



CLAYTON CAPES

EXECUTIVE SUMMARY

EDUCATION

M.Sc. Geology, University of Toronto, 2001
B.A. Sc. Mining Engineering, University of Toronto, 1999

PROFESSIONAL SOCIETIES

Professional Engineers of Ontario
Designated Consulting Engineer, Ontario (PEO)

EMPLOYMENT RECORD

President, CAPES Engineering Ltd. (2017-Present)
Vice President Land Development, R.J. Burnside & Associates Limited (August 2012-November 2017)
Senior Project Manager, Exp Services Inc. (2010-August 2012)
Senior Project Manager, Greenland Consulting Engineering (2009-2010)
Associate & Project Manager, Henderson Paddon & Associates/ GENIVAR (2001-2009)

CITIZENSHIP

Canadian

LANGUAGES

English

PROFILE

Clayton Capes has decades of experience in Civil and Environmental Engineering. He started CAPES Engineering in 2017 after working in the land development industry at senior management level positions and as senior technical project manager. He has been a Designated Consulting Engineer with Professional Engineers Ontario since 2010.

Clayton has been the lead technical designer and project manager on a wide range of land development projects relating to residential, commercial and industrial site plan and subdivision design, stormwater management design & low impact development, floodplain analysis, road reconstruction, municipal infrastructure improvement, agricultural pond design, and watershed studies. Clayton also has experience with construction contract administration and field inspection based on years of experience in the industry.

Clayton is a hands-on technical project manager with expertise in stormwater/floodplain modelling software including PCSWMM (1D/2D), Civil Storm, Pond Pack, EPA SWMM, StormNet, MIDUSS, VO2 and HEC RAS.

EXPERIENCE

LAND DEVELOPMENT, INFRASTRUCTURE & STORMWATER DESIGN

MTN Forming Inc. – Commercial Development, Innisfil
Civil and Stormwater design for proposed 750 sq. m commercial building and outdoor storage area. Infiltration based SWM controls including approvals from LSRCA and Town,

Stonegate Residential Subdivision, Bracebridge, Ontario
Project Manager and Lead Technical Design for 44-unit condominium development including LID subsurface infiltration gallery SWM controls, watermain, sanitary sewer and road design. Coordinated the slope stability, meander belt analysis, geotechnical analysis, EIS and approvals from the District of Muskoka and Town of Bracebridge.

Wasaga Beach United Church – Wasaga Beach
Civil and Stormwater design for expansion of the existing Church and parking area. Infiltration based SWM controls requiring Town and NVCA approval.

Belle Ewart Royal Canadian Legion – Innisfil
Civil and stormwater design for expansion of the existing Legion building and parking area. Required Town and LSRCA approval

West Ridge on the Lake – Kincardine
Detailed Design for Multi-Phase 300 unit residential subdivision including floodplain analysis for two watercourses, two SWMF, plunge pool for discharge to Lake Huron.

EXPERIENCE- CLAYTON CAPES

West Ridge on the Lake – Kincardine

Detailed Design for Multi-Phase 300 unit residential subdivision including floodplain analysis for two watercourses, two SWMF, plunge pool for discharge to Lake Huron.

Upper Thames Condo Development – Mitchell

Detailed site plan design for 26 unit senior's residential condominium development including internal roadway design, stormwater management, and grading..

GEEP Recycling Facility, City of Barrie

Project Manager for environmental upgrades to 80 year old industrial site which collects and processes electronics for recycling. Stormwater retrofit design for quality and quantity controls, groundwater monitoring program, air and noise.

Roost Winery, Town of the Blue Mountains

Project Manager for the development of a Winery site including preparing the Site Plan and obtaining Town, GSCA and NEC approvals.

Thornbury Vet Clinic, Town of the Blue Mountains

Project Manager for the redevelopment of an existing residential site to convert it to a Vet Clinic/Animal Hospital including preparing the Site Plan and obtaining approvals from Town and GSCA.

LilyPad Day Spa, Town of the Blue Mountains

Project Manager for the redevelopment of an existing residential site to convert it to a Day Spa including preparing the Site Plan and obtaining approvals from Town and GSCA.

Livingston Dairy Barn, King Township

Project Manager and lead technical design for a \$2 million dollar robotic dairy farm redevelopment. Design and approvals for milking barn, storage buildings, access and stormwater.

Bear Creek Residential Development, City of Barrie

Lead stormwater designer for 300 unit residential development including LID to meet LSRCA infiltration targets, and reduction of Phosphorous. Coordination of floodplain and erosion hazard study and review of Salem SIS and comment for potential impacts to development design.

RVH Parking Lot Expansion, City of Barrie

Project Manager and lead technical design for 330 spot parking area expansion and stormwater controls for Royal Victoria Hospital in City of Barrie. Stormwater design includes underground and surface storage and quality controls for discharge to wetland.

Donato Golf Course Road Development, Wasaga Beach

Overall Project Manager and Lead Technical Design for 39 Unit residential development. Stormwater design includes infiltration for quantity control and challenging soil and groundwater conditions to lake outlet.

Fed Ex Building Site, Owen Sound

Project Manager and technical design for redevelopment of the Fed-Ex Building site in Owen Sound including stormwater controls and grading.

Grand Bend Wind Farm, Grand Bend

Provided technical review and design and PCSWMM analysis for 6 culvert crossings at streams for access roads required as part of 100 MW wind turbine project in Grand Bend to be operated by Northland Power.

Sleepy Hollow Developments East & West, The Blue Mountains

Project Manager and lead technical design for 8 lot (East) and 10 lot (West) estate residential development in the Town of the Blue Mountains. Includes retrofit of existing SWM channel to obtain MOECC ECA.

Northland Residential Development, Owen Sound

Project Manager and technical design for 380 Unit residential development on east shore of Owen Sound Harbour. Includes 600 m of full road reconstruction (sanitary and watermain replacement, storm sewer installation), and construction of a new SPS. \$6 million in infrastructure development.

Wasaga Riverwoods, Wasaga Beach

Project Manager and lead technical design for 22 unit condominium development in Wasaga Beach. High groundwater and environmental constraints provide design challenges. Design involves use of LID permeable pavers on roadways, driveways and sidewalks.

Stonemanor Woods, Yorkwood Development Group, Springwater Township, Ontario

Project Manager and Lead Technical Design for stormwater management. The Centre Vespra site is a 660 unit, \$18 million, residential development with multiple stormwater facilities and involved the design of low impact design to meet water balance and conservation initiatives. Infiltration provides quantity controls for the development, a first for Ontario.

Stonegate Residential Subdivision, Happy Home Investment, Bracebridge, Ontario

Project Manager and Lead Technical Design for 44-unit condominium development including LID subsurface infiltration gallery SWM controls, watermain, sanitary sewer and road design. Coordinated the slope stability, meander belt analysis, geotechnical analysis, EIS and approvals from the District of Muskoka and Town of Bracebridge.

Tyrolean Village Phase 3, Town of the Blue Mountains, Ontario

Project Manager and lead technical design for 18-lot residential development in the Town of the Blue Mountains. Design includes storm servicing, grading, watermain, PRV and Municipal road design.

Bruce Power Emergency Storage Building, Tiverton, Ontario

Site plan for the redevelopment of an existing industrial site for the Bruce Power Emergency Vehicle site. Revised grading, stormwater and parking area. Acted on R.J. Burnside & Associates Limited team including structural, electrical and mechanical redesign and upgrades to the building.

Herrmann Pond, Grey Highlands, Ontario

Project Manager and lead technical designer for 1.2 ha, 8 m deep, 96,000 m³ aesthetic pond for recreation on private property. This on-line pond required GSCA, MNR and First Nations approval. Included design of outlet structure, design of end berm with driveway overtop, submerged mid berm, beach area and discharge outlet channel.

Istvan Lendvay Subdivision, Thornbury, Ontario

Project Manager and Lead Technical Design for 19-lot residential development. Design included 300 m long cul-de-sac, storm sewer network, twin superpipe storage system, oil grit separators and overland drainage channels with greater than 6 m of fall.

Lora Bay Development, Lora Bay Corp/Intrawest, Thornbury, Ontario

Project Manager and Lead Technical Designer for Phases 1 to 3 (300 of 1,070 possible units) residential development and golf course in Thornbury, Ontario. The project included the preparation of a Master Drainage Plan for the 700 acres upstream area including portions of the Niagara Escarpment, Nipissing Ridge the proposed 18 hole golf course and 1,070 residential development, design of 90,000 cu. M and 70,000 cu. M stormwater ponds, large infiltration basin and all associated stormwater piping, open channels and road crossings for the site. In addition all watermain, sanitary sewers, roadways, a 1,000 m long road reconstruction project for the upgrade of an existing dirt road to full urban section, construction of new round-a-bout (first in Grey County) and installation of all associated Municipal servicing (watermain, sanitary, storm sewer and sewage forcemain).

Floodplain Studies and Master Drainage Studies

Project Manager and Lead Technical Design for numerous floodplain and drainage studies for private development and Municipal studies within several watersheds within central and southern Ontario. These include studies within the jurisdiction of the GSCA, SVCA, NVCA, LSRCA, SVCA, GRCA, TRCA, and District of Muskoka.

- Starks Mill Floodplain Analysis – Hydrology and Hydraulic investigation for the Teeswater River to support the redevelopment of the historic Starks Mill Building in Brockton
- Melancthon Floodplain Analysis – Hydrology and Hydraulic investigation for a portion of the Stinson Drain in Melancthon to support the creation of a single family residence.
- Kearnan Road Floodplain Analysis – Hydraulic analysis of the Mad River and access road design for a private residence as a third party expert in a legal dispute over historic flooding.
- Sauble River Floodplain Analysis – Hydraulic analysis of the Sauble River to support a new private residential development west of Tara.

EXPERIENCE- CLAYTON CAPES

Hewitts Landowners Group – Hewitts Secondary Plan Area SIS

Completed the Subwatershed Impact Study for the 800 ha Hewitts Secondary Plan Area including updated floodplain modelling for Hewitt's Lovers and Sandy Cove Creeks, SWM Pond design for 18 SWMF, LID modelling and Design for 10,000 proposed residential units

Mountain Springs Lodge Stream Rehabilitation – Town of the Blue Mountains

Project Manager and lead technical design for review of existing drainage and stream conditions at commercial resort Prepared design for stream rehabilitation including GSCA and MNRF approvals.

Tottenham Driveway Reconstruction

Project manager and lead technical design for driveway reconstruction after 100 year flooding event destroyed 60 m section of agricultural driveway. Floodplain analysis and approval from NVCA, MNRF, DFO.

Camp Talava Floodplain Study, Essa Township, Ontario

Overall Project manager for the preparation of a floodplain study of the Nottawasaga River for a 21-lot condominium development called Camp Talava. Project also included traffic study and well and septic assessment.

Floodplain and Servicing Options Tributary of Lovers Creek, Eighteen – Eighteen Ltd., Barrie, Ontario

Project manager and technical design for a floodplain and hydraulic analysis for a tributary of Lovers Creek (unnamed). Assessed the existing drainage area, natural drainage course 4 on-line SWM ponds, and multiple road and railway crossings including the crossing under Highway 400. Developed a PCSWMM floodplain model and design for re-routing the regional storm peak flow in twin concrete box culverts around the subject property.

Former Colis Tannery Site, Maple Leaf Foods, Aurora, Ontario

Technical Lead for developing a HEC RAS floodplain model to allow the remediation of contaminated soils on site. Design included upgrades to the existing natural channel (widening and improvements to natural state), elimination of culverts, relocation of trunk sanitary sewer and reduction in the floodplain surrounding the factory site and local residences.

Additional Drainage and Floodplain Studies Include:

Tributaries of the Nottawasaga River (3) – floodplain and erosion hazard studies for residential development lots. Analysis for safe access and egress as per the NVCA guidelines.

Sheldon Creek (Adjala-Tosorontio) – erosion hazard and meander belt study for proposed residential development lot.

Coulson Creek (Coldwater River, Oro-Medonte) – completion of a floodplain study and meander belt analysis for proposed residential development.

Stream relocations (2) in the Town of the Blue Mountains. Including HEC RAS floodplain studies and re-design of the natural watercourses to reduce erosion issues. Design includes boulder protection, channel naturalization, approvals from the GSCA and Municipalities.

Floodplain and Risk Assessment Tributary of the Pine River, Mr. Frank Rovella, Dufferin County, Ontario

Project Manager and lead technical design for a floodplain, hydraulic analysis and risk assessment for a complicated series of stepped ponds, interconnected creeks and control structures. Created a HEC RAS model for the floodplain extents and provided design drawings for upgrades to the stepped ponds and drainage channels to allow the severance of three residential properties. Approval was obtained from the NEC, NVCA, MNR and Municipality.

Town of Hepworth Master Drainage Study, Hepworth, Ontario

Completed all technical stormwater analysis for the Town of Hepworth Master Drainage Study including investigations into design alternatives for re-routing flood flows through and around the Town, storm sewer design, ditching and culvert recommendations.

EXPERT WITNESS/PEER REVIEW

Hamilton Port Hope Solar Farm- Expert Witness

Provided expert witness/peer review of design of stormwater and erosion and sediment controls for 200 Ac. Solar Farm in the Township of Hamilton.

EXPERIENCE- CLAYTON CAPES

Kearnan Road Floodplain – Expert Peer Review and Design

Provided expert witness/peer review of design of stormwater and erosion and sediment controls for 200 Ac. Solar Farm in the Township of Hamilton.

Southgate Plaza Peer Review – District of Muskoka

Provide an expert peer review for Drainage Report prepared for Southgate Plaza to assist the owners in resolving overall drainage issues for their site.

Parkbridge Development Peer Review – Town of the Blue Mountains

Retained to provide expert peer review on drainage, stormwater management and stream flow for a private owner adjacent to proposed large residential development.

Town of Wasaga Beach – West End Maintenance Depot Drainage Study Peer Review – Retained by the Town of Wasaga Beach to provide a peer review of the West End Maintenance Depot Stormwater Management Report on behalf of a private resident to help resolve a Part 2 Order from the MECP.

Eden Oak Development Peer Review - Retained by a homeowners group to review the technical documents from an adjacent residential subdivision and provide comments on their behalf to the Municipality with respect to stormwater management and flooding concerns.

NVCA Development Services Peer Review - Retained by the NVCA to provide land development technical review on a periodic basis to assist their staff.

MUNICIPAL/GOVERNMENT DESIGN & PROJECTS

Temperance Creek Restoration, Clearview Township, Ontario

Project Manager for the restoration of 65 m of a tributary of Temperance Creek in Creemore. The creek had been eroded and damaged during large rainfall events. Managed the design for the restoration and stabilization of the creek in collaboration with the NVCA and Burnside fishery experts.

Peer Review, Town of Aurora, Ontario

Project Manager and lead reviewer for the Town of Aurora for a commercial subdivision being developed as a partnership between the Town and private developers. Completed all peer review including SWM, Traffic, design (water and sewer), road design, grading. Provided a tender analysis and recommendation.

Ministry of Transportation Office, Port Hope, Ontario

Project Manager and Technical Design for a perimeter drain repair on the MTO office building in Port Hope. Building was experiencing severe flooding in the basement, design included footing drains, waterproof membranes on the foundation wall, surface drainage upgrades.

Dufferin Street Culvert Replacement, Township of New Tecumseth, Ontario

Project Manager and lead design for the replacement of an existing CSP culvert under Dufferin Street in Alliston. Coordinated the geotechnical analysis, EIS, hydraulic analysis and approvals from the Town, NVCA and CPR.

Mary Street Reconstruction, City of Kawartha Lakes, Ontario

Project Manager and Lead Technical Designer for Mary Street Reconstruction, new Mary Street Sewage Pumping Station and water treatment plan drainage remediation in the City of Kawartha Lakes. Upgrade and replacement of 500 m of roadway including new storm sewer, sanitary sewer, forcemain and watermain. Project also includes design of new SPS and upgrades to drainage features for WTP. Estimated construction costs of \$2.5 million.

West End Flooding, City of Ottawa, Ontario

Lead Technical Reviewer for Peer review of City of Ottawa staff report on West End Flooding and Stormwater issues (1,000 homes affected by flooding event). Completed peer review of all reports and provided comments and recommendations for upgrades.

Alcona South Master Servicing Study, Innisfil, Ontario

Technical Lead and author for the Alcona South Master Servicing Report (Innisfil) detailing the required infrastructure for an additional 10,000 people including road network, overall drainage, watermain and water storage, sewage system and SPS. Attended public meetings, coordinated with both other engineering consulting firms involved with adjacent Municipal and private developments and the Municipal Engineering department.