

Purpose

This guideline has been developed to help improve consistency with the installation, education and enforcement of a screw piles installed for the support of new or renovated construction.



Code Reference

National Building Code 2019 Alberta Edition Division B Section 9.4.1. and Part 4



Summary

The requirements of this Guideline are applicable to all auger-installed screw piles for all residential, commercial and industrial construction projects. This information comes from the National Research Council – CCMC Technical Bulletin which was created to provide clarity to designers, engineers and the local authorities.



Conclusion

This Guideline provides clarity and direction on the documentation required when the use of auger-installed screw piles as a foundation system are proposed. Where auger-installed screw foundation piles are being installed, information and documentation confirming compliance to the following items must be provided to Rocky View County.

1. Certification – All materials used in construction must be evaluated to determine compliance with the requirements of the National Building Code 2019 Alberta Edition. Where reviews have not been completed by the Canadian Construction Materials Centre, or an organization approved by the Building Administrator, the product must be reviewed for compliance to the applicable standards such as those noted below, by a registered engineering professional. The professional on record shall approve the construction/design of the screw pile (profile) and list the loading capacities of the proprietary screw pile.
2. Installer – Every installer of the proposed auger-stalled steel pile must be certified by the manufacturer using the approved equipment, and must follow the manufacturers installation inspections and the uses and limitations specified in the CCMC Report. Every installer must carry a certification card showing their photograph and their signature. The steel pile must be

identified with a label that indicates the manufacturers information, a reference to the material standards specified and the phrase “CCMC XXXXX-R”.

3. Welding – The structural base steel must meet the CSA G40.20/G40.21 or ASTM A500 requirements. All welds must conform to CSA W59-13 and be produced by a certified welder in accordance with the Canadian Welding Bureau. The steel piles must be designed as per CAN/CSA-S16.1, and must be designed by a professional engineer skilled and licensed to practice under the appropriate legislation.
4. Corrosion – The steel pile including all its accessories must be hot-dipped galvanized, meeting CAN/CSA-G164 or ASTM A123/A123M with a minimum thickness of 610 g/m². Where this has not been completed, a determination of the presence of corrosive conditions and the specification of the corrosion protection shall be carried out by a registered professional engineer.
5. Registered Professional Engineer – In all cases, a registered professional engineer must be involved with the design of the screw piles. The designs provided must be site specific for the project.
 - a) The registered professional engineer must determine the number, spacing and loading on the auger-installed steel piles required to carry all the applicable loads.
 - b) Documentation confirming conformity of the installation to the engineered design provided by the professional engineer or by the certified installer, to the authority having jurisdiction for every project.



Additional Information

National Research Council Canada website
CCMC Technical Bulletin



Reference

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