

Sea Ranch Connect DMARC Extension Specifications

In some cases, a resident of The Sea Ranch will want to place their in-home network gateway in a different location than the default placement by network designers. In these cases, the resident can extend the demarcation point in their home via an additional in-home fiber run or through an extension of fiber on the outside of the dwelling. In some cases, a resident may want to extend the category Ethernet cable from the network gateway inside the home to where they have their personal computer or equipment.

This document is intended to provide some guidance on specifications the extension of a Sea Ranch Connect home install. The final decision of cabling is up to the contractor placing the cable. Should cable be damaged in installation, it is up to the contractor to warranty their product.

Fiber Installation

Please use this MINIMUM specification when extending the fiber from the DMARC ONT to the NID with in the customer premise:

- Fiber needs to be single mode. – OS2
 - › The fiber used within this deployment is single mode. This is a standard fiber cable which a distributor will be able to get a hold of.
 - › OS2–FibershouldbeaLowWaterPeakFiber–G.652andTIA492CAAB/OS2 compliant.
 - › If routing inside, you may consider a Bend-Tolerant Fiber – G.657. This fiber is more bend friendly, but does have a slightly higher attenuation.
- Please maintain a minimum bend ratio when installing the cable. Manufacturers should have a recommendation, but if one cannot be found, a good rule of thumb is 10x the outside diameter of the jacket.
- Maintain proper pulling tension when placing the cable. This will need to be gotten from the manufacturer.
- Use appropriate cable for the installation. If installing in a crawl space, use an indoor/outdoor rated fiber jacket. If routing entirely inside, use an indoor fiber. It is not recommended to use an unrated jacketed fiber, normally meant for outside plant deployment, inside.
- It is recommended using a tight buffer cable. These cables are friendlier for inside cable deployment. See further down for some examples.
- When routing cabling, secure using a mechanism which will not distort or crush the fiber cable. **DO NOT USE A CABLE STAPLER.** Crushing of the cable can cause excessive loss on the cable, resulting in a poor performance link. Support can include a cable tie with integrated mounting holes loosely secured, a one hole strap, etc.
- Cable should be routed from the ONT, which will be mounted on the outside of the house, to the NID location. The NID may not be in place when installation occurs. Verify with your customer the final location of the NID.
 - › If routing cable inside, you may want to use the ONT as a penetration point. You can open the box and use one of the pre-constructed knockouts as an entry point if needed.
 - › If using the crawl space, route the cable to the bottom, right side of the ONT. This will be where the cable will enter. You do not need to enter the ONT with the cable. This will be done when connectors are placed.
 - › Leave 3 foot of slack at the ONT for cable termination.
 - › Leave 6 foot of slack at the NID location for cable termination.
 - › You may wish to leave a slack coil within your cable route. This will allow for future NID movement should your customer decide to relocate the item, and save you time. Slack footage will need to be determined by the installer onsite.

- All cable termination will be handled by the Sea Ranch Connect technicians when the NID is placed. Cable extension and plant will be tested at that point to ensure proper installation.

Fiber Specifications

These are a few examples of cabling to use. There are many manufacturers of cabling, just ensure it complies with the specifications set forth earlier:

These examples may be used in a crawl space condition:

- OCC – DX002DSLX9KR – This is a black jacketed round, 2 strand fiber cable, Riser rated, indoor/outdoor, low water peak
- OCC – DX002DSLX9KR – This is a black jacketed round, 2 strand fiber cable, Riser rated, indoor/outdoor, bend tolerant
- These examples are manufactured by OCC, but many other manufacturers will have something similar.

Examples used for indoor fiber:

- Superior Essex – 3300231BB – This is a yellow jacketed round, 2 strand fiber cable, riser rated, low water peak, in a box
- Superior Essex – 33002K1BB – This is a yellow jacketed round, 2 strand fiber cable, riser rated, bend resistant, in a box
- These are examples manufactured by Superior Essex, but many other manufacturers will have something similar.
- If cable is to be visible inside of the house, you may want to consider something such as the OCC EZ-Bend InvisiLight Optical Solution or the 3M Clear Track Fiber Pathway product.

Category Cable Extension

If the customer wishes to use an existing router/switch, the NID does not need to be located adjacent to it. A category cable may be used to extend from the NID to the existing network equipment. It is recommended that a category 6 cable be placed if new installation is to occur, just to handle more bandwidth should demand occur. A category 5e cable will handle the throughput if that is what is existing, just not recommended in new installations.

A 8P8C plug should be installed and connected into one of the 8P8C ports on the NID. The copper cable should be tested prior to connection. Sea Ranch Connect technicians will not test an extended copper connection.



Contacts

1 Sea Ranch Connect

24/7/365 Call Center
1-866-270-1613
www.SeaRanchConnect.org

2 Cannon Companies

Dave Castro
On-Site Construction Manager
dcastro@cannonconstructioninc.com
253-255-7433 (Mobile)

Kevin Richter
Senior Engineer
krichter@cannonconstructioninc.com
(253) 250-1080 (Mobile)

Main Office
(253) 922-2787
cannonconstructioninc.com

3 GigabitNow

Dan Sivils
Chief Operations Officer
dan@gigabitnow.com
206-905-8060 (direct)

Main Office
1-866-748-8066
1-888-556-9711
www.GigabitNow.com

GigabitNow

GigabitNow offers Turnkey Solutions for the Planning, Design, Construction, Operation, and Support of Gigabit Fiber to the Home Networks (FTTX). Offering custom Fiber Internet solutions for small and medium communities nationwide since 2004. With expertise in a variety of Fiber network architectures (FTTX) and Outside Plant (OSP) deployments, GigabitNow are experts in working with customers in determining the best fiber solution for their community. GigabitNow is a division of IsoFusion Inc., a Seattle Washington corporation.

Cannon Companies

Cannon Companies is a nationwide telecommunications, infrastructure and utilities contractor that provides “Best-Value” end to end design and installation of voice, video and data networks including inside and outside plant construction, wireless construction services for voice, video and data networks, and utility and site development services for new and existing sites. Since 1985, a team dedicated to our company hallmarks has built our reputation and success: Safety, Quality, Integrity and Teamwork. We have exceeded each client’s needs, one project at a time.