RURAL OUTREACH STUDENT NEWSLETTER

20 DECEMBER, 2024 | VOLUME 06

ABOUT THE PROGRAM

The Rural Outreach program aims to support rural communities in Newfoundland & Labrador with projects, plans, and proposals. Supervised by Brian Peach and Stephen Bruneau, their team of dedicated engineering students offers a wide variety of free services, including 3D model development, funding applications, 911 mapping, website development, 360-degree photography and much more.

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Communities Assisted:

Main Brook
Massey Drive
Change Island
Peterview
Heart's Delight - Islington
Botwood
Comfort Cove - Newstead
Englee
Northern Arm
Pasadena
Burgeo
Mary's Harbour
Appleton
Lamaline
Winterland
Baine Harbour
Mount Carmel
Irishtown-Summerside
Chapel Arm
Charlottetown
Cupids
Brigus
Come By Chance
Pouch Cove
Renews - Cappahayden
Placentia
Rose Blanch-Harbour Le Cou
Castor River South
Badger
Stephenville Crossing
Colliers
Garnish
Little Burnt Bay
Embree
Terrenceville

Services Provided

Services Provided	2023			2024		
	Winter	Summer	Fall	Winter	Summer	Fall
911 Mapping	X	X	X	X	X	X
Website Development	X			X	X	X
3D Modelling	X	X	X	X	X	X
Trail Development	X			X		
Consultant Fee Request	X				X	
Contractor Scopes of Work						X
Site Visits		X	X	X	X	
360 Degree Photography					X	
Visioning Documents					X	X
Grant Applications				X		
Asset Management					X	X
Conference Volunteer			X			X

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NEXT GENERATION 911

The Rural Outreach Program worked with the 911 Division of Newfoundland to support their initiative for a new emergency services program known as NG911.

The program seeks to provide improved emergency services using world class telecommunication networks. The Rural Outreach Program created numerous GIS maps of rural communities in Newfoundland to support their initiative.

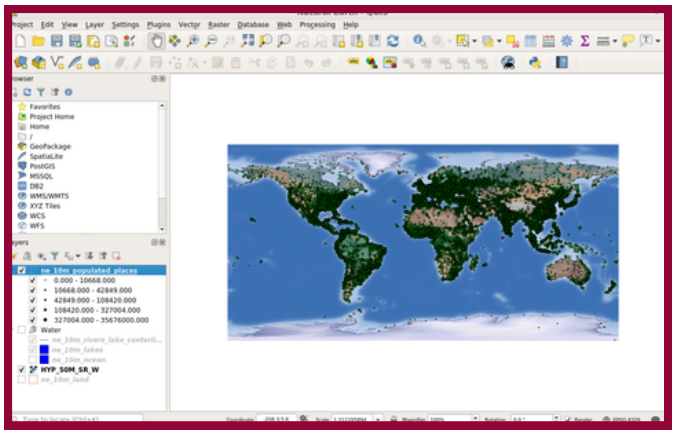
CIVIC ADDRESSING FOR RURAL TOWNS

The team worked with the NG911 division and aided in multiple civic addressing projects in rural municipalities such as Baines Harbour, Englee, Mount Carmel, Placentia, and Terrenceville.

QGIS MAPPING AND CIVIC ADDRESS COLLECTION

The Next Generation 911 (NG911) uses automatic location information (ALI) technology to locate the place of emergency. The accuracy of the ALI depends on the geographic information system (GIS) and civic address data of the municipalities.

ROSU uses QGIS, an open-source GIS tool, to map the buildings' locations in the municipalities. Besides mapping, civic address collection is also required for better tracking.



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ROSU CONFERENCE TOUR

Over the course of the semester the ROSU Team traveled across the province to volunteer at three separate conferences.

On October 2nd, 2024, the team traveled to Corner Brook to volunteer and participate in the PMA 2024 Fall Training Forum. During the forum, the team hosted a table for the World Café activity, providing an introduction to the services offered by ROSU. This engagement to promote the program resulted in seven new clients for ROSU.

On November 6th, 2024, the team traveled to Gander to volunteer at the 2024 MNL Conference, Trade Show and AGM. Over the course of three days the team managed the registration desk and greeted all the participating delegates and sponsors.

On November 25th, 2024, the team volunteered and participated at the AIM 2024 Asset Management Conference. During the three day conference the team was in charge of the registration while also attending sessions about asset management.

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THE TOWN OF MARY'S HARBOUR

Glenys D. Rumbolt, Town Clerk of Mary's Harbour reached out to Rural Outreach this semester with an interesting project for the team. The town was looking to create a QGIS map of the towns existing infrastructure. The project required reviewing old engineering drawings of the infrastructure and placing them on a GIS map.

WATER SUPPLY FEATURES

The infrastructure mapped in the colour blue represents two types of water supply features:

- **Water Supply Points:** These blue dots represent Gate Valves, Curb stops, and Hydrants
- **Water Supply Lines:** The blue lines contains all the Water Mains / Lines and connections

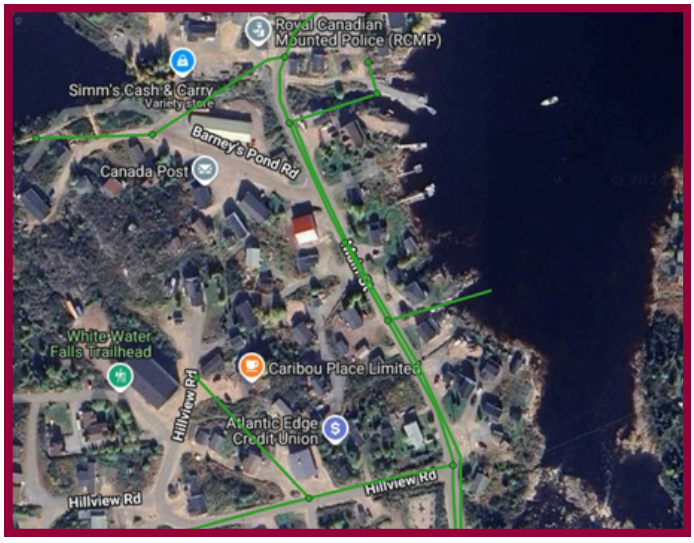
Each feature also included specific fields to be filled out such as install year, material, quantity, etc.

WASTEWATER FEATURES

The infrastructure mapped in the colour green represents two types of wastewater features:

- **Wastewater Points:** The green dots contains all the Manholes, COs, lift stations, and pump stations
- **Wastewater Lines:** The green lines contains all the Sewer Mains, Lines, Force Mains, and Overflows

Each feature also included specific fields to be filled out such as install year, material, quantity, etc.



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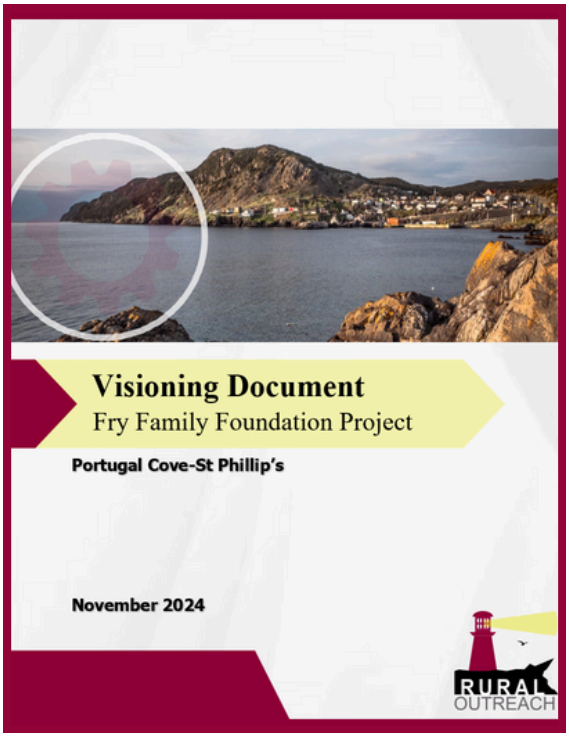
FRY FAMILY FOUNDATION PROJECT

This semester Rural Outreach undertook an exciting for the Fry Family Foundation and Portugal Cove-St Phillip's. The Fry Family Foundation owns undeveloped land on Neary's Pond Road that they seek to turn into walking trails with an educational / research theme in collaboration with the town. The project required developing a visioning document along with a 3D model of the walking trail along with a cost estimates for the trail.

VISIONING DOCUMENTATION

The team developed a visioning document encompassing everything that the Fry Family Foundation envisioned the project to have, highlighting key features such as accessibility, economic and environmental sustainability, as well as community engagement. The visioning document included trail model designs on the desired location along with a cost estimate.



3D MODEL OF WALKING TRAIL

Rural Outreach developed a 3D model of the proposed walking trail on Neary's Pond Road. This design was used to help create a cost estimate for the project and was included in the visioning document.

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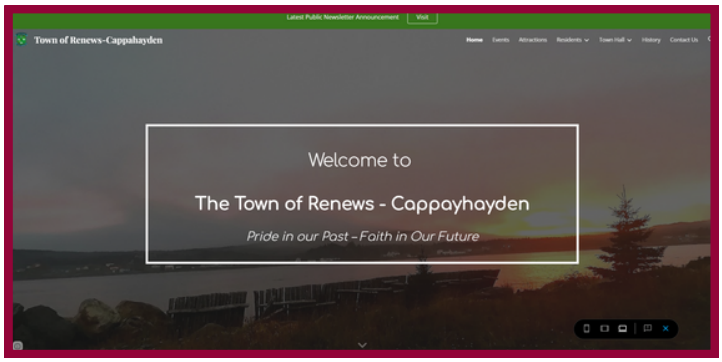
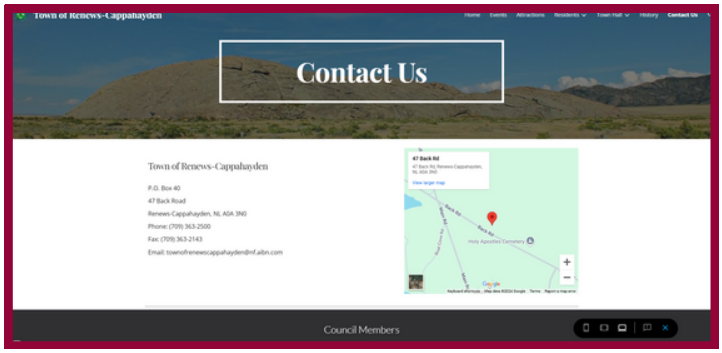
ROSU WEBSITE DEVELOPMENT PROJECTS

The Rural Outreach team has taken several website development projects, such as website creation and online events calendar, over this semester. Additionally, the team has offered training sessions to ensure that community members can independently manage and update their websites, fostering a sense of ownership and sustainability. Through these initiatives, the Rural Outreach team has not only contributed to the technological advancement of rural areas but also strengthened community ties and supported local growth.

TOWN OF RENEWS-CAPPHAYDEN WEBSITE

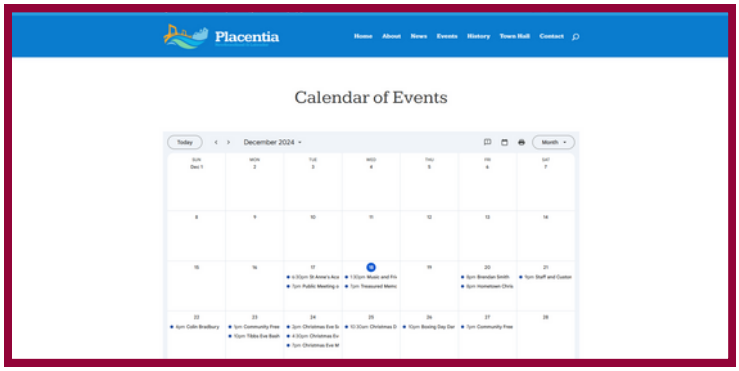
Rural Outreach team has taken on a website development project for the Town of Renews-Cappahayden. The team has created the website using Google Sites and transferred the ownership to the town clerk, Vianne Chidley. The project is still ongoing, and future work term students will continue the development.

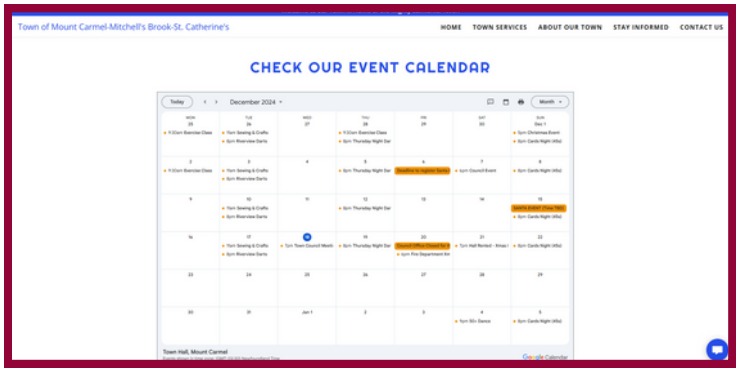




EVENTS CALENDAR INTEGRETION

Rural Outreach has also worked on the online events calendar and integrated it into the websites of the Town of Placentia and Mount Carmel-Mitchell's Brook-St. Catherine's. The calendar can be modified seamlessly, and it will be automatically updated on the website. It is now available to the public.





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BENEFITS TO MEMORIAL UNIVERSITY ENGINEERING STUDENTS

The Rural Outreach Project offers engineering students the opportunity to learn about rural municipalities in Newfoundland, bolster expertise with a variety of software programs, devise creative solutions to address challenges faced by rural communities and experience their culture and history personally through site visits.

> *Getting to work the Rural Outreach for another semester was a very rewarding learning experience. Getting the opportunity to travel across the province to represent the program for multiple conferences was a great experience for getting out of my comfort zone developing my communication skills. I got to work on multiple engaging and interesting projects for different communities that helped me improve my 3D modeling and QGIS skills. I'm thankful for the great team we had this semester and for the programs supervisor Brian and I wish for the programs continued success.*

Anderson Bath, Computer Engineering Student

> *Rural Outreach Program has enabled me to gain more technical skills, as well as communication skills. After assisting the rural municipalities and volunteering at several conferences during my work term, I am more inspired to assist more municipalities. I have also developed and exercised many engineering skills on various projects which are essentials for an engineer. I am grateful to work with my supervisor and the other students throughout the semester. This program has helped me to achieve my goals to career development.*

Oishik Dey, Computer Engineering Student

> *Initially, I wasn't thrilled about securing the position, but now, as my time with the Rural Outreach Program comes to an end, I can confidently say it has been the most personally rewarding experience of my career so far. Helping rural towns and witnessing their appreciation for our efforts has been incredibly fulfilling. Beyond that, this work term has allowed me to develop valuable skills, including networking, communication, and technical engineering capabilities. While the pay wasn't as competitive as other placements, the invaluable experience and personal satisfaction I've gained far outweigh any financial considerations.*

Moustafa Abdelfatah, Mechanical Engineering Student

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RURAL OUTREACH

Faculty of Engineering and Applied Science

-FALL 2024 STUDENTS

Anderson Bath

Computer Engineering Student

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1-709-697-2345

Anderson is a Computer Engineering student and a returning member to the Rural Outreach Program. His main interests include programming and problem solving with experience using the programming language's such as Python, Java and C++. During his last work term with the Outreach team he worked on designing outdoor community spaces and QGIS mapping for communities. He is excited to take on new challenges and be an effective team member while helping rural communities.

Oishik Dey

Computer Engineering Student

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PHONE NUMBER
1-438-926-5959

Oishik Dey, a second-year computer engineering student embarking on his second work-term, is a tech enthusiast with a fervor for innovation. His project portfolio boasts initiatives centered around emergency services and evacuation. Eager to contribute his skills to a rural outreach project, Oishik's passion extends beyond coding to include interests in photography and travel. Ready to embrace challenges, he brings a dynamic blend of technical expertise and creativity to his endeavors.

Moustafa Abdelfatah

Mechanical Engineering Student

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PHONE NUMBER
1-709-325-7253

Moustafa Abdelfatah is a second year mechanical engineering student eager to help and contribute to the rural communities of Newfoundland and Labrador using the skills that he has developed through his academic journey so far. He enjoys design work using Computer Aided Design software and he has experience in coding, 3D modeling, and project management through his previous engineering work terms. His personal interests include fitness activities, football, and religion. He has a great positive attitude and is looking forward to making an impact.

FALL 2024 Focus: Community Development, Modelling, Trails, 911 Mapping, Community Websites/Conference Volunteers, Asset Management