



MOTHER NATURE LIKES APRIL FOOL'S

We noted in last month's issue that we felt winter couldn't end soon enough, but that we were not counting our chickens. The storm on April 1 proved that Mother Nature can be a nasty April fooler. Strong winds and wet, heavy snow slammed a good part of the state and we were not left out of the joke. At about 12:45 a.m. we lost power from the mainland. With both Mary and Don off the Island, storm duty fell on Mike and me. We came in and got the engines running and they took the load of the south side of the Island without issue, other than the B phase being unusually high. When we closed the breakers for the north end of the Island the load went further significantly unbalanced and did not

settle out and the engines shut down. A second try resulted in the same effect. This forced us to power only the south end of the Island and wait for Wisconsin Public Service to fix the issue, which was a tree across the lines south of Gills Rock near Fitzgerald Road. They had outages in the southern part of the county and had called in mutual aid from Green Bay and Two Rivers crews. By the time they were able to get to the issue and repair it, it was approximately 4:45 a.m. when power was restored from the mainland.

Unfortunately, we were not done yet! We had storm damage in many locations that we had to deal with during the day at various parts of the Island. This was miserable and wet, with the snow in the rights-of-way being just right to walk

on top of and break through on every other step. Still, we got off easier than other parts of the state. With the boats not running until 4 p.m. due to the winds, we worked until around 2 p.m. getting lines back up and we figured we had everything taken care of, or so we thought.

Of course, April Fool's carried over into April 2 and we found that a line was down on West Harbor Road close to Coopers. We did not receive any calls regarding this outage because the line was suspended by tree branches in the right-of-way beneath it and in contact with snow, which did not allow for enough fault current to trip the breaker. All the services downstream of this break were unoccupied.

This fault was likely the cause of our high load on the B phase when we started the engines the night before, and there was a significant area of snow-covered ground where the snow was melted from the current and the lines were arc damaged to the point that we could not just splice them together again

Left: Snow like this makes line patrol and even seeing the lines difficult.

Below: While Sunday was better weather, it was still work in the woods.



and had to add probably close to 30 feet to them.

This is a good reminder that, even if a line is on the ground, it could still be live and you should stay clear and well back from any downed wires. Unfortunately, I was too busy to take a picture of the melted area and damaged wires (We all walk around with a camera in our pocket now with modern phones and never think to use them!).

In any case, as noted, this was likely the reason that the south load was significantly unbalanced and while probably not the sole reason, was at least part of the reason why we were unable to keep the engines running once the north end of the Island was added to it.

The bright side of all this? The strong north wind broke up the ice enough

in Washington Harbor that it went out when the wind went south on April 5.

Maybe there is a spring light at the



end of the tunnel, but we still aren't counting our chickens because that light might actually be a storm train.



Left: Ice Broken up in Washington Harbor after April 1 storm.
Right: Ice moves out on April 5.

A LINK IN A CHAIN

While we are on the subject of outages, we also had an outage on the new fiber service. Technically it was not an outage, it was a service reduction because when we set up the service, Nsight provided a failover to the cell tower should the fiber be cut anywhere to try and minimize the impact. Of course, this results in significantly reduced bandwidth availability and subsequent poor service, but at least the service did not go away.

While inconvenient for a number of hours, this is the first actual outage of fiber service since the light was turned on back in early October. You can be sure it won't be the last! We will be working on some sort of a text blast message to everyone to keep them informed and will set up something for the usual social media sites moving forward. We also are working on a method to reduce bandwidth during such a situation so that service will be more reliable and also so that it won't adversely affect cellular service, which during the outage also moved back to microwave backhaul.

When this service reduction occurred, we were scurrying around trying to figure out what was wrong and how we could be having problems with equipment that

was less than a year old. A quick scan of the Ferry Line's webcams at Northport showed that they were frozen in time, meaning the problem was not on our end. While this was a relief, we then needed to track down what was going on with Nsight. We found out that they already had a crew on the way and knew that the problem was between Gills Rock and Ellison Bay and was likely a fiber cut of some sort.

Of course we had visions of an errant spring mailbox installation that was done without calling Digger's Hotline (cue the last several months of reminders—call before you dig) and waited to hear what had actually happened and an ETA for repair. Of course, we also wanted an address to send the Digger's Hotline brochure to after the fact.

As it turns out, there is no such address and the culprit in this case is now homeless due to his carelessness. It turns out that squirrels do not know how to call Digger's Hotline. The little bugger had set up residence in a U-guard that was protecting a pole riser and, likely in an attempt to get free streaming service, had chewed into several of the fibers. The squirrel, being destitute,



Squirrel-damaged fiber
(photo courtesy of Nsight)

will be unable to pay for the damage he created (unlike someone else who digs without calling Digger's Hotline).

The damage was significant enough that a quick repair was not possible (by the time you read this it will likely be repaired) and Nsight was forced to make some routing changes in order to bypass the damage.

This is a good illustration why redundancy is important and why, as part of future (and current) grant applications we are discussing an additional cable across Death's Door.



Internet Updates

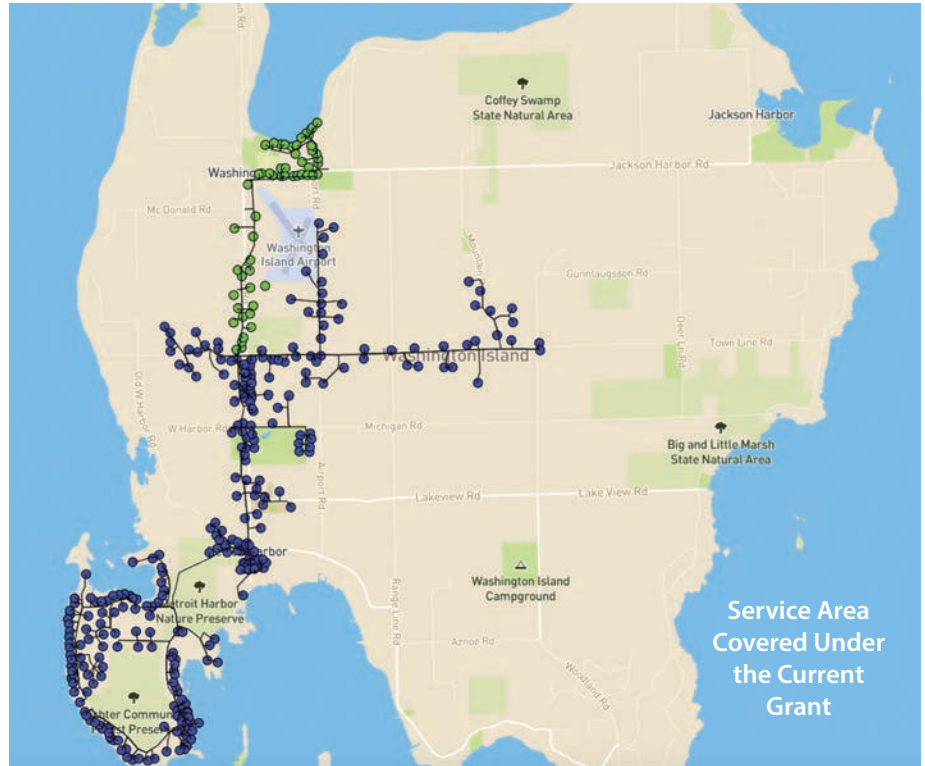
CONNECTIONS IN GRANT AREA PROGRESSING WELL

As you are likely by now aware, we are back to splicing fiber in full force as Quantum has returned from a weather-related hiatus. Karcz, on the other hand, really never stopped installing drops and is working hard to get as much done until obligations elsewhere will reduce their crew size and availability in mid-May.

Our goal (and we feel it is very attainable) is to have everyone complete in the current grant area by the end of the summer.

The map at right illustrates the current grant-covered service area.

When we initially engineered the system, we divided the Island up into five different areas that we initially intended to connect in a sequential manner. Because we felt that it told a good story and improved our odds to talk about the lack of cellular service in Washington Harbor and the fact that 911 service could only be attained by running up the cemetery hill to get service, we included service for a small cell site at Schoolhouse Beach in the grant application. This necessitated that we include part of Area 3 along with Area 1a in the application. Area 1a followed the route (with a few branches)



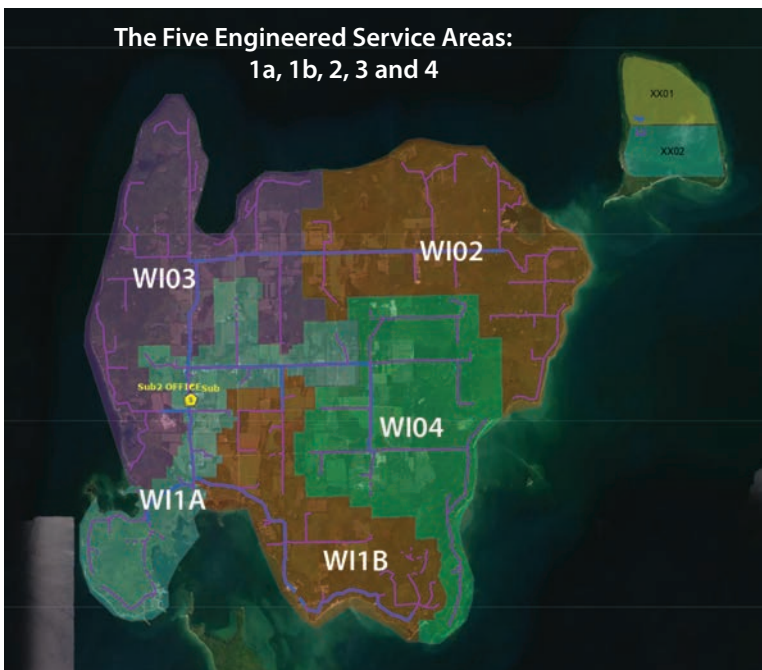
of the partnered grant with Nsight, which also got them fiber backhaul to the cell tower on the mountain.

As a side note, we met with Nsight engineering and discussed all the dead zones on the Island and they came to the Island to create a heat map of signal strength the first week of April. This will allow us to plan for additional small cell site fiber requirements as they work to improve service everywhere...but this is down the road.

While the potential for small cells is exciting and important, obviously we need to get the fiber distributed everywhere. Since we have already expanded into Area 3, it only makes sense that we continue there once (and actually in conjunction with) the current grant area is complete. You may have noted additional work outside the first map, occurring running north on Main Road and on Gasoline Town Road, and we will continue this work, although at a slower pace, while we work to complete the current grant area.

As noted last month, we also need to balance our spending on additional expansion with grant opportunities in order to maximize our match and improve our chances. What is spent prior to a grant award usually is not eligible to be considered for either a match or for reimbursement. This does not mean we are stopping!

The Five Engineered Service Areas:
1a, 1b, 2, 3 and 4



PHONE SERVICE IS OFFICIALLY PART OF OUR FIBER PROJECT

We have talked about offering phone service on numerous occasions and now that is becoming a reality. When researching the various options, it has become apparent that the best option was to partner with Quantum once again.

What this means is that, once again, we are trying to maximize our local interactions and accountability. Quantum is already offering voice-over internet phone service and as such, is already set up to collect the various government-in-your-pocket fees that we all know and love (yes, this is a late April Fool's joke). As you are aware, Quantum has purchased the former "Brothers Too" facility and will be well positioned to help maintain the system with an actual Island-side presence. The cooperative will not need to set ourselves up for the various taxes and reporting required by offering this service, but will still be able to provide a back-up to help maintain in-home systems.

If you choose to subscribe to this system and already have a landline, your existing number can be ported over and everything will be seamless. Those of you who do not have a landline will certainly be able to get one, and those of you who are renting your homes in the summer months (or other parts of the year) may want to consider taking advantage of this service so that your renters are not isolated by cell service restrictions and can call out from the home (assuming you subscribe to our fiber service once it gets there). So, with some details yet to come in future editions, but also with a planned boxholder, here is the announcement of phone service.

The launch of Washington Island Voice marks a significant milestone in the island's telecommunications sector.



This Quantum crew is currently working on our fiber project and on phone service.

The Washington Island Cooperative and Quantum Technologies have announced a groundbreaking partnership to provide an innovative voice offering, called Washington Island Voice, to subscribers of the co-op's fiber internet service. This state-of-the-art service is now available to all residential and business subscribers of WIEC fiber.

The Washington Island Co-op is making this cutting-edge service possible, and Quantum Technologies is honored to provide their world-class voice technology to subscribers. The advanced Quality of Service (QOS) configuration on the fiber network ensures crystal-clear call quality and minimal latency.

Nathan Drager, president of Quantum Technologies, expressed his enthusiasm for the partnership: "We are incredibly excited to join forces with the Washington Island Cooperative to bring Washington

Island Voice to life. Our collaboration allows us to deliver an exceptional telecommunication experience to the community. We believe that our shared commitment to innovation and quality will truly make a difference in the lives of the residents and businesses on the island."

Washington Island Voice is priced at \$39.99 monthly for the first line, with applicable telecom taxes assessed separately. Installation costs \$100 and includes a battery backup and new cordless handset. For customers who prefer using existing analog phone equipment, an ATA adapter will be provided.

The launch of Washington Island Voice marks a significant milestone in the island's telecommunications sector and demonstrates the commitment of both the Washington Island Co-op and Quantum Technologies to innovation and community development. With this new service, residents and businesses can look forward to a seamless, reliable, and high-quality voice experience that caters to their communication needs.

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