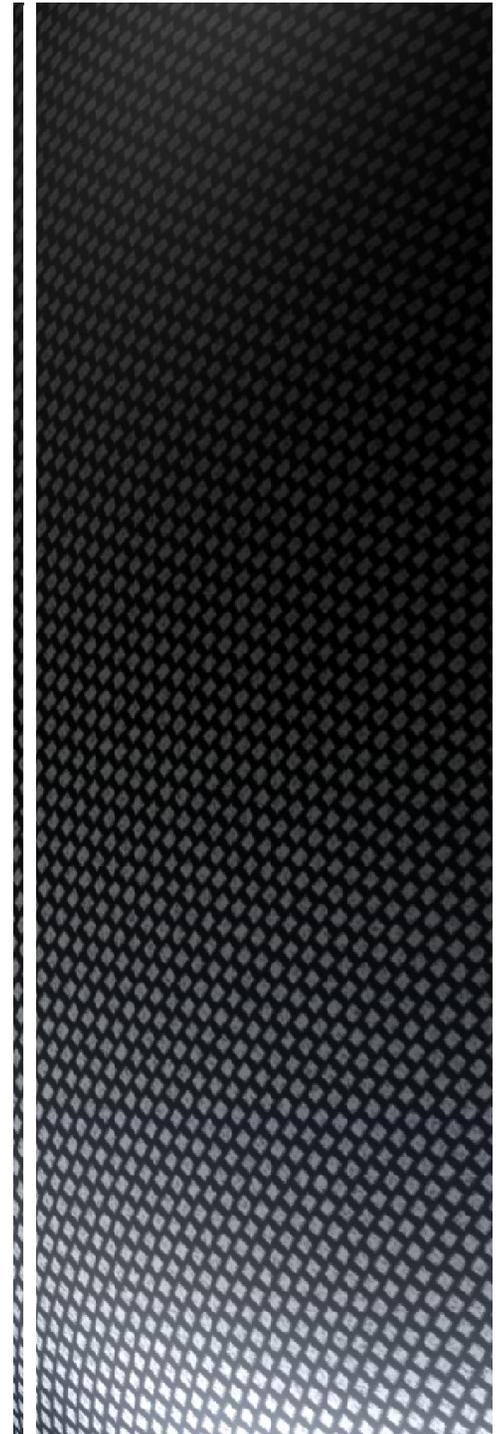


Afton High
Speed Internet
Committee
(HSIC)
Report
June, 2015



HSIC goals:

#1 - Identify those homes in Afton that have no Internet connectivity.

#2 - Identify those homes in Afton with slow Internet connectivity which is defined as connectivity speeds under 1mbs.

#3 – Establish points of contact with the service providers.

#4 – Investigate funding options.

#5 – Make recommendations to the City Council.

The Process:

The HSIC met with Centurylink (CTL) and Comcast at its first meeting. Follow up meetings were scheduled to view proprietary coverage maps and discuss options.

- Richard Gacke, (Richard.Gacke@CenturyLink.com) manager of Network Planning for the state of Minnesota is our CTL contact person. 612-600-9250
- Kate Hensing, (Kate.Hensing@cable.comcast.com) manager of Government Affairs is our Comcast contact person. 651-341-3022

The HSIC met with a representative from the Mn. Office of Broadband (MOB) to discuss funding options.

- Jane Leonard (Jane.Leonard@state.mn.us) Broadband Grant Administrator is our contact at the MOB. 651-259-7635

- Coverage maps from both service providers were viewed and noted. FYI – these maps are considered company confidential and therefore should not be distributed.
- A request for feedback was posted in the monthly Afton newsletter for residents to let the HSIC know if they had no or slow connectivity. Approximately forty (40) replies were received and the HSIC posted the results on a map of Afton. The results confirmed CLT and Comcast's coverage map information.

The Next Step:

- Both service providers were requested to quote at the following levels:
 - 1) Build out to provide service to the None Served homes.
 - 2) Build out to those homes with "slow" service.
 - 3) Build out to provide the standard 10mbs service to all of Afton.

Why do homes in Afton have NO or SLOW Internet connectivity?

**** Has Afton caused a hardship with land use rules that prevents service providers from doing a complete build out?

SOME BACKGROUND - the copper wire phone lines traveling from our homes do not go directly to the phone companies switching station. Instead these wires travel to a junction box called a DSLAM (Digital Subscriber Line Access Multiplexer) . Here your and your neighbors' phones lines for voice and data are combined together and converted from a signal on copper wire to an optic signal which can travel long distances over fiber optic cable. Afton currently has seven (7) DSLAMs.

THE PROBLEM - data signals on copper wire hate traveling distances. So, the further you live from one of Afton's DSLAM boxes the slower your Internet speed. The signal may be so badly degraded that you have no data connectivity at all. Another factor: the DSLAM you are connected to may not be the closest.



One of Afton's DSLAMs.

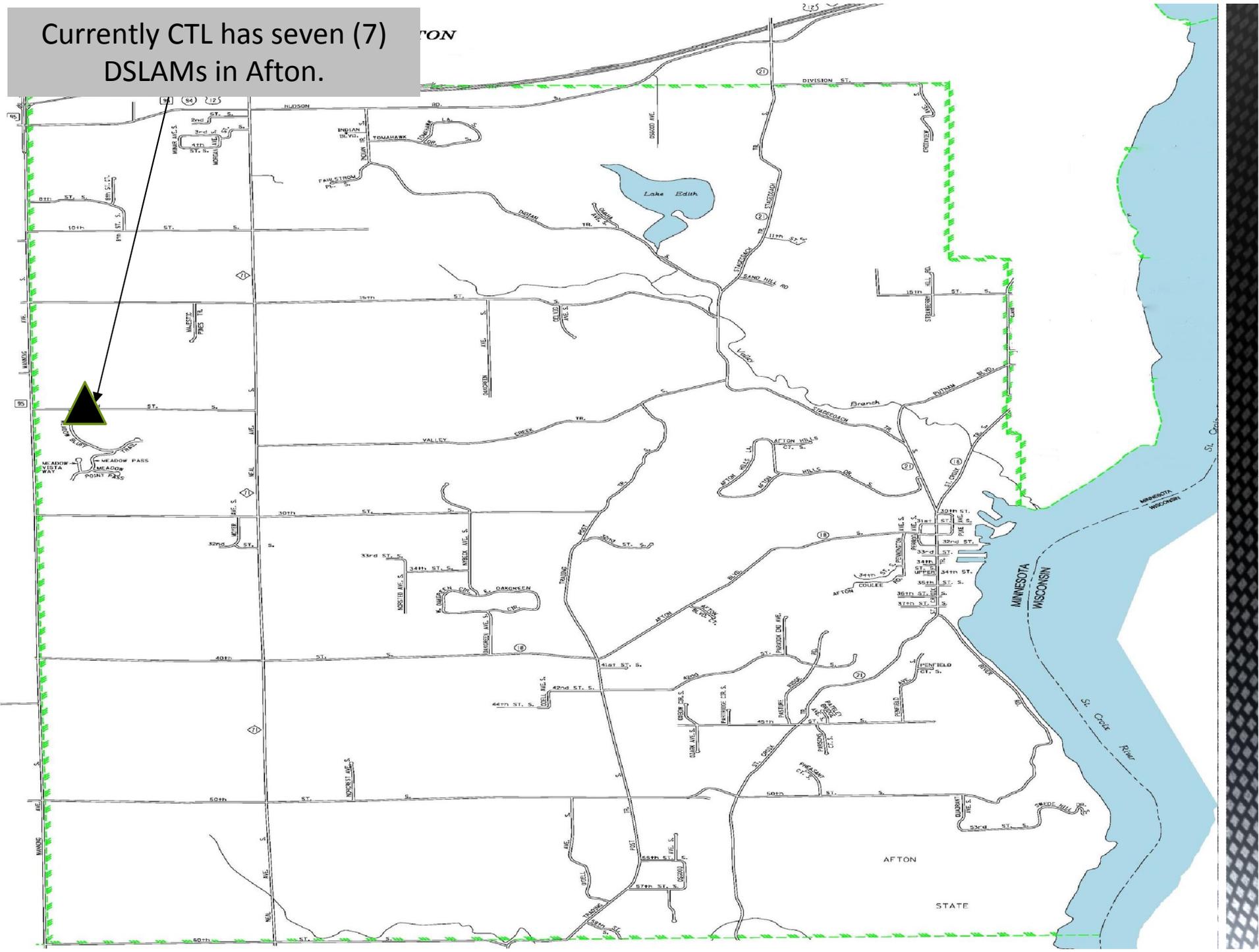
The Solution – More DSLAMs in Afton – except!

DSLAMs are expensive – about \$30,000 to 50,000 each. Centurylink (CTL) looks at those costs and decides where to install DSLAMs based on return on investment. As you can imagine with Afton's housing densities we are not high on the priority list for improvements.

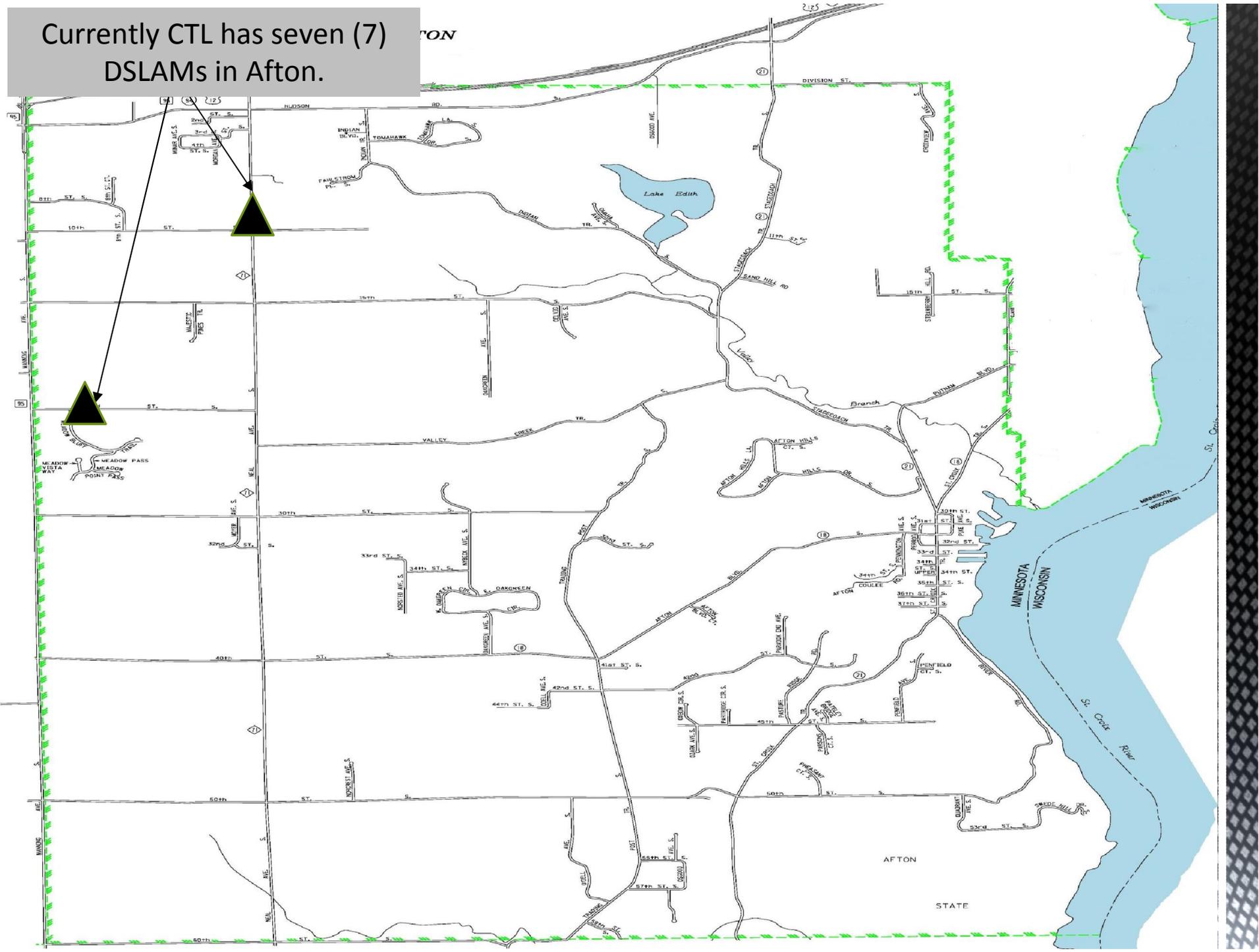
An Important Point - Slow vs Unreliable service.

SOME TERMS PLEASE – the HSIC uses the term Unserved and No Service to mean a home with literally no Internet Connection except for Dial Up, Cell data usage or satellite service. The HSIC wants home owners to understand that there is a distinct difference between “slow” and “unreliable” service. When the HSIC talks about “slow” speeds we are referring to speeds at 128k to 256k baud or slower. The HSIC is not dealing with “unreliable” service which means connection speeds greater than 256k baud but some times has interruptions in service.

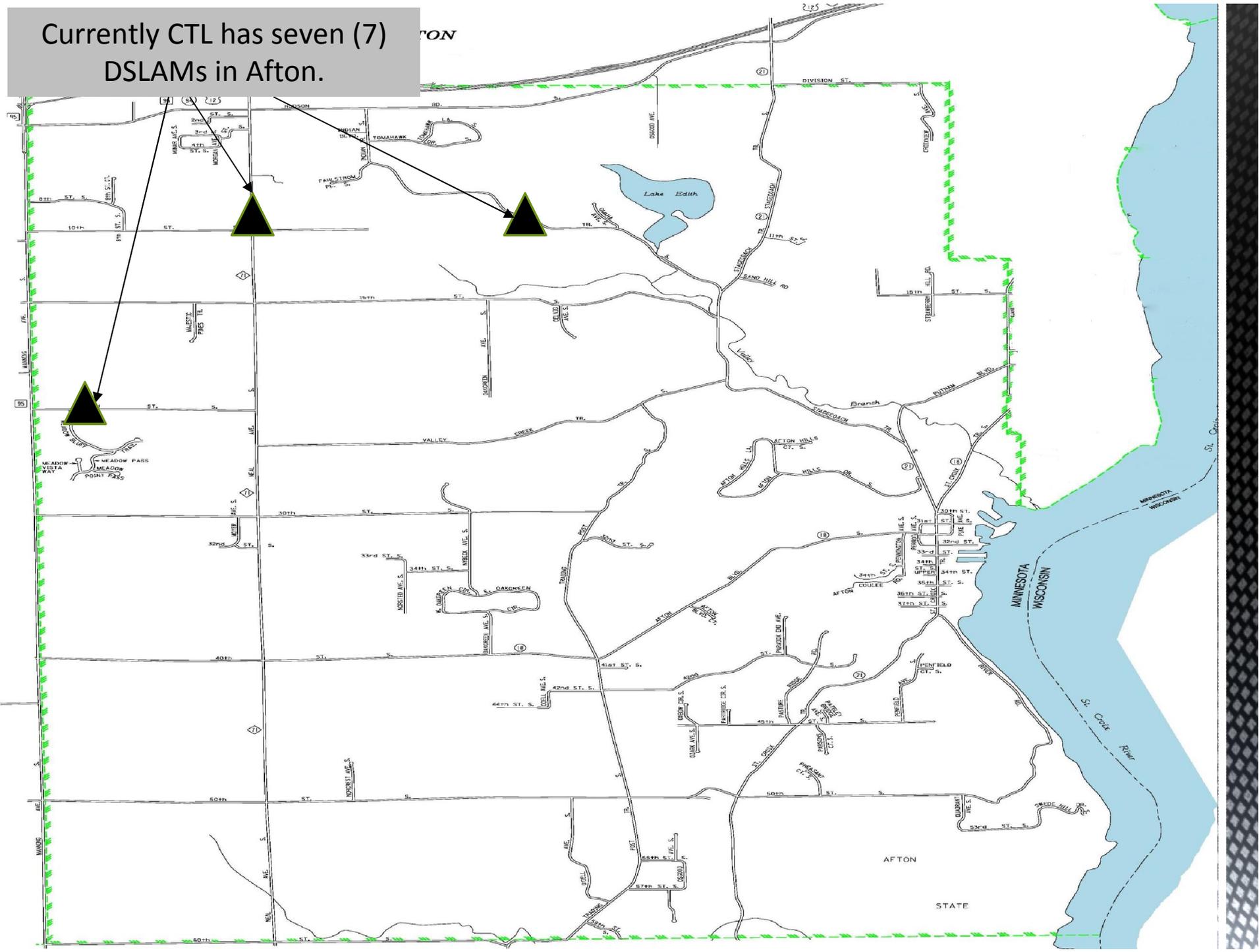
Currently CTL has seven (7) DSLAMs in Afton.



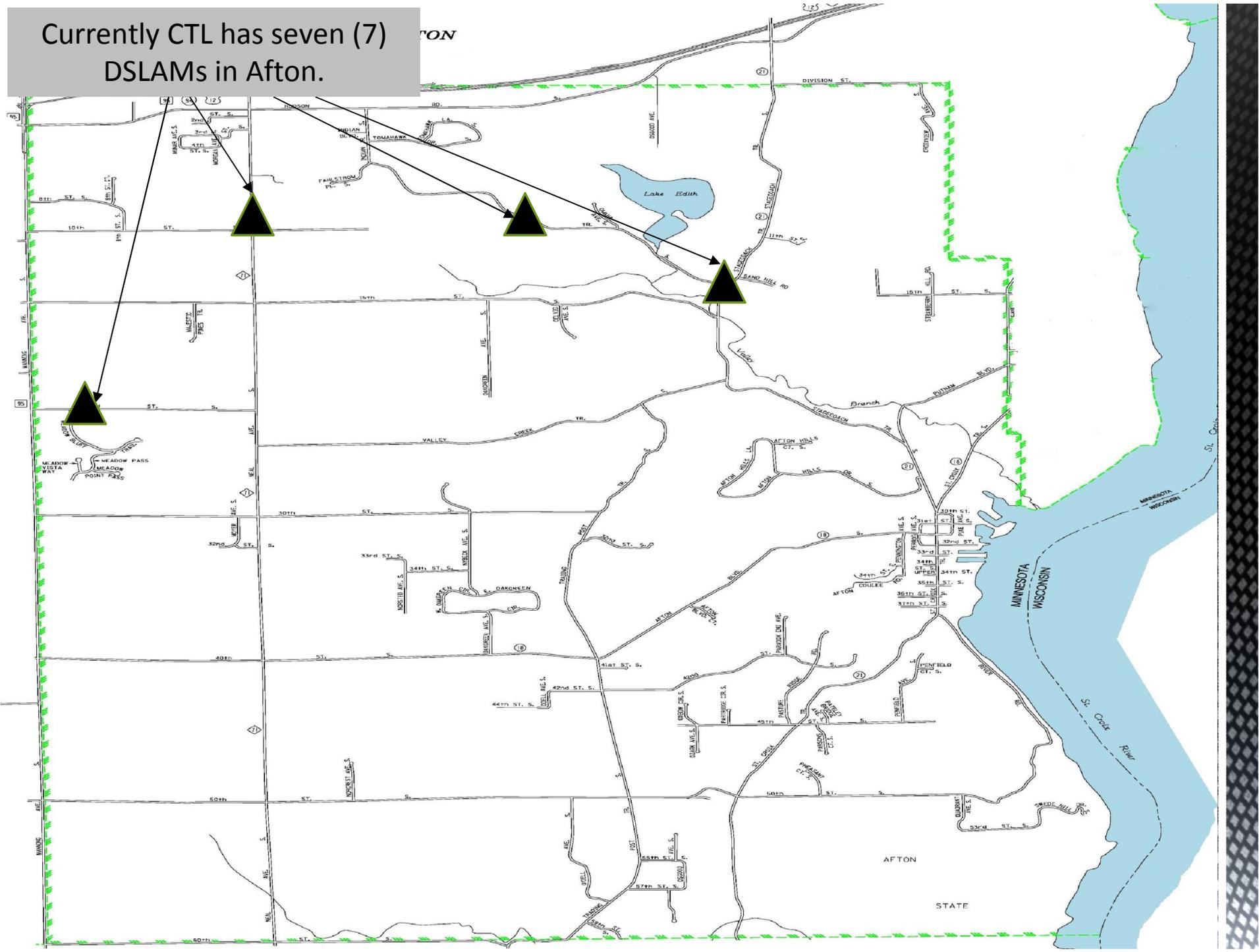
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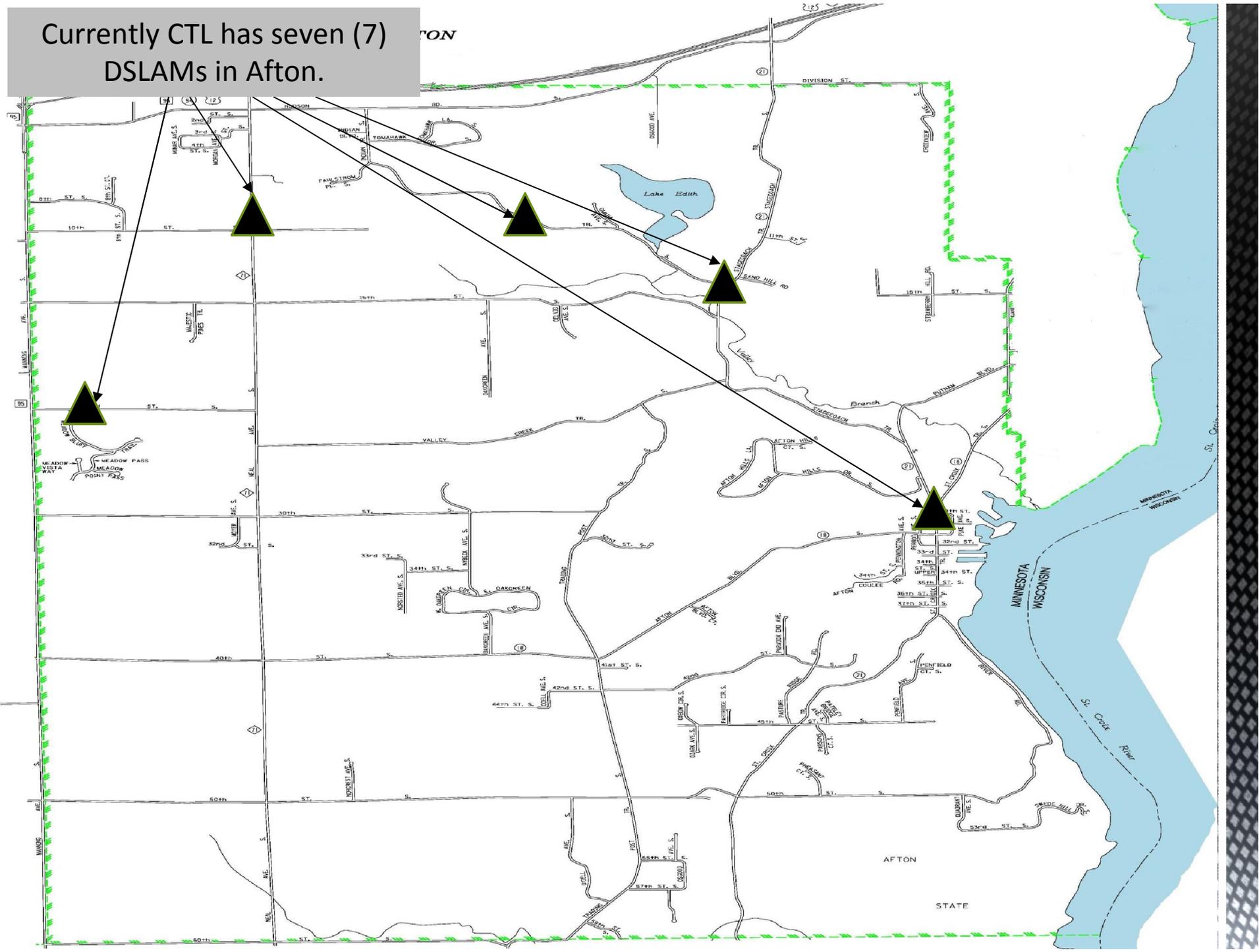
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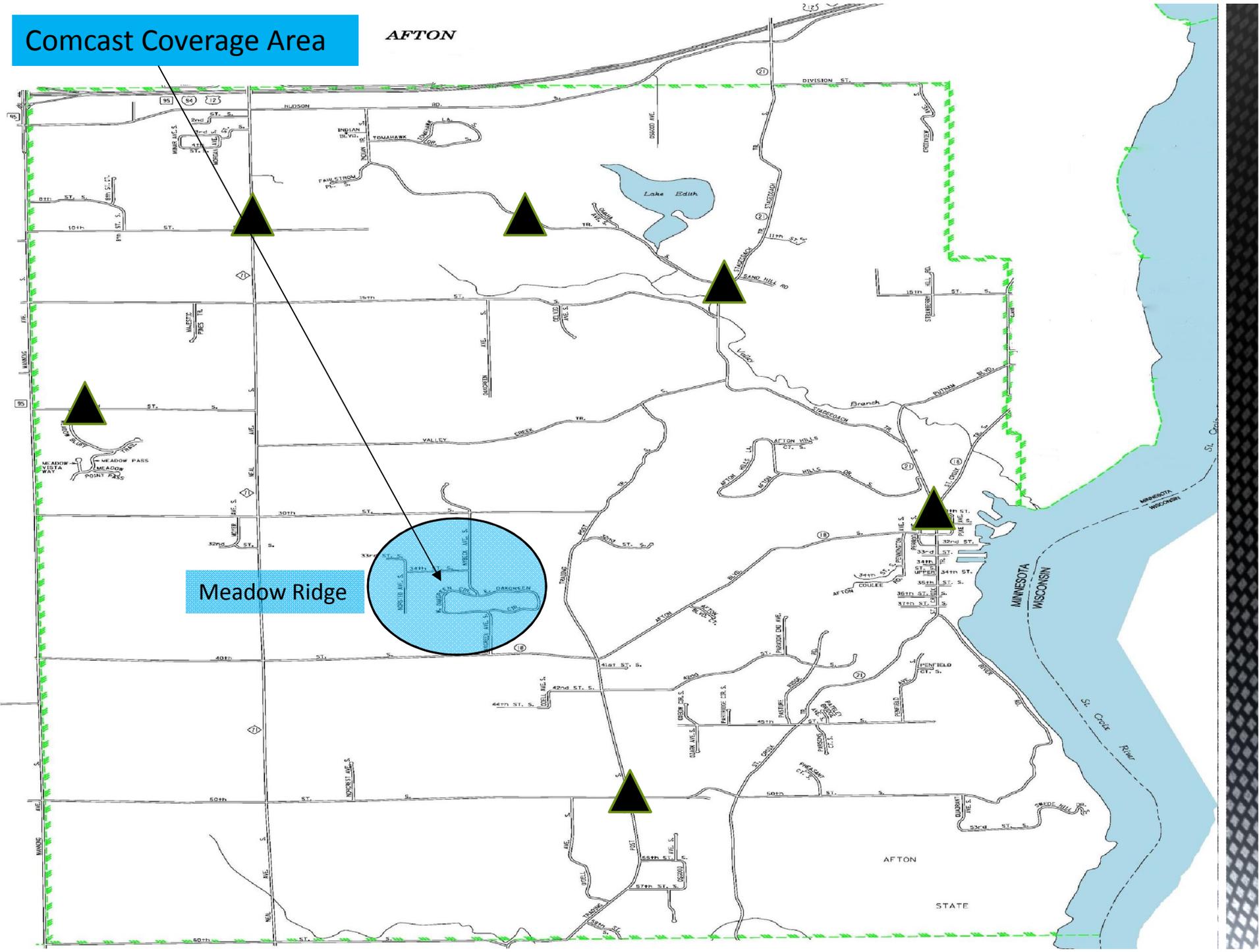


Comcast Coverage Areas.



Comcast Coverage Area

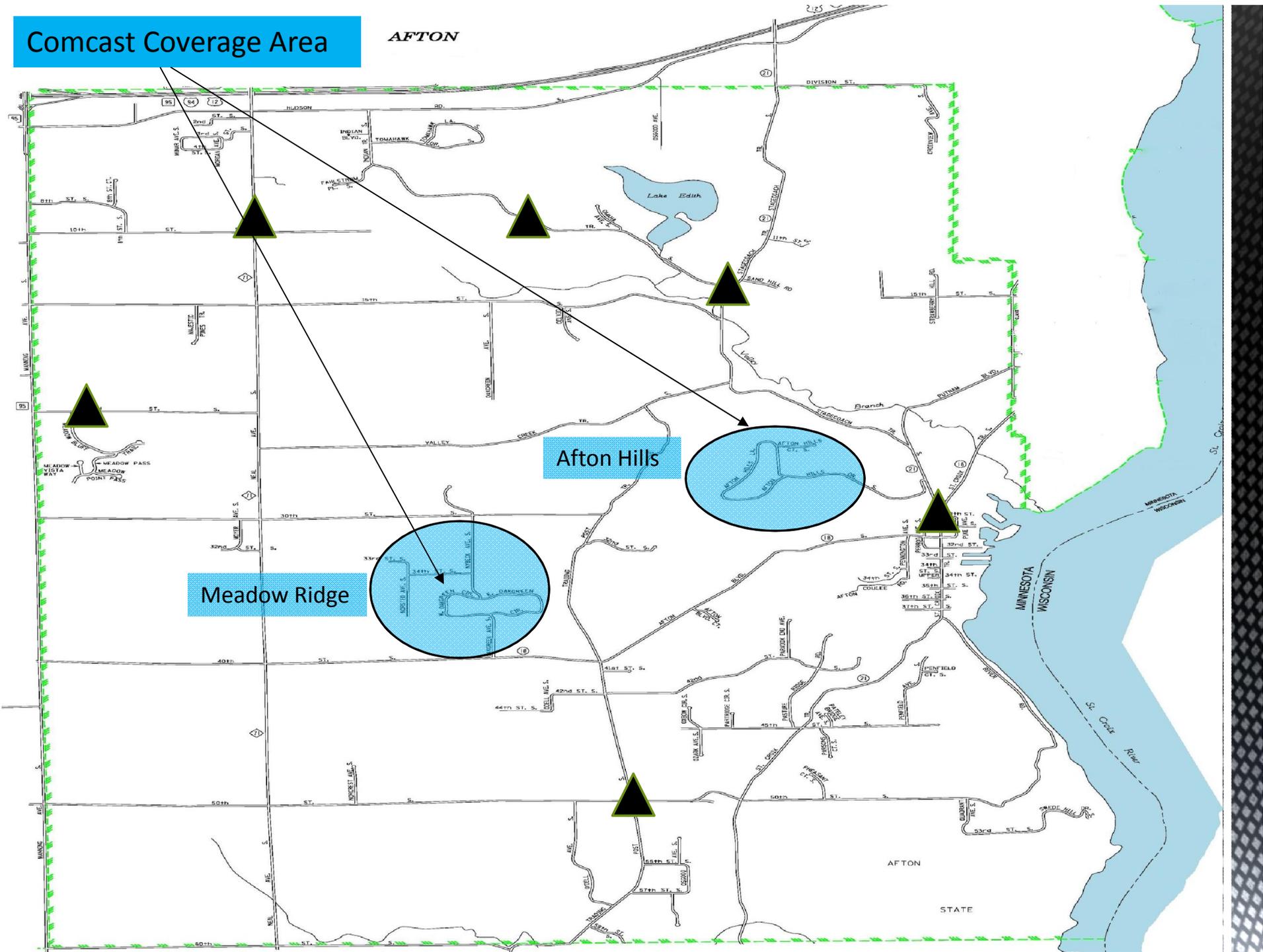
AFTON



Meadow Ridge

Comcast Coverage Area

AFTON



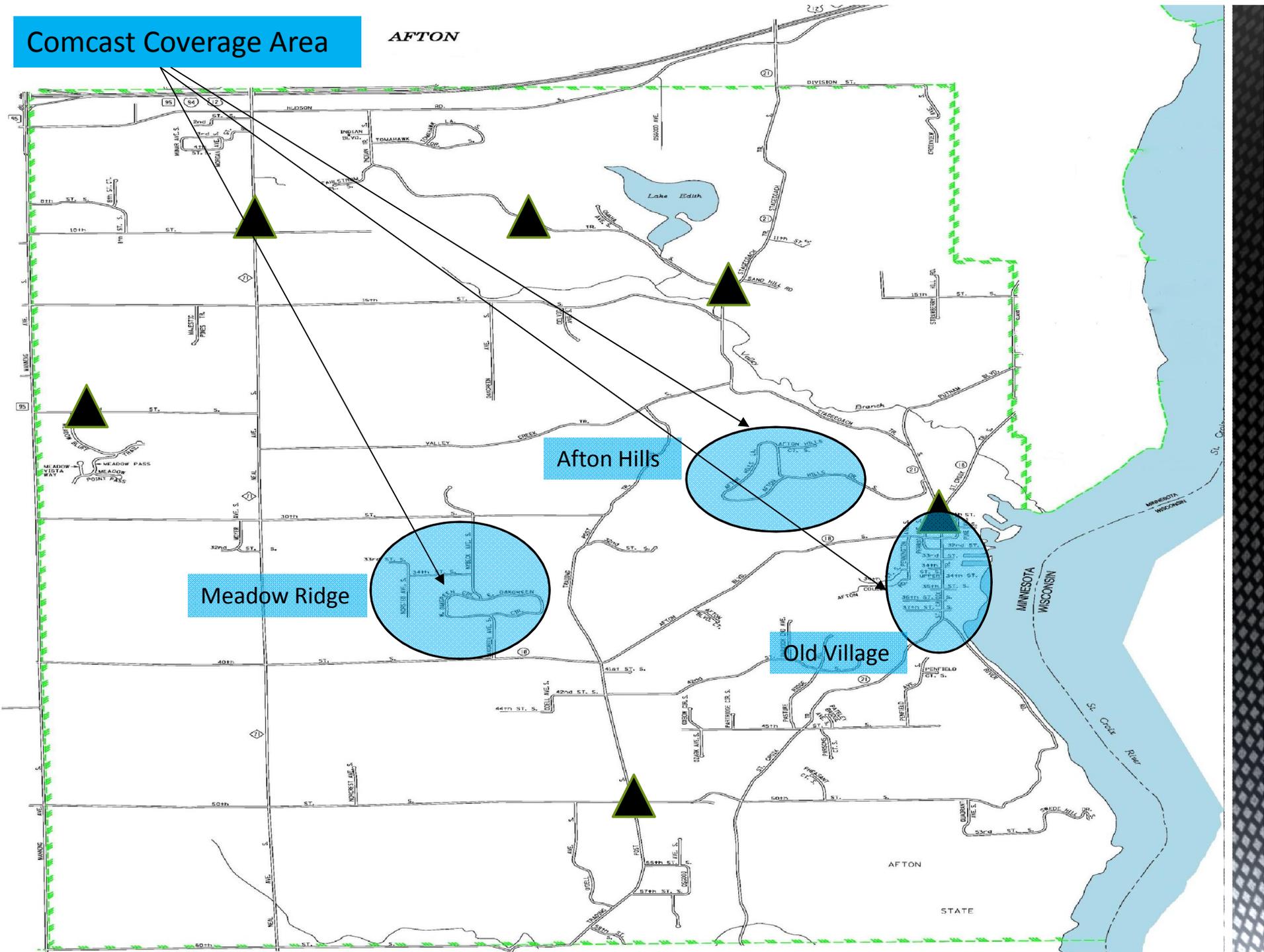
Meadow Ridge

Afton Hills

AFTON
STATE

Comcast Coverage Area

AFTON



Comcast Coverage Area

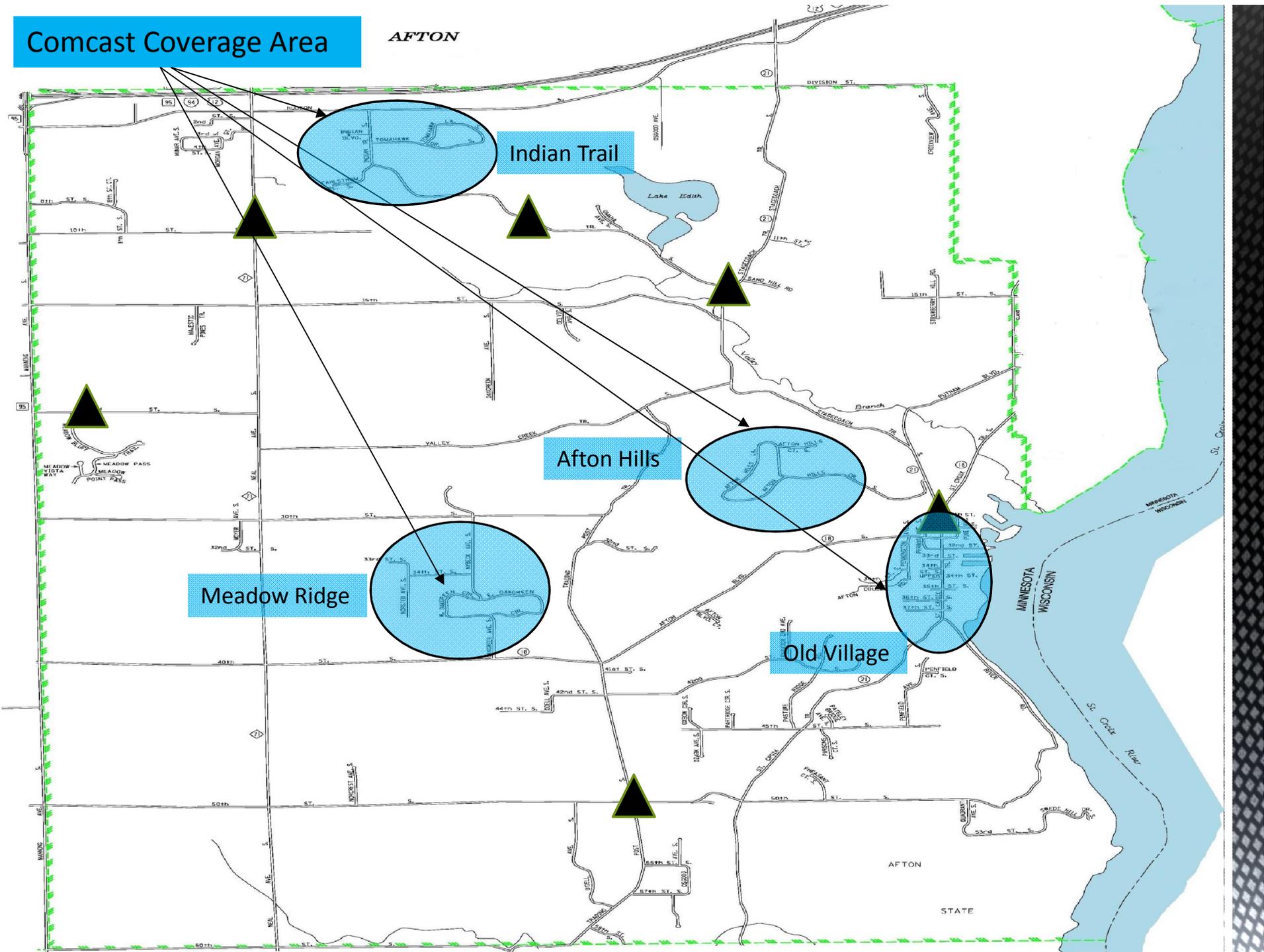
AFTON

Indian Trail

Afton Hills

Meadow Ridge

Old Village



Comcast Quote

The HSIC requested a quote from Comcast to provide service to the 40th Street / Trading Post Road un-served area. This quote exceeded CTLs quote by a factor of 4 or greater.

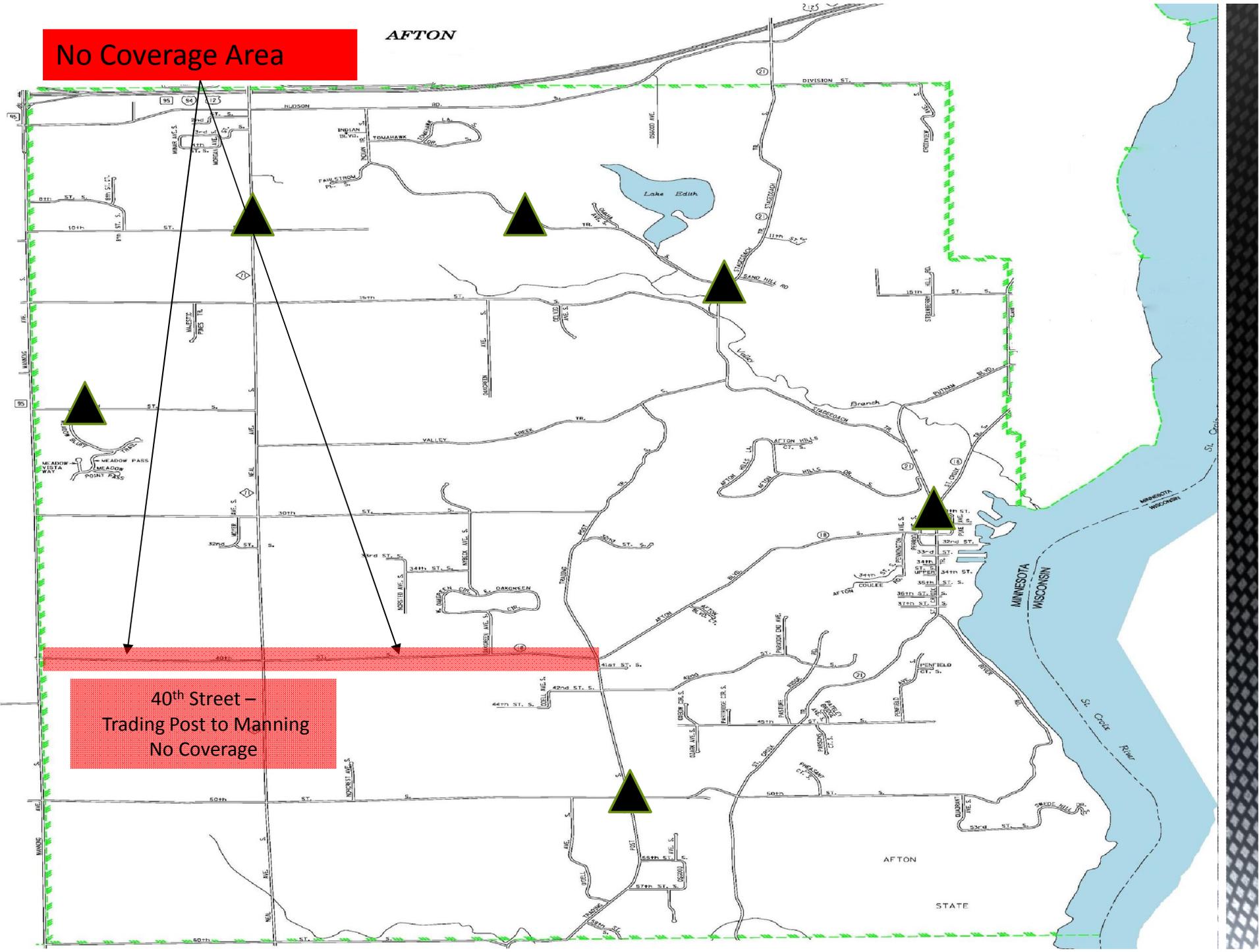
No or Slow Connectivity areas.

Working with CTL, Comcast and from an Afton wide survey, the HSIC has determined that the areas of no coverage are clustered around Trading Post Road and 40th Street. These areas shown in the following maps have either no coverage or extremely slow coverage.



No Coverage Area

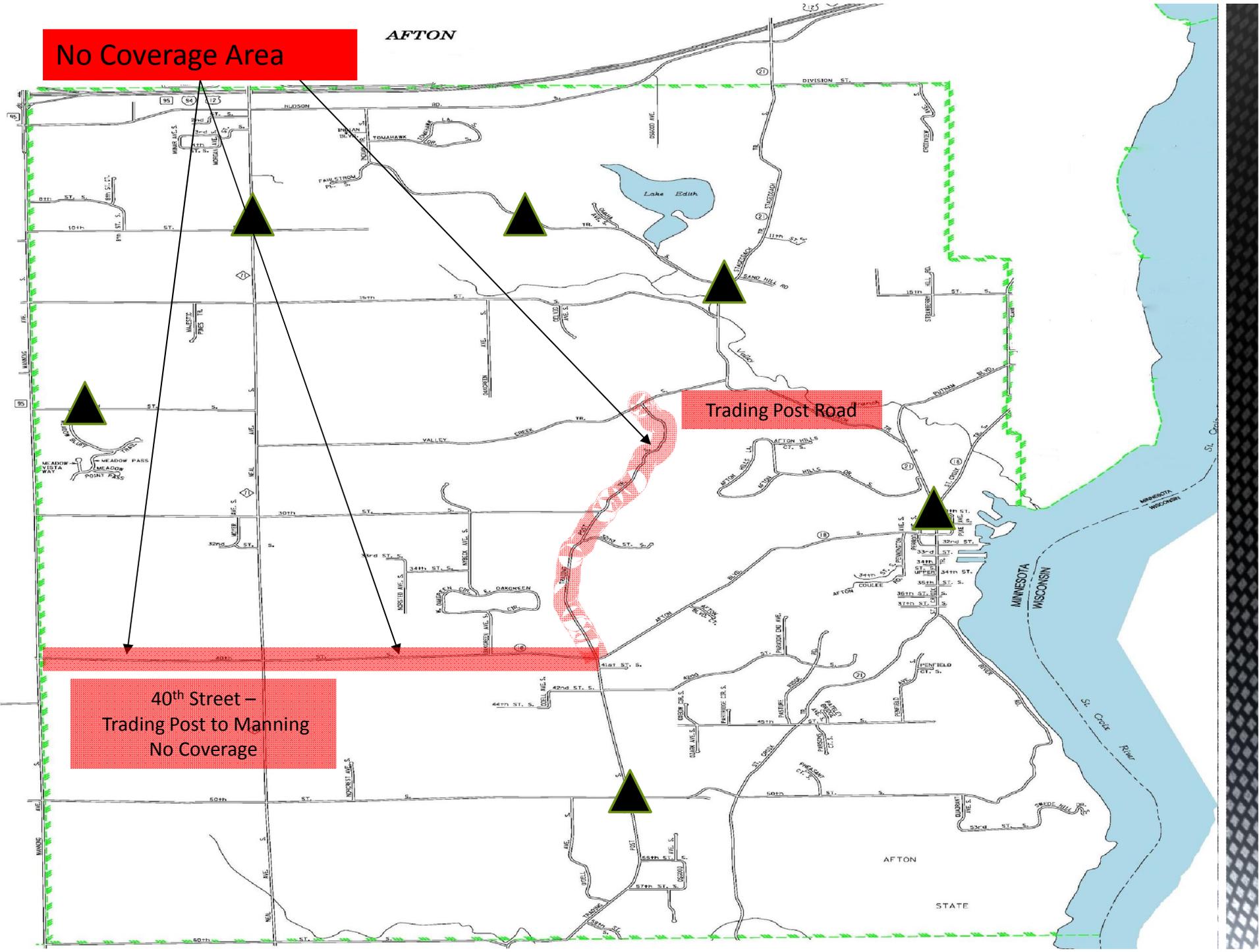
AFTON



40th Street –
Trading Post to Manning
No Coverage

No Coverage Area

AFTON



Trading Post Road

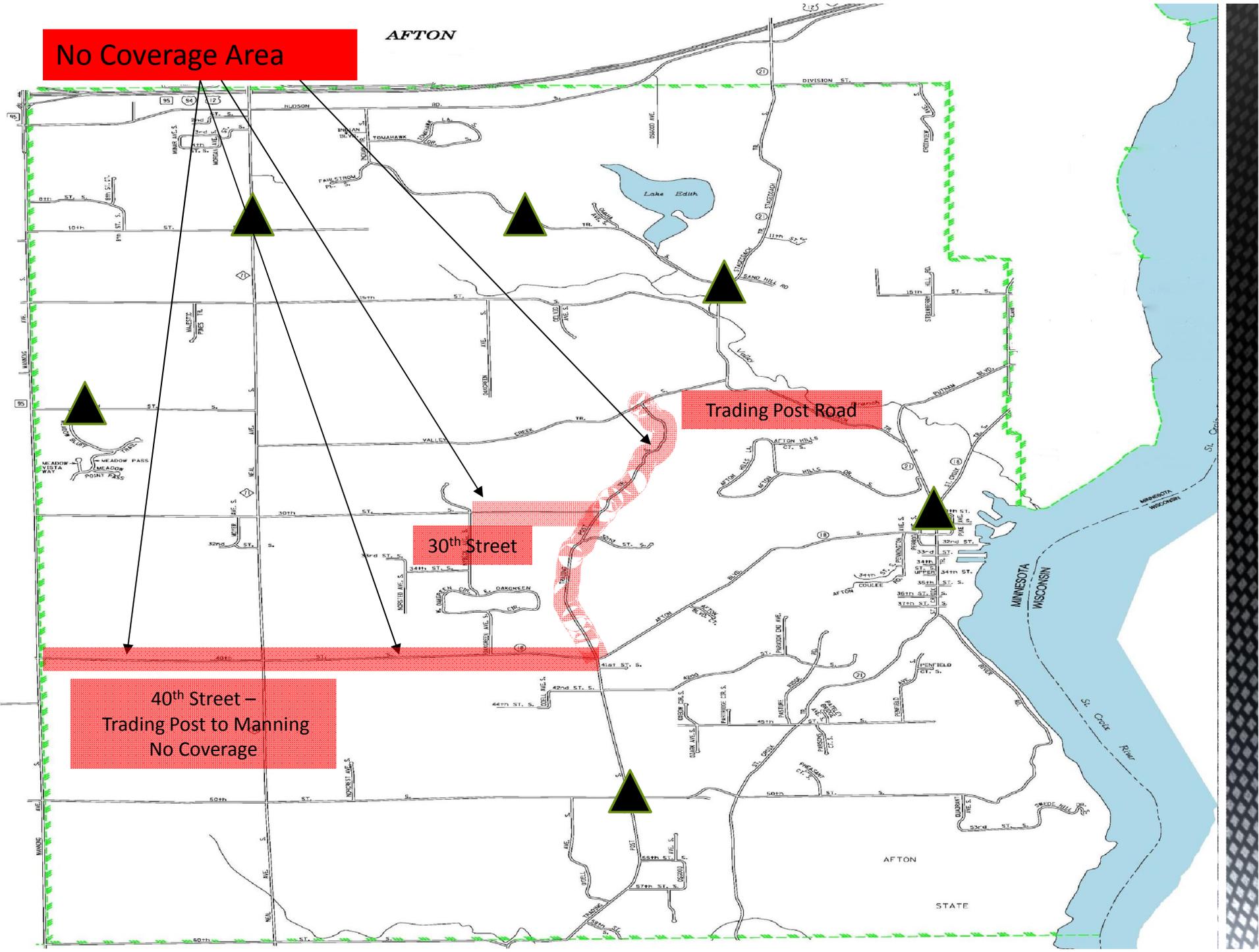
40th Street –
Trading Post to Manning
No Coverage

AFTON

STATE

No Coverage Area

AFTON



Trading Post Road

30th Street

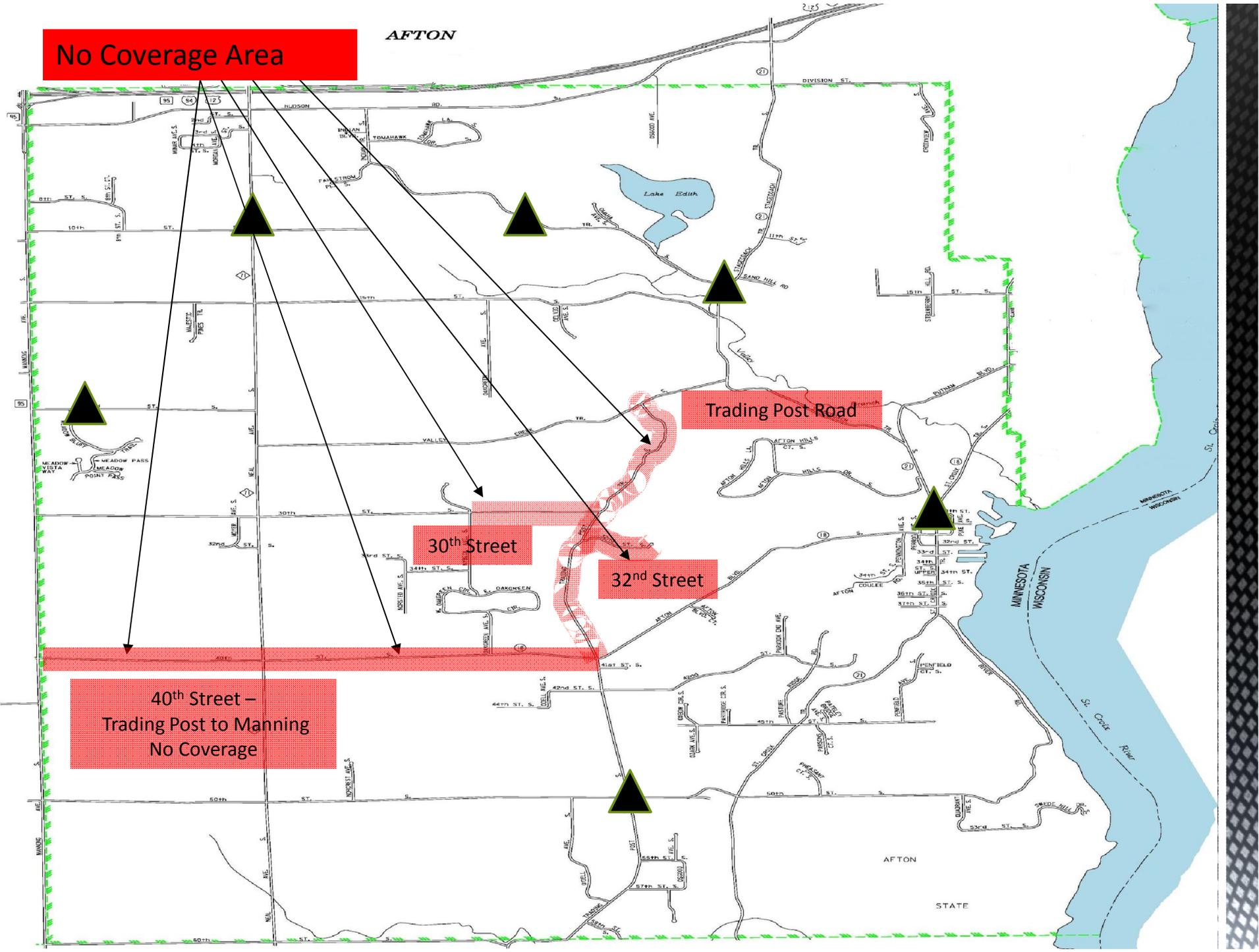
40th Street -
Trading Post to Manning
No Coverage

AFTON
STATE

MINNESOTA
WISCONSIN

No Coverage Area

AFTON



Trading Post Road

30th Street

32nd Street

40th Street -
Trading Post to Manning
No Coverage

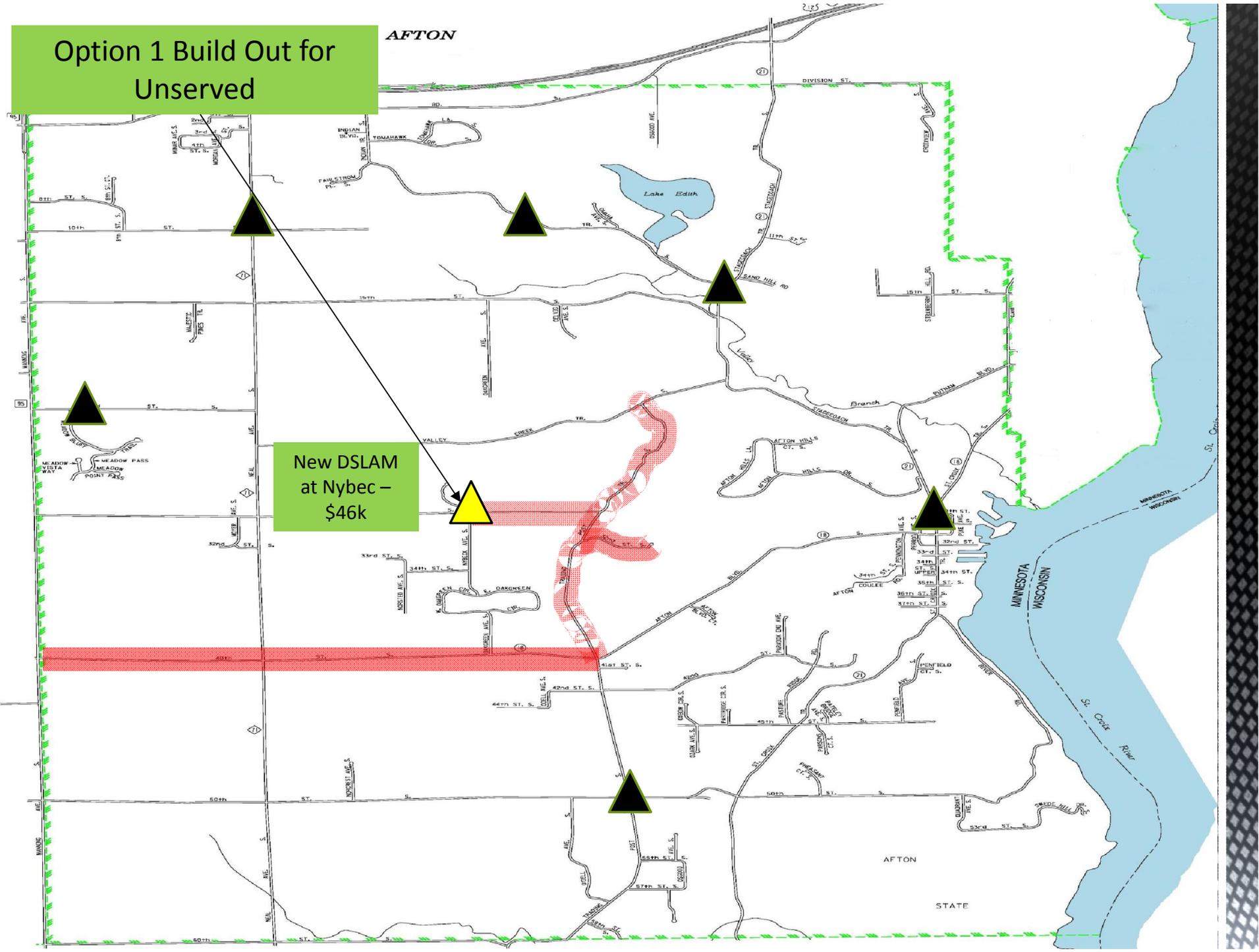
CTL - Option # 1

CTL has quoted installing 3 DSLAMs to remedy the “No Coverage” area in Afton.

Option 1 Build Out for Unserved

AFTON

New DSLAM at Nybec – \$46k

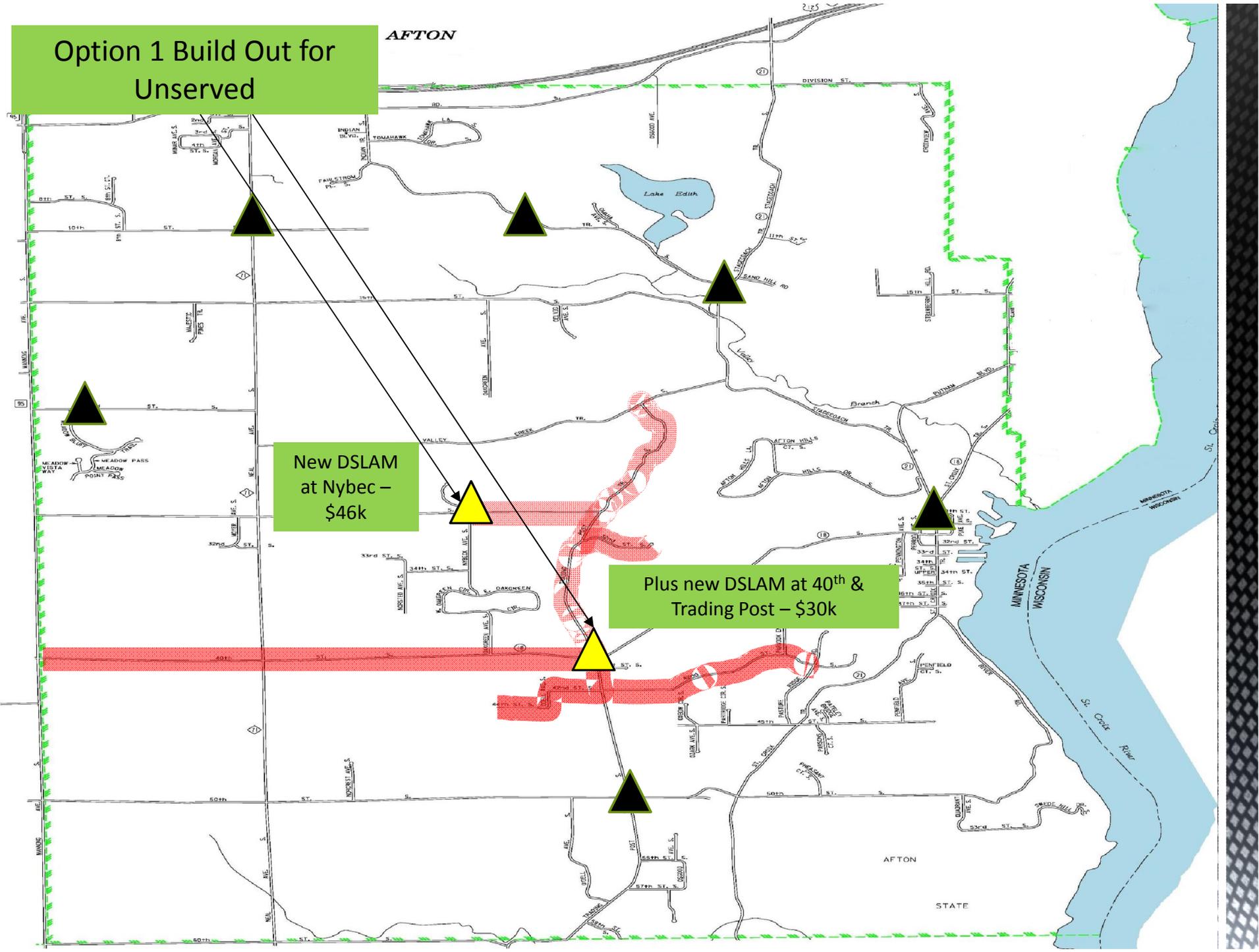


Option 1 Build Out for
Unserviced

AFTON

New DSLAM
at Nybec –
\$46k

Plus new DSLAM at 40th &
Trading Post – \$30k



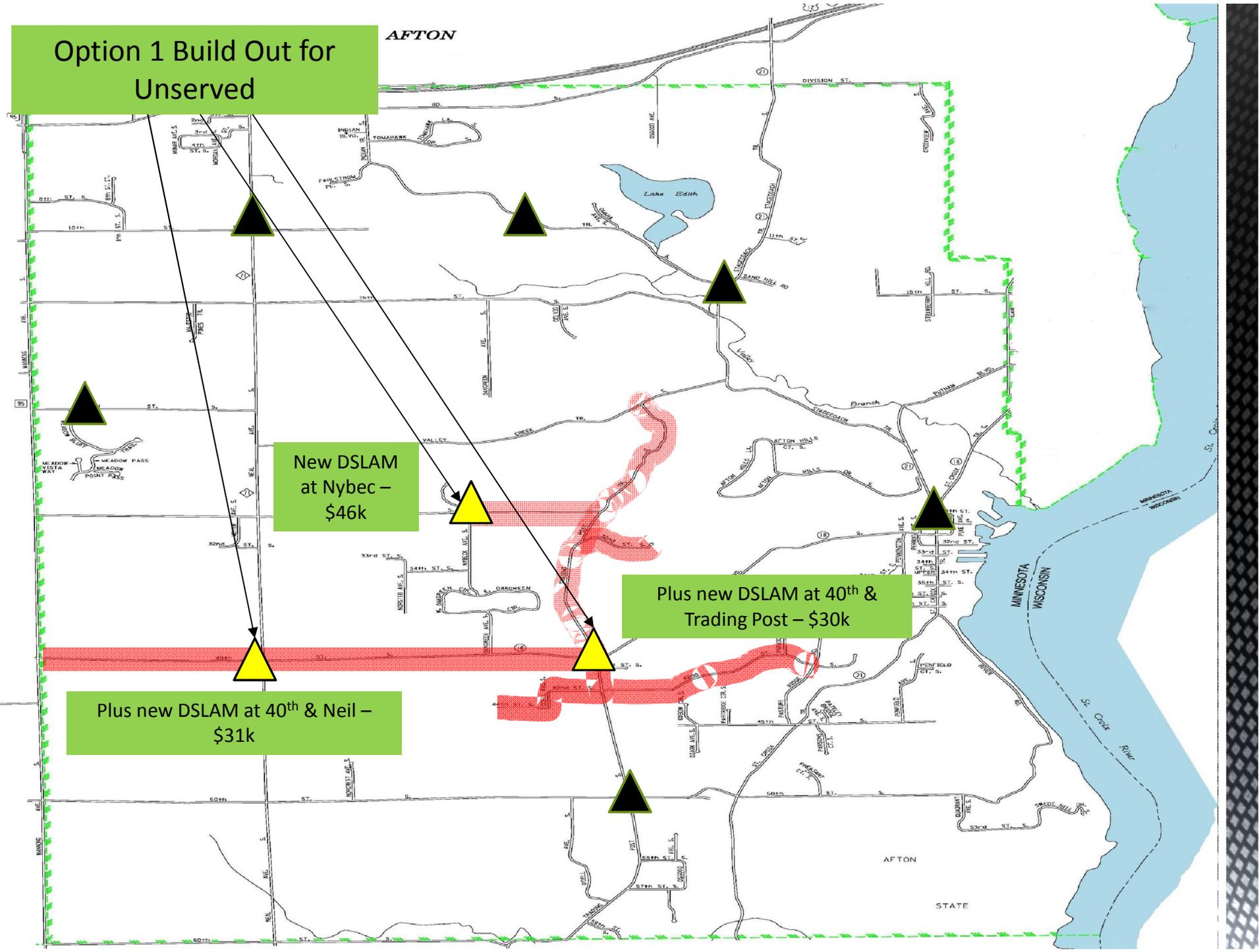
Option 1 Build Out for
Unserviced

AFTON

New DSLAM
at Nybec –
\$46k

Plus new DSLAM at 40th &
Trading Post – \$30k

Plus new DSLAM at 40th & Neil –
\$31k



CTL - Option # 1

Approximate cost: \$100,000

MOB grant: \$50,000

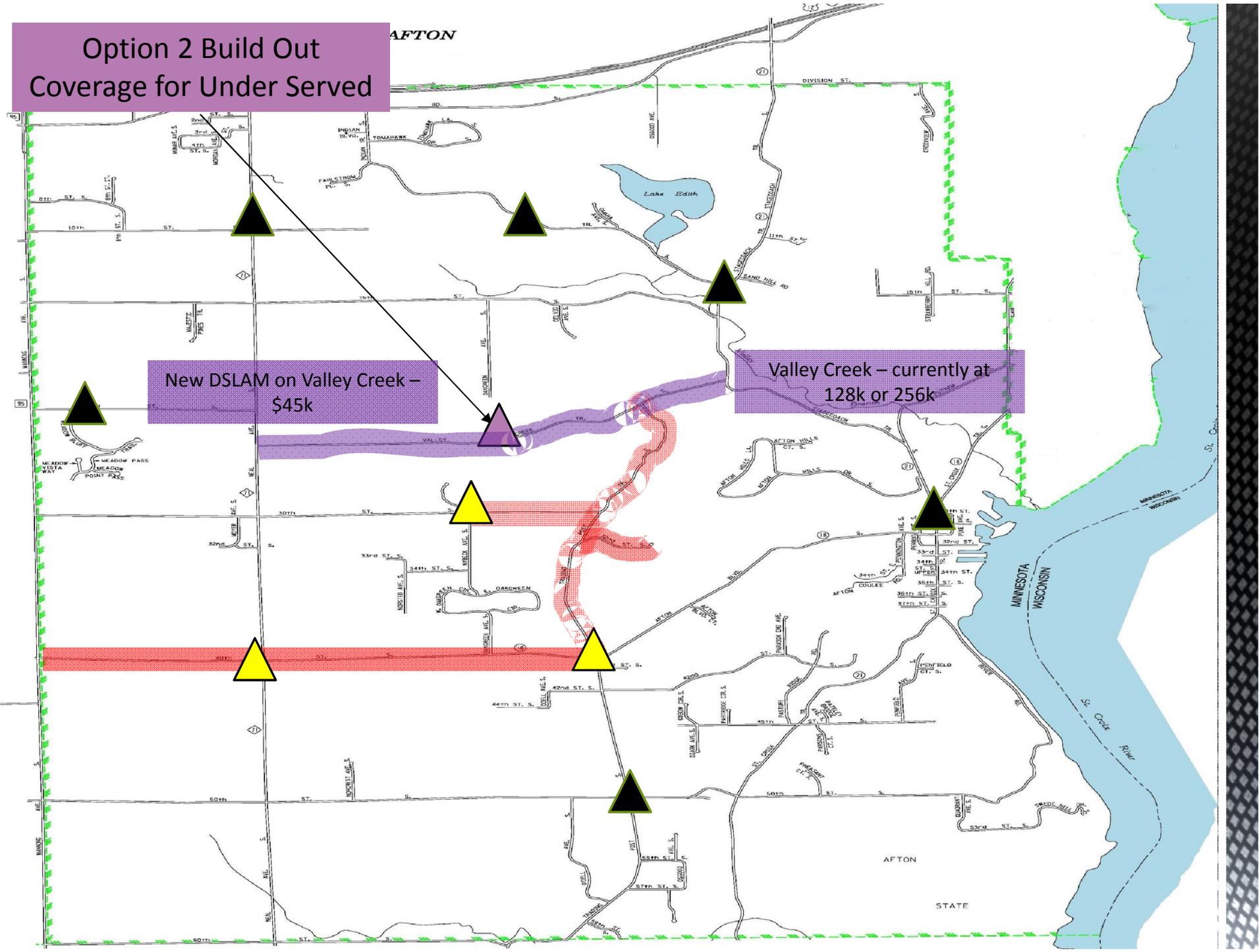
Centurylink: \$25,000

Afton: \$25,000

CTL - Option # 2

CTL has quoted installing 2 more DSLAMs to remedy the “Under Coverage” or Slow Speed areas in Afton.

Option 2 Build Out Coverage for Under Served

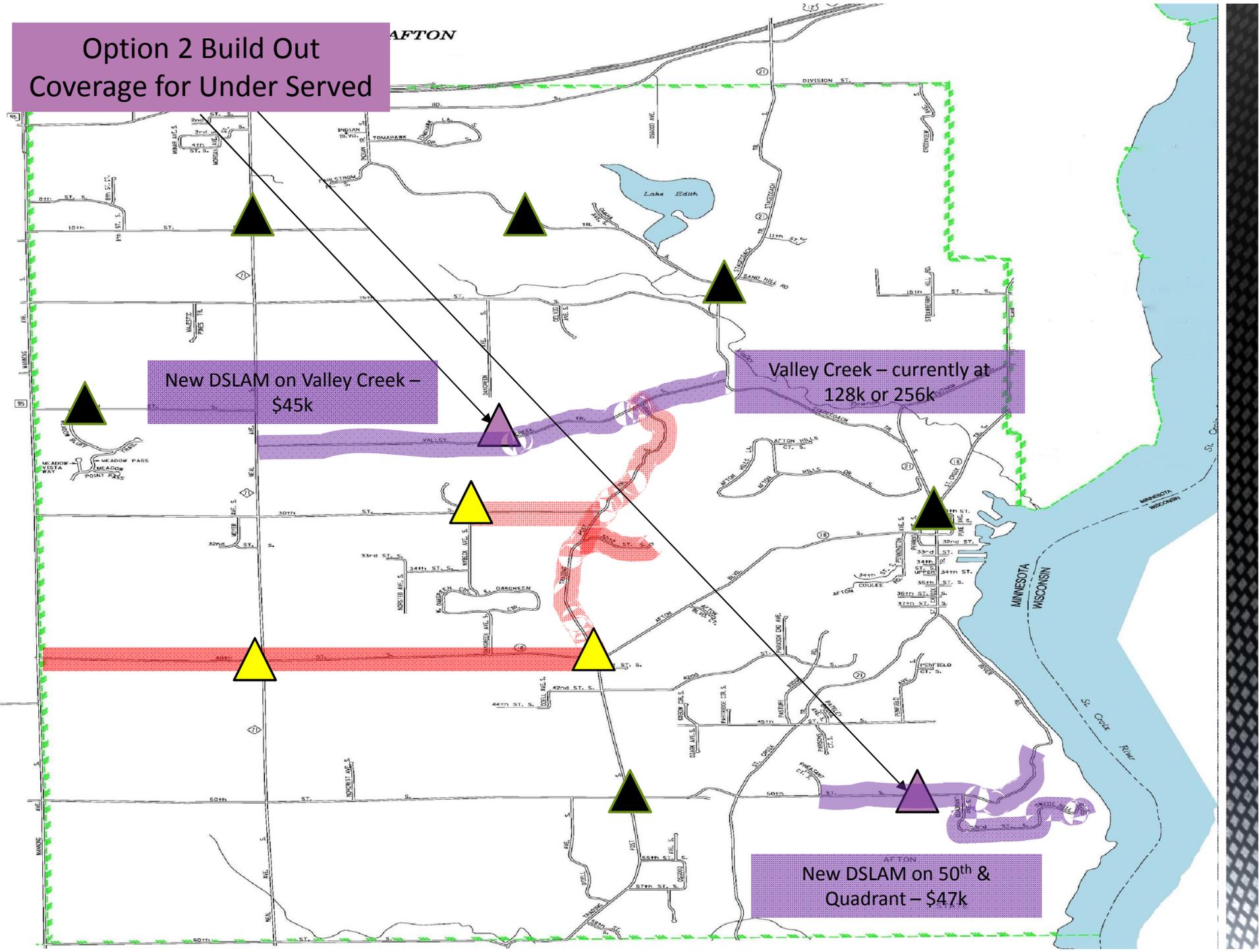


New DSLAM on Valley Creek - \$45k

Valley Creek - currently at 128k or 256k

Option 2 Build Out Coverage for Under Served

AFTON



CTL - Option # 1 + 2

Approximate cost \$200,000

MOB grant: \$100,000

Centurylink: \$50,000

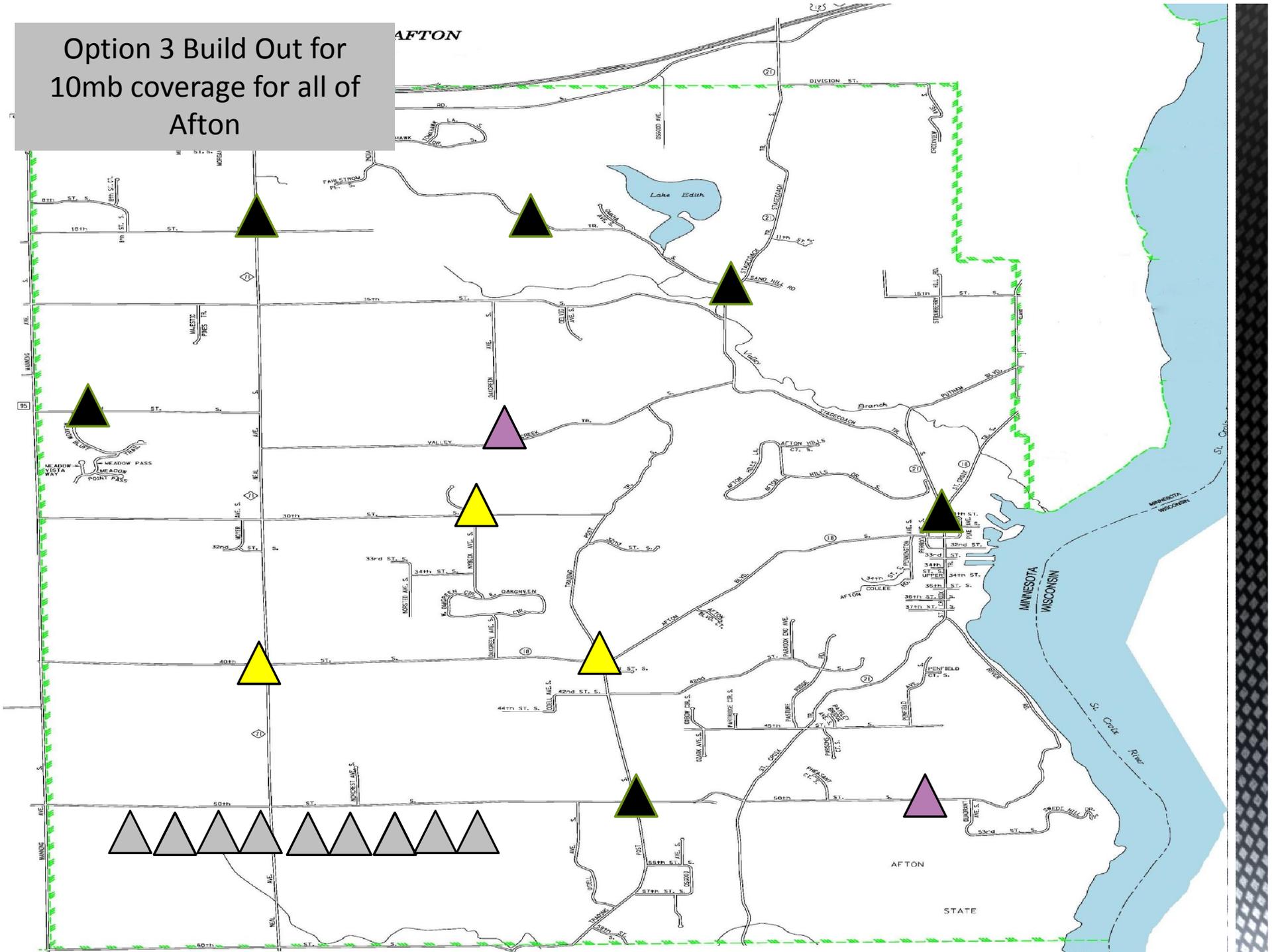
Afton: \$50,000

CTL - Option # 3

CTL has quoted installing a total of 14 additional DSLAMs to bring all of Afton up to the most recent standard of 10mbs.

“The MN Broadband funds are dictating a minimum speed of 10mb download and 1mb upload. This is also the minimum speed to qualify for household reimbursement from the FCC Connect America Funds.”

Option 3 Build Out for
10mb coverage for all of
Afton



CTL - Option # 3

Approximate cost \$500,000

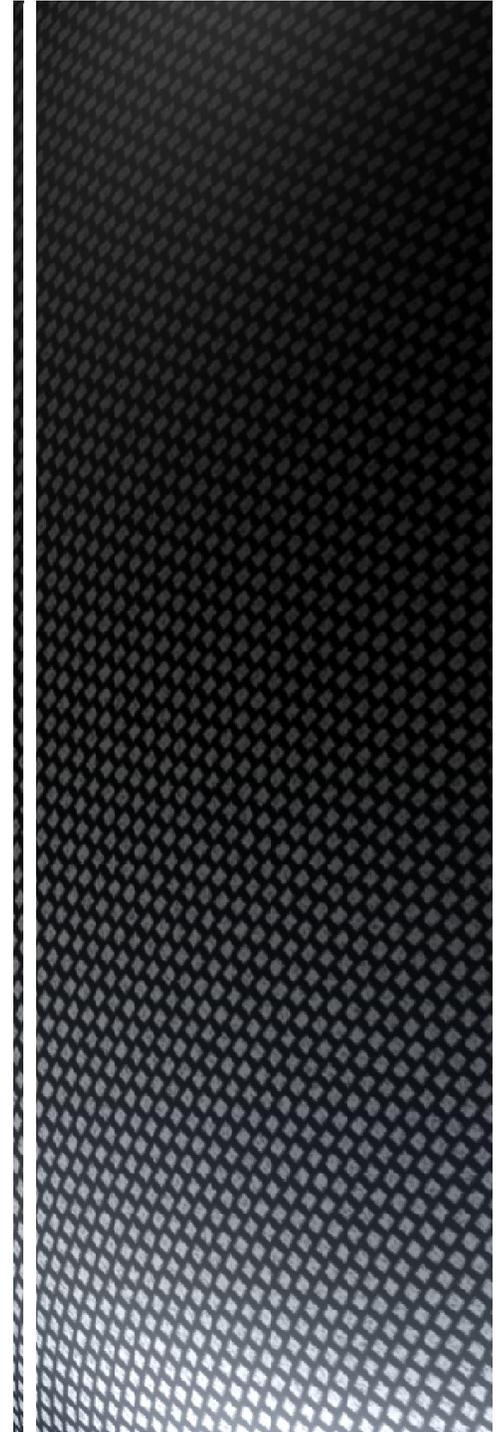
MOB grant: \$250,000

Centurylink: \$125,000

Afton: \$125,000

Funding

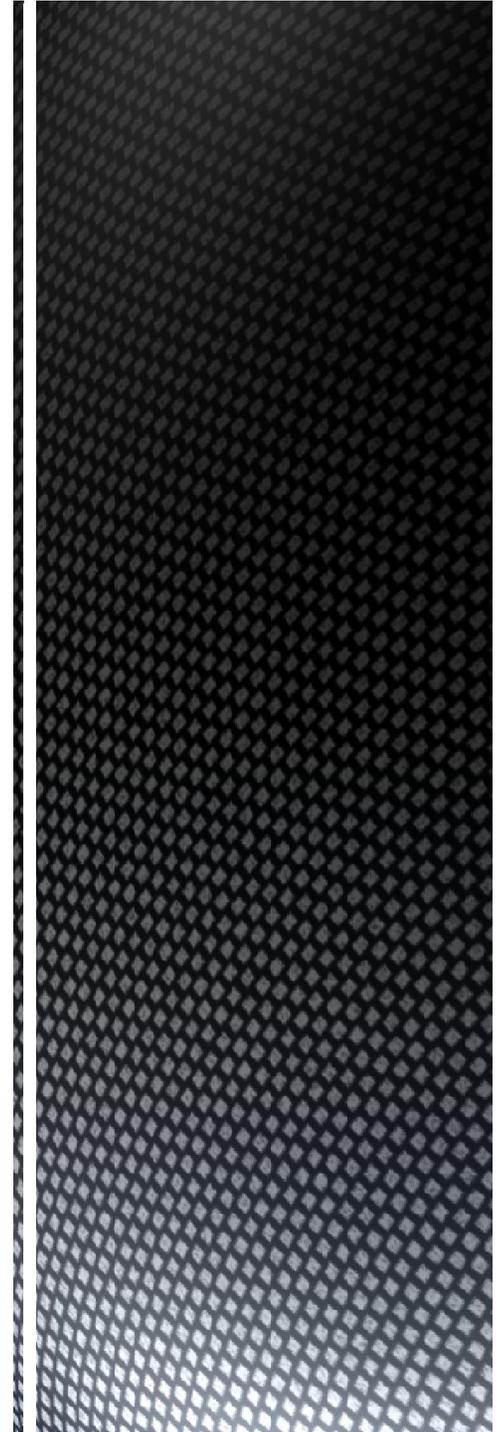
- 1) Mn. Office Of Broad Band (MOB) grant program has \$10m in grant funds for F2015.
- 2) MOB pays 50% of the total cost and requires a 50% match.
- 3) Centurylink (CTL) has agreed to pay ½ of the match.
- 4) CTL will complete the MOB grant application at no cost to Afton and will submit in early September.
- 5) CTL has agreed to cover all cost overruns.
- 6) CTL requires a letter of intent from Afton to proceed which is due the end of August.
- 7) Afton's cost share payment would be due in February of 2016.



Recommendations:

The City of Afton should require new developments to place underground conduits in place for future build outs. The cost to install in pre-existing conduit is \$1 per foot verses \$13 per foot to install new underground lines.

The homes with no service and those with slow service need to be addressed. Perhaps some mechanism can be put in place to cost share between the city and the residents to solve this issue.



Conclusion:

1. No Access – the HSIC has confirmed that there are residents with no land based connectivity.
2. Individuals have tried to resolved this issue many times over the past several decade without success.
3. The city of Afton needs to take a leadership role for this effort.
4. MOB funds are limited and are very time sensitive.

