, concrete will show signs of cracking, spalling (surface deterioration) or just general deterioration. The City of Solon is not responsible for problems of this type which develop.

When an individual experiences unusual problems, the City of Solon can suggest that a petrographic test of the concrete be performed. This is an expensive test and must be paid for by the property owner. After testing, by the owner, the Engineering Department will forward the results to the appropriate contractors or suppliers. We will insist on a reply from these parties and an explanation of the specifics outlined in the test report. However, the City of Solon cannot guarantee the outcome of these efforts.

The City of Solon inspects the installation of concrete because we have found that our involvement has led to a better overall product for the majority of residents. This, unfortunately, does not mean that all materials and workmanship performed in the City is exact and proper, nor can it be guaranteed by the City.

We understand how frustrating it is to have a new driveway that develops problems, however, any rectification of these problems must be completed by the owner and their contractor. The City of Solon will be available to assist and advise in this matter.

WHAT DOES IT MEAN WHEN A CONTRACTOR IS "BONDED"?

Contractors are required to submit a \$25,000 bond as part of the registration process in the City of Solon. Once this document is on file with the City, the contractor is legally permitted to say that he is "bonded". However, it is important for our residents to know that this bond only assures the City that all work done by this contractor will be in accordance with the City's building codes, standards, and ordinances. This bond does not provide any guarantee to a resident that a project will be done in a timely manner, at an agreed to price, and in a fashion that meets the resident's understanding of what is to be done. Items such as these must be clearly defined in the contract between the resident and the contractor for the specific project to be done. Please be certain that any contract you sign is very clear as to the extent of the work to be done, the quality of the materials and labor to be supplied, the time frame within which the work is to be done, and the total cost of the project, including the cost of any required permits. Should you wish to have the contract performance guaranteed, your agreement should also require that the contractor furnish a *performance* and *payment* bond issued by a reputable surety company.

PENALTY FOR STARTING WORK WITHOUT A PERMIT AS DEFINED BY THE CITY OF SOLON CODIFIED ORDINANCES

1424.99 PENALTY.

- (a) Fines. Any construction, work or other action that is regulated under § 1424.11 and which is performed prior to the issuance of the required permit authorizing such construction, work or other action, shall be subject to the assessment of fines as further specified herein. Any fine imposed under this section shall not preclude the application of any additional relevant penalties or actions as prescribed within the Building and Housing Code or any other codified ordinance of the city.
 - (1) Fines doubling the cost of a permit. Any work for which permits are required under § 1424.11 that is commenced without first obtaining the required permit(s), shall result in the doubling of the permit fee as a fine, except as otherwise specified under division (a)(2) below. However, under no circumstance shall a fine of less than \$150 be assessed.
 - (2) Fines based on project size. Notwithstanding the provisions of division (a)(1) above, the commencement of any of the project categories specified below without first obtaining the required permit(s) shall result in the assessment of both the permit fee established for the project category under § 1424.11, plus an additional fine of \$1 per square foot, or per foot, of project area as specified herein. However, under no circumstance shall a fine of less than \$150 be assessed.



TO: ALL CONCRETE, MASON AND CEMENT CONTRACTORS

FROM: John J. Busch, PE, City Engineer

DATE: March, 2015

RE: Detail Specification for all Concrete Sidewalks, Patios, Driveways,
Crosswalks and Aprons

1. DESCRIPTION

The proposed work to be covered under these specifications shall consist of the permitting and construction of sidewalks, driveways and handicap ramps with air-entrained Portland Cement Concrete, construction on an accepted prepared subgrade in conformance with the lines, grades and dimensions shown on the Plans and as directed by the City Engineer.

2. VERIFICATION

The City will verify all dimensions provided by each permit applicant prior to the issuance of a permit. No work shall begin until the verification has occurred and a permit is issued.

3. CLEANOUTS

Any drive with an existing storm or sanitary cleanout must be inspected and approved by the City of Solon Service Department prior to removal of the drive. Water boxes must be inspected by the Cleveland Division of Water.

Cleanout caps will be an East Jordan 2960Z Frame with a 296020 Cover design. The frame and cover can be purchased from the City of Solon Engineering Department. The frame will be attached to the riser using the proper fernco for the application. The fernco will be supplied by the contractor.

4. CITY INSPECTION

Two inspections will be required during the construction of the sidewalks, driveway and Handicap ramps.

The first inspection will be to check the subgrade material and form installation for conformance with these specifications. The second inspection will be to check the quality of the delivered concrete at the time of the pour, and to ensure proper concrete placement procedures are followed. The Contractor must not begin the pour until the City Inspector is present.

Inspections must be scheduled with the Engineering Department a minimum of 24 hours before the inspection is performed. To schedule an inspection, call the City of Solon Engineering Department at (440) 349-6745.

If an inspection is scheduled and the Contractor does not cancel by 8:00 am on or before the date requested, there will be a \$100.00 fee assessed to the Contractor. No further inspection will be scheduled until this fee is paid.

If there is a concrete pour performed **without** the presence of a City Inspector, the job will be red-tagged. To determine the quality of the concrete, three 4 inch diameter cores will be taken (at the Contractor's expense). The cores may be tested for compressive strength at a testing company (at the Contractor's expense) approved by the City Engineer. IF the average compressive strength of the cores is less than 4,000 psi, the work will be considered unacceptable. The Contractor will remove the portion of concrete deemed unacceptable and reconstruct the same in accordance with these specifications, with the proper inspections. A fee of \$100.00 will be charged for each additional inspection required. The fee must be paid prior to the time the inspection is required.

5. SIDEWALK, DRIVEWAY, APRON AND HANDICAP RAMP DETAILS

- a.) Sidewalks and driveways – 4 inches in actual thickness
- b.) Sidewalk within driveway – 6 inches in actual thickness
- c.) Driveway Aprons – 6 inches in actual thickness
- d.) Handicap Ramps – Shall be 6 inches in actual thickness and comply with the Current ADA Requirements.

Sidewalks shall be 5 feet wide and shall slope toward the street. The slope shall be a minimum of ½ inch per 5 feet and a maximum of 1 inch per 5 feet.

Aprons shall not be placed closer than 5 feet from any fire hydrant, utility pole, or any other obstacle, which would create a hindrance to ingress or egress from the driveway.

All handicap ramps shall be installed at all intersections and designated crosswalks, (See attached details for dimensions and requirements).

All sidewalk, driveway, apron and handicap ramp work shall be performed in accordance with plans and specifications on file in the office of the City Engineer.

6. FORMS

Forms shall conform to the lines, grades and dimensions as shown on the plans or as directed by the City Engineer.

Forms shall be wood or steel, and shall be of a depth equal to the thickness of the pavement at the edge and be of sufficient strength to resist the pressure of the concrete without springing. Flexible or curved forms shall be used for construction of circular pavement edges. Bent or damaged forms will not be permitted. Forms shall be cleaned and oiled before each use.

All forms shall be set in conformance to the required grade and alignment as identified on either the approved topo for a new home or approved driveway permit and be supported on thoroughly compacted material for their full length. After the setting of the form, the top face of the form shall not vary from a true plane more than one-eighth inch in ten (10) feet, and the vertical face shall not vary more than one-quarter inch in ten (10) feet and they shall be tested by the Contractor. Variations from the above requirements shall be eliminated by resetting the forms. Shimming with loose earth, pebbles, etc. will not be permitted. The alignment and grade of all forms set shall be approved by the City Inspector before and immediately prior to the placing of the concrete. Any areas where the form has shifted outward greater than ½ inch from the true line due to the pressure of the placement of the concrete, may require the removal and replacement of said area as deemed necessary by the City Engineer.

7. SUBBASE

A base of a minimum of 3 inches thick granular material consisting of crushed limestone (with no reinforcing) of an approved gradation shall be spread upon an **approved subgrade and compacted**. The gradation of the aggregate shall meet the following:

All aggregate shall be **limestone**, and meet the gradation requirements for number #57, #8 and ODOT Item 304-Aggregate Base. **NO RECYCLED MATERIALS WILL BE PERMITTED.**

For concrete replacement in existing driveways, an inspection must be scheduled to inspect the existing base material. At the discretion of the City Inspector and/or the City Engineer, additional material of #57 limestone aggregate base may be required.

For new and old driveway construction, the Contractor shall dig down to the aggregate over the curb drain at the street and fill this area with #57 limestone aggregate as specified above.

For new driveways, the Contractor shall dig down along the portion of the new driveway at the front of the garage. The driveway shall be poured against the floor of the garage and the 4-inch ledge shall support the driveway.

8. PROPORTIONING OF CONCRETE

All concrete used shall be 6-½ sack design mix with no options and shall be proportioned in accordance with Class C concrete using crushed limestone aggregate. **Fly ash** will not be permitted in roadways, driveways or sidewalks. Aggregate size shall be a maximum of ¾ inch. Concrete shall contain 6 +/- 2 percent entrained air.

Slump shall be maintained between a normal slump of 1-4 inches with a maximum of 5 inches. No concrete shall be used with a slump greater than the maximum allowable.

9. PLACING CONCRETE

Prior to placing of the concrete, the subgrade shall be checked for any high spots by use of a stringline and rule under the supervision of the representative of the City. Any high spots found shall be corrected and rechecked.

The subgrade or subbase shall be sprinkled at such a manner so that it will be in a thoroughly moistened condition when the concrete is deposited thereon.

All surrounding concrete shall be thoroughly inspected and free of foreign material prior to placing of the concrete.

No concrete shall be placed between November 1st – April 15th or when the air temperature is less than 33 degrees Fahrenheit or when the subgrade is frozen.

Ready mixed concrete shall be mixed and delivered in accordance with ODOT Item 499.04. Mixed concrete from the central mixers shall be transferred to the site of the work and discharge shall be completed within one (1) hour after the combining of the water and cement.

Any concrete not discharged after the one (1) hour time limit shall not be used, unless approval is obtained from the representative of the City. Under no circumstances shall any concrete be used after a period of ninety (90) minutes has elapsed after the combining of the water and cement. Each truck delivering concrete shall have the load delivery ticket showing the time at which the truck was dispatched from the mixing plant. The time shall be stamped by a clock and shall be available to the City Inspector upon request.

Retempering concrete by adding water or by other means will not be permitted. When concrete is delivered in transit mixers or agitators, additional water may be added within the specified water – cement ratio limits. Sufficient mixing must be performed to adjust the slump and to regenerate the specified air content throughout the batch, provided all operations are performed prior to discharging any of the batch and only after receiving approval from the representative of the City. When making these adjustments, the concrete shall be mixed a minimum of 30 revolutions at mixing speed. If these conditions are not adhered to and the slump is found to exceed 5 inches the concrete will be rejected.

10. PLACING REINFORCEMENT

Reinforcement is not required, but if used shall be placed according to the following:

- a.) When reinforced concrete pavement is placed in one layer, the reinforcement may be placed in its final position prior to concrete placement by use of reinforcing chairs. The chairs shall be positioned so that full support of the reinforcing is achieved without excessive deflection of the reinforcing between chairs.
- b.) When reinforced concrete is placed in two layers, the entire bottom layer shall be placed and struck off to such a depth that the mat of reinforcement may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed as specified directly upon the concrete, after which the top layer of concrete shall be placed, struck off and screeded.

Separate mats of reinforcing shall be overlapped a minimum of eighteen (18) inches. Reinforcing steel shall be free of foreign material consisting of dirt, oil, paint and grease. Rust other than mil scale rust will be considered a foreign

material and will be unacceptable. The reinforcing shall be placed between the center of the concrete and the top third but in no cases shall it be closer three inches to the surface.

11. SURFACE FINISH

The finish of sidewalk, driveway or handicap ramps shall immediately follow the placing of the concrete. Unless otherwise approved, all driveways and sidewalks will be finished with a **Broom Finish**. Care shall be sufficiently exercised when the concrete is being worked to properly imbed the coarse aggregate and to produce concrete uniform in appearance, density and composition and free of depressions. The application of drying cement to hasten drying of the surface is prohibited and wetting of the surface to work the concrete is prohibited.

Immediately prior to the finishing of the concrete surface, joints shall be cut in accordance with the plans and details on file in the office of the City Engineer. City sidewalks in driveways shall conform with driveway cuts. The joints shall be formed by a cutting tool or other means satisfactory to the City Engineer. All 4 inch thick sidewalks shall have joints cut to a minimum depth of one inch. Where manhole castings are encountered, the joint spacings shall be adjusted to place a joint to dissect the casting.

Joints in driveway and apron areas shall be cut using a concrete saw or some other means satisfactory to the City Engineer. All cuts shall be made to a depth of ¼ the depth of the concrete, and shall be a minimum of 1/8 inch in width. The pattern and spacing of joints shall be in a manner that would conform to industry standards and deemed appropriate to the City Engineer.

12. CURING AND PROTECTION

Immediately after the finishing operations have been completed and after the free water has disappeared; all exposed surfaces shall be cured by one of the following or other approved system by the City Engineer:

- a). Spraying thereon a uniform application of curing membrane in such a manner as to provide a continuous uniform film without marring the surface of the concrete. The material shall conform to O.D.O.T. Specification (Item No. 705.07 and Item No. 451.10) and shall be applied with an approved spraying apparatus. A minimum of one gallon of material shall be used for 200 square feet of surface treated. The curing material shall be thoroughly agitated prior to application.
- b). The placing of a 3 mil plastic sheeting and straw or thermo-blankets over the surface during cold weather. Due care shall be taken not to mark the surface. All edges shall be weighted down to prevent blow by and the drying of the edges.

The use of the above described methods of curing shall be limited to those periods of time when the air temperature does not fall below 33 degrees Fahrenheit during the initial seven (7) days of cure time for the concrete.

If the original driveway was marked for cleanout locations, the finished driveway must be marked in the same manner to designate the clean out locations for the storm and sanitary as follows:

- a. A + designation will represent the storm. Storm: +
 - b. A Δ designation will represent the sanitary. Sanitary: Δ
 - c. A W designation will represent the water. Water: W
13. WASHING OUT CONCRETE TRUCKS AND EQUIPMENT
As part of the City's commitment and utilizing best management practices toward improving water quality, concrete contractors must provide a designated area for washing out concrete trucks delivering their concrete, as well as cleaning their own equipment. Contractors must be vigilant to assure that trucks and equipment do not get washed out in gutters or catch basins. In the event that a truck or equipment is observed washing out in a gutter or catch basin, the contractor will have his registration revoked. Upon the completion of the concrete work, the concrete contractor shall remove all contents of the washout area from the site.

Note: All references to the ODOT specifications refer to the 2010 ODOT CMS.