Telecommunications Advisory Committee Update
## 2019-04-16

I. **Kevin Shepherd**

A. Grant writer is in place and working on ReConnect Grant

B. Meeting with interested parties, Department of Agriculture, Connect Michigan planned to discuss fiber to the island option. Kevin will advise of date and try to work it so a BI representative can attend.

C. Kevin conformed willingness to work with Aspen and Merit to use UP (or other) link to provide service to users within reach (Island Airways, Hardware, Market and restaurants might be interested in more bandwidth in addition to non-profit users we have discussed).

II. **NMU**

A. Eric Smith has confirmed that cost of link equipment is about $25,000. NMU EAN engineers want equipment manufacturer (Cambrium) to certify the study NMU created with Cambrium's link planner. It is possible Cambrium may recommend larger dishes on either or both ends. If so, cost could rise to $50,000, and if larger dish is required on Font Lake tower, study would need to be updated.

B. Rent for use of EAN tower at Engadine would be $300/month.

C. Connection from Merit fiber at school to tower would be $5,000 to $20,000 depending on equipment selection if microwave and $25,000 for fiber.

D. NMU is applying for $10 million ReConnect grant to help fund it's rollout of EAN in northern lower Michigan. This would accelerate deployment because they wouldn't have to wait on roll over of $6 million MEDC loan they have for buildouts. ReConnect funds could partially fund an additional tower on the island. They have FCC applications and waivers pending for licenses for Northern Lower. They already have license that covers part of Beaver Island and would work with existing license holder (ISD) for rest of Beaver Island, so we are not dependent on Northern Lower FCC grants.

E.   Cost of Engadine tower was $175,000. Based on this, Eric believes a similar tower on the island would be $200,000.   Additional tower would be necessary for EAN deployment, but not UP backhaul link. Initially, EAN might use some of the UP backhaul bandwidth, but eventually additional backhaul would be necessary, which would be link(s) from the new BI tower to the Engadine tower. Eric says the tower has plenty of capacity for additional links.
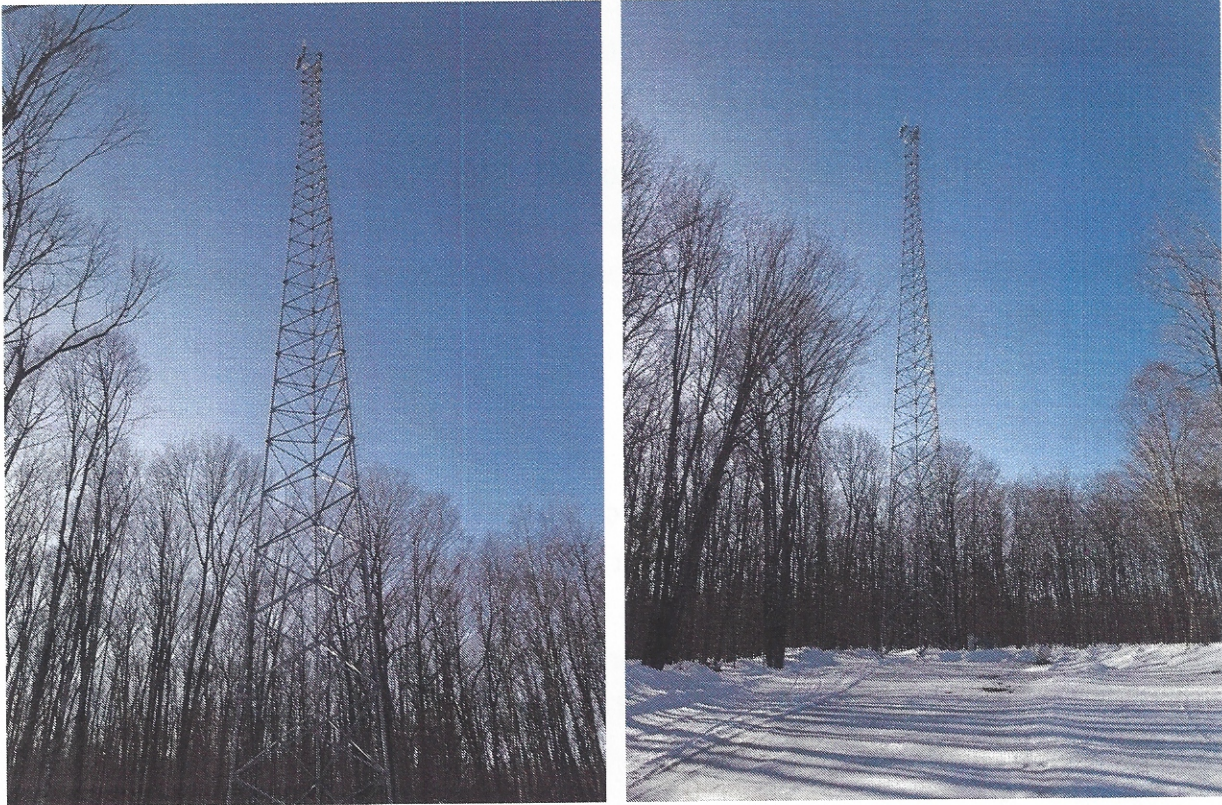
III.   Costs

A.   These are best estimates based on current info.

B.   Quotes from Merit last fall:

Rate	Cost
100M	1yr. = $7,680
	5yr. = $6,480
500M (tier 2 pricing applies @ 500M)	1yr. = $23,040
	5yr.= $19,440
700M	1yr. = $32,256
	5yr. = $27,216

C.   Assuming following 9 users (BICS, BIDL, BIRHC, County, St. James
EMS Township, Community Center, BIHS) and 5 year commitment, monthly cost
would be $286. This is undiscounted. Presumably some discount could be
arranged. Adding 6 additional users would lover monthly cost to $172. Each user
could surge to the maximum amount handled by their link back to Font Lake (up
to 700M). Kevin Shepherd says this arrangement works well for them.

D.   Up-front costs (assuming $30,000 for link equipment and $10,000 for
installation and other costs) would be ~$4,500 per user (assuming 9 users) (plus
link costs to distribution hub for the user). Given that some users would use
more of the bandwidth (e.g., BICS, County and BIRHC) or that some might have
greater ability to pay, it may make sense that some pay a larger share than
others. Adding additional users would reduce this cost. Adding 6 more users
would reduce cost to ~$2,700 per user plus hub link costs.

E.   Assuming worst cost case ($70,000 for link equipment and $15,000 for
installation), per user costs with 9 users would be $9,400 and $5,700 for 15
(assuming some business use). For the plan to work in this case, it seems likely
some users would have to bear an extra share of the upfront costs.

F.   Plan would also include using CMU connectivity as a fail –over connection
point in exchange for providing fail over service to CMU on the UP link. Current
link from Font Lake to CMU is ~300M. It may be desirable to improve capacity of
that link down the road, but it would provide adequate initial fail-over capacity
as-is.