

# MARK TAN

*Environmental Engineering EIT with a passion in stormwater and land development engineering.*

*Proven experience in teaching, construction, municipal, and conservation authority coops w/ outstanding coop evaluations.*

BASc Environmental Engineering – University of Waterloo

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## SUMMARY OF SKILLS

- **Project Management:** project scheduling and coordination, public engagement/open houses, conflict resolution
- **Construction:** site supervision and inspection, engineering drawing review, technical report writing; working experience with development processes (site plans, subdivisions, zoning by-law amendments, etc.)
- **Stormwater Modelling and Data Analysis:** water balance calculations with EPA SWMM and LID TTT, watershed modelling with HEC-RAS, data analysis with Python (pandas, numpy, matplotlib)
- **Air, Water, and Soil Sampling:** borehole logging, sieve analysis, compaction testing, water quality testing
- **AutoCAD:** taught a university-level course to 235 students on drafting engineering drawings (site plans, grading plans, site servicing plans, stormwater management plans, etc.)
- **Other Software:** Microsoft Office Suite, Bluebeam, Photoshop; quick learner with unfamiliar software

## WORK EXPERIENCE

### Engineering Plan Review Assistant

May 2020 – Aug 2020

*Credit Valley Conservation Authority*

Mississauga, Ontario

- Performed water balance calculations with EPA SWMM and modelling of subwatersheds in the Credit River Watershed with HEC-RAS.
- Calculated peak flows using Modified Rational Method, Modified Index Flood Method, and Unified Ontario Flood Method. Constructed a stormwater calculation spreadsheet for the project team that referred to multiple stormwater manuals (e.g. MTO Drainage Manual, US DOT Highway Design Manual, NRCS TR-55, Virginia SWM Manual).
- Sized stormwater ponds using MS Excel and EPA SWMM in accordance to MECP standards and other technical references.
- Estimated LID features to obtain water balance using LID TTT for applicant sites.

### Capital Engineering Coop

Sep 2019 – Dec 2019

*Town of Innisfil*

Innisfil, Ontario

- Managed road reconstruction and rehabilitation projects ranging from small- to large-scale (\$10M) by coordinating with different parties to meet project timelines.
- Reviewed engineering drawings in accordance with the Town of Innisfil Engineering Standards, MTO, TAC, and other technical references.
- Performed inspections for roads, culverts, and stormwater management (SWM) ponds to ensure construction is built to specifications. Prepared detailed deficiency lists.
- Supervised construction processes (grading, paving, hydrovac, tree clearing, etc.) for roads, parks, and beaches while utilizing proper PPE and safety guidelines.
- Prepared contract documents (change order, request for tender, etc.) for capital projects.

**Development Engineering Coop**

May 2018 – Aug 2018

*Town of Innisfil*

Innisfil, Ontario

- Exhibited excellent attention to detail by reviewing engineering drawings (site plans, grading plans, stormwater management plans, pre- and post-development drainage plans, etc.) and reports based on the Town of Innisfil Engineering Standards and sound engineering judgement.
- Prepared legal agreements and other correspondence between the Town and developers.
- Coordinated with engineers and technologists to facilitate Environmental Compliance Approval (ECA) applications. Trained my supervisor and other Professional Engineers in the ECA review process.
- Served as the point person for the Town's ECA Transfer of Review. Communicated with the MECP and engineering consultants for a streamlined approval process.
- Represented the municipality in pre-consultation meetings with consultants and residents.

**Civil/Environmental Engineering Fundamentals Teaching Assistant**

Sep 2017 – Dec 2017

*University of Waterloo*

Waterloo, Ontario

- Trained and mobilized 12 survey groups for a 4-week surveying course. 100+ hours surveying experience with the Sokkia Total Station and Sokkia Differential GPS.
- Developed a term project regarding an LID parking lot which covered proper functional servicing report guidelines, bioretention cell design, and hydrologic calculations.
- Assisted first-year engineering students in excelling academically through lectures, tutorials, and office hours.

**Engineering Outreach Activity Developer**

Jan 2017 – Apr 2017

*University of Waterloo*

Waterloo, Ontario

- Demonstrated communication skills by effectively conveying complex science and engineering concepts to middle and secondary school students.
- Exhibited leadership skills by managing a team of 10+ volunteers in running the UW Engineering Outreach Senior March Break Camp.
- Displayed a strong work ethic and excellent time management skills by meeting multiple deadlines for the UW Engineering Outreach.

**RELATED COURSEWORK**

- Hydrology and Open Channel Flow
- Advanced Hydrology & Hydraulics
- Urban Stormwater Management
- Design of Urban Water Systems
- Environmental Modelling
- Fluvial Geomorphology

**EXTRACURRICULARS**

- Warrior Home Student Design Team – Water Subteam
- UW Energy Club

**INTERESTS**

- Cooking
- Learning about filmmaking and film history
- Horology and watch collecting
- Scuba diving