Helical, Augured and Screw Piles in Commercial Applications

Helical, augured and screw piles utilized in commercial construction applications require designs and installations to be submitted under seal of an engineer. What documents must be submitted and which engineer must be responsible for which part of the design or installation is often not well comprehended hence, the City of Winnipeg minimum submission requirements for foundations using helical, augured or screw piles (collectively referred to herein as “piles”) in commercial applications are outlined below.

1. A site-specific geotechnical report shall be submitted under the seal and signature of a geotechnical engineer registered in the Province of Manitoba and shall
    a. Provide the method to compute the piles’ uplift, compressive and lateral resistance to the ULS and SLS requirements.
    b. Provide recommendations for corrosion protection for the piles based on site specific soil conditions or confirm none is required.

2. Structural drawings shall be submitted and shall specify the ULS and SLS vertical downward, uplift, lateral, and moment reactions at each pile location under the seal and signature of the Engineer of Record for the project.

3. A letter of intent shall be submitted under seal and signature of the pile design or geotechnical engineer registered to practice in the Province of Manitoba to confirm that
    a. He/she is retained as the professional engineer certifying that the piles will be installed as per geotechnical requirements.
    b. A field review report will be submitted in accordance with the requirements of MBC Article 4.2.2.3, Field Review.
    c. A final installation report will be provided consisting of pile types, depth, torque and load capacity achieved.

4. Documentation for the piles shall be submitted under the seal and signature of the pile design engineer registered to practice in the Province of Manitoba, and reviewed by the engineer of record, as follows:

a. Drawings specifying connection details, pile depth, pipe diameter and thickness, diameter and thickness, number and spacing of helixes, material grades, bracket details, pile capacities (axial down and up, lateral and moment), and references to codes and standards.

b. Pile layout plan, indicating pile model and locations to support the building loads provided in item 2 above.

5. Final pile shop drawings, layout plans, pile installation logs and pile certification under seal and signature of the pile design engineer and reviewed by the Engineer of Record for the project. (Final pile shop drawings and layout plans shall be resubmitted only if pile installation plans and/or pile types deviate from approved plans due to practical site constraints).

Summary of Responsibility:

Item	Responsible Engineer		
	Engineer of Record	Pile Design Engineer	Geotechnical Engineer
1. Geotechnical report			✓
2. Structural drawings	✓		
3. Letter of intent		✓[1]	✓[1]
4. Pile documentation	✓[2]	✓[2]	
5. Pile shop drawings, layout, etc.	✓[2]	✓[2]	

[1] May be sealed by the pile design engineer or the geotechnical engineer.
[2] Must be sealed by the pile design engineer with review by the project engineer of record.