

# Chapter 8

## Table of Contents

Capernwray.....	350
Borwick, Tewitfield and Priest Hutton. ....	353
Yealand Conyers, Redmayne and Storrs .....	361
Burton-in-Kendal.....	371
Silverdale .....	378
Storth.....	389
Over Kellet.....	396
Swarthdale .....	404
Nether Kellet.....	406

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Carolyn, a visitor from the south, joining in with the fibre blow.



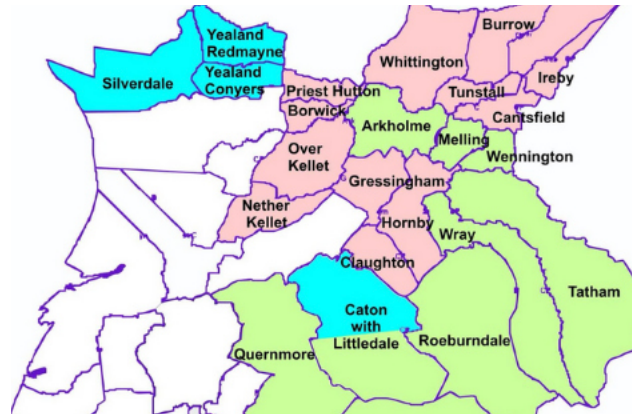
Iain getting the duct in order in the chamber, with audience.



Bruce Alexander, Chris Carr, Pat Close and Alistair Adams-Huset.



The Princes Trust Freelanders pulling the fibre cable reeler.



Phase 1 = green, Phase 2 = pink, Phase 3 = aqua.

## Capernwray/Borwick/Dalton/ Burton/Yealands/Silverdale/Kelletts

### Capernwray

This project was the gateway to several more tribes joining on their branches.

Capernwray parish was not on the Phase 1 plan, but several businesses desperately wanted the service, and motivated others to help. Capernwray is at the half way point between the Kelletts and Arkholme. The EIS scheme was still in operation and that helped with the investments.

There were going to be two routes into it, and they were all digging at the same time, to cover a very rural area.

There are three big caravan sites in the area, and they could not get a decent internet connection for the holidaymakers. People these days do not like to go anywhere that has not got decent internet speeds.

Capernwray Hall is a religious retreat, and lots of students there meant they had the same issue. Students from all over the world work there and they could not keep in touch with families, nor do the research they needed to do.





The Old Hall caravan park.



High tech camera and wifi system on the Old Hall caravan park.



One of the caravan site wifi transmitters.



James sorting out the connection box for the cameras and wifi.



Bruce blowing the fibre through with Carolyn and Pat.



John Tamlin joins the blowing team with Chris Hall.

Jackdaw Quarry is a diving centre with residential accommodation, and like the others, they were desperate for decent internet access.

James Wightman, one of the caravan site directors, had been relentless in his digging to get the core to Capernwray. He was determined the family run site would be part of the digital age. He also dug to many residential properties on the way.

The Old Hall caravan site provides wifi to all the pitches. In order to make the most of his gigabit service, James ran fibre to poles at several points within the very large site, so each access point has the best feed it could. This system also runs security cameras and other things as well.

Capernwray connected to the Arkholme route and also to the Aughton route. Borwick was also digging to meet them in the opposite direction, and they encouraged the project along; the two areas were very close and knew each other well.





Alistair Adams-Huset fusing a bullet next to a chamber.



The Lindsey spade.



Glenn Harrison with his spade award.



James Wightman's spade award on his milk churn.

Most of the work was done by the Hall staff, and by James at the Capernwray Old Hall caravan site.

Volunteers from other parishes also helped on this project. Chris from Arkholme, Chris from Aughton, Chris from Wray, and Pat from Docker came to help. Carolyn, who was visiting locally, was roped in. Most of the blowing was done by Chris Hall and Bruce Alexander.

John Tamlin lived in a remote area between Arkholme and Capernwray, so he helped both parishes and learned to blow fibre too. He ran a lodge park and farm shop, and was desperate for it all to have internet access. The core had not got to Capernwray cabinet, so John made a case to have a temporary connection to his property, and several others, from the Arkholme cab. This was a severe test of the optics, as they were classed as 10km range. John was much further from Arkholme than that, but lo and behold they worked fine. His properties were eventually moved back on to Capernwray when that cabinet was live. There are a lot of very remote farms in the North West, so it was reassuring to know the kit could work past its range though.

Chris Hall with his pickup, and Iain in the Prince's Trust Freelanders, had their work cut out delivering reels of fibre to the blowers. Alistair set to work fusing all the joins, when the diggers and blowers had done their bit. It was at a small residential complex that we installed Glenn; he had dug to all the houses and he was our 600<sup>th</sup> customer. We could now start employing people! We awarded him a spade. We gave James a spade or two too. The hub is situated in Capernwray Hall, and came live in 2014.

This project opened up routes to the Kellets and Halton central, and through Borwick to the B4YS (Broadband 4 Yealands and Silverdale) communities, who had already started digging.

Capernwray dug over 13 kilometres of trenches.





Priest Hutton village.



Digging from farm to farm.



Keith Brady, Graham Brady, Ken Dunn, Ken Richardson, Craig Scott, Richard Mellor, Dave Scott, James Fletcher, Martin Badley.



The Borwick and Priest Hutton B4RNstormers.

## Borwick, Tewitfield and Priest Hutton.

Keith Brady rose to the challenge.

This was another group of villages not in the original phase one, but Keith would not be stopped. His group were in Phase 2, and when Gressingham and Aughton opened it all up, he talked to them to figure out how to do it. He galvanised a group and joined the tribe. He knew that Capernwray was already digging, so he had to be ready too, and the more he could do at his end, the sooner they would get the connectivity they all needed.

He organised the work parties, found a local lad and digger. They had plenty of digging to do so they got on with it, from farm to farm, to their village.

The Borwick and Priest Hutton B4RNstormers included:

Keith Brady, Graham Brady, Ken Dunn, Ken Richardson, Craig Scott, Richard Mellor, Dave Scott, James Fletcher (17), Martin Badley, Phil Horsfield, Dave Roberts, Steve Thorns, Simon Osmond, Andrew Foulds, Bill Ramsden, Eric Rooney.

Later Keith said, ‘One thing I would say is that at the start of our project I really had no idea what we were doing and I relied hugely on the help given by John Hamlett from Gressingham. The other person who made a real difference to the way we handled things was Chris Carr, in that he gave me a few tips on how to handle the day to day spending that kept our dig going at pace’.

‘My other hero was our own James Fletcher (age 17) who taught us all about things farming. A typical day would start with a group of us 60-somethings meeting at 9am, spending half an hour discussing how to accomplish the day’s tasks, then being joined by young James, who had already done half a day on



Keith explains the routes they were digging to the showtell folk.



Keith caught sponges in onion sacks when blowing time started.



Neat trench, soft filled and tape going under the sod.



Digging through the pony paddock.

the farm, upending our plans and showing us how it should be done. You could not help but see the funny side’.

‘I think our group was probably the only one locally that did a regular working week, albeit a short one - starting on a Tuesday and finishing on Wednesday - perfect. Most of our volunteers were ‘young’ retired men and they appreciated the camaraderie that the group developed. We still have the core of that group who meet up to do jobs around the village, and maybe go for a pie and a pint afterwards’.

We took one of our showtell days to see what Borwick was up to. A few volunteers from the B4YS Silverdale tribe came too, and they picked up lots of tips from Keith. He explained the hazards of the farmer’s water pipes, which feed troughs in the fields, and how his group managed to find them all. They know how to fix them now. They had joined the trench foot group too, but for different reasons. Keith also explained how important it was to remove stones from the bottom of the trench. Borwick used the bread tray sieve idea from Gressingham to soft fill, but they had a basket.

After a year of digging the core was in and the fibre arrives for Borwick.

Priest Hutton also joins on to Borwick as part of this project, and they all worked together. From here the duct carried on to the Yealands, (and then to Silverdale), also known as the B4YS project.

Over 21 kilometres of trench was dug.

Keith also organised ‘BYOD’ (Bring your own Device) days, at the Community Hall in Borwick. John Hamlett from Gressingham presented it, and Walter came too. This inspired and helped many more people and communities to join in.



## Photo Gallery for Borwick, Tewitfield and Priest Hutton.



Perils of a dig. Water pipes to feed troughs in fields.



The standing room only BYOD day, with John Hamlett presenting.



Prime cause of trench foot, water in wellies.



Adapting the bread tray method to sieve out stones with a basket.



Mending the water pipe.



The Showtell day - Keith explains what they are doing.



Digging to the farms with James.



A nice straight trench by James, sod to one side.



## Blowing days photo gallery



Paul Parsons and Keith Brady doing some house blows.



Gloves off and tea break at Longlands Hotel on a blowing day.



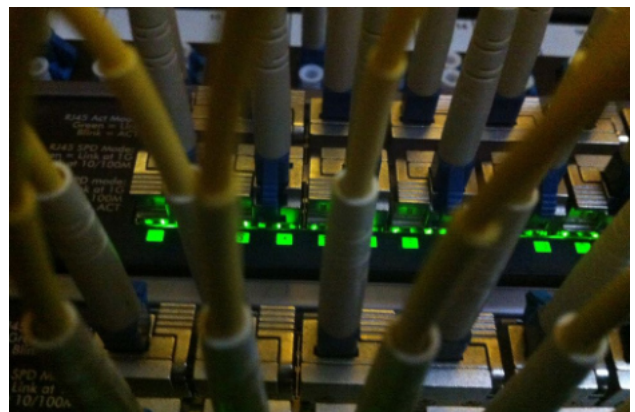
Bruce Alexander and Keith blowing house fibres at a chamber.



A late fleet on the core blowing day.



Blowing the core fibre.



Live at last at Borwick village hall.



Keith and his wife collecting duct from the farm, and a spade award.



Priest Hutton gets its spade award.





The Stable Yard, hosting several business units.



An award for the Dalton Hall Burial site.



Francis's digging team.



Tony Swidenbank with Graham and Liam.

The next little community to dig to meet Priest Hutton was not in the Phase 1 plans, nor in the Phase 3 B4YS plans, but that did not stop them. If a group could make a case to Barry he would let them make a start, and helped them.

Dalton Hall estate and business centre, owned by the Mason-Hornby family, worked really hard to get connected to this main core. They also have an award-winning natural burial ground. Their land is next to Priest Hutton so they were very lucky and had no wayleave issues as they owned all the land.

Francis had read in the Westmorland Gazette that B4RN were trying to get to J36, and knew that to get it from Priest Hutton, to there, it would go through his land. He thought it would be a good idea to contact them. He attended a showtell day at B4RN HQ, spoke to other people, and decided to just do it.

In the process of getting it to their own property and estate offices, they also connected every property in the area, as part of their community engagement ethos.

This dig also provided a resilient route for the next village, Burton-in-Kendal, which was branching off the B4YS core at Yealand. In actual fact the route did not go to J36 that way, because a landowner further on refused a wayleave which meant rerouting the duct.

Francis found enough people to buy shares and invest, as EIS (Enterprise Investment Scheme) was still operational. As Tony Swidenbank finished the Priest Hutton dig, Francis grabbed him to do the Dalton one. Rob Mackereth also helped with digging.

Tony moled through the fields and went under the farm tracks. When the blowing team arrived you could not tell where the mole had been.

Francis had learned at the showtell day how to fit



## Dalton photo gallery



Chamber with core duct.



Will Corkhill made a tidy job of it.



A tidy mole plough.



Tony Swidenbank reaches the offices.



Tony doing a lane crossing.



Work round the hardcore to get the house ducts to the offices.



Under obstacles go the 7mm house ducts.



Digging and backfilling up to the hall.



The core blowing machine.





Core going through to another chamber.



Bruce and Alistair blowing the core.



Finally the core blow to the Hall.



Paul and Alex arrive to fuse the core.



Paul and Alex fusing in the stable block.

house kits, so he did all those whilst his diggers dug.

The whole family joined in, and Cressida dug her own lawn and lifted the patio flags to get the duct into her house.

Tireless work on the dig won Will Corkhill a spade! A JFDI BARN man of grit.

Bruce arrives to blow the fibre, and Will did the reeling. When the fibre blowers came the family caught sponges, and received spade awards.

The core fusers arrive. Paul has a new volunteer with him; Alex Colton was volunteering with us that summer. She later joined us as staff when she left university.

The house fusers came, and a fuse at the family home brought them live in the summer of 2016, with a great speed test.



Bruce arrives to blow the fibre, and Will does the reeling.



Paul Parsons and Alex Colton, fusing at Dalton Hall.



## The Dalton family dig photo gallery



Will Corkhill gets his spade award.



The family relax after a hard day's digging.



Cressida's paving dig.



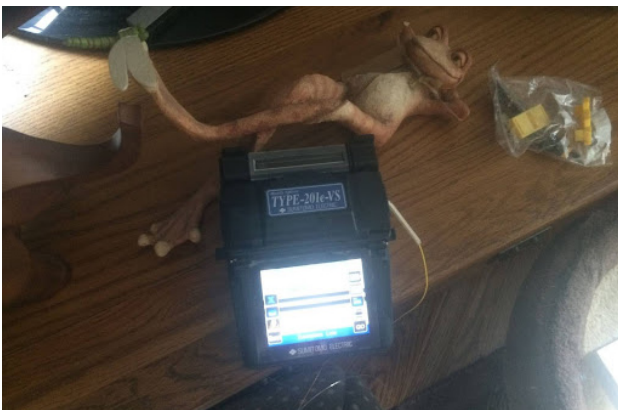
Catching the sponge on a house blow.



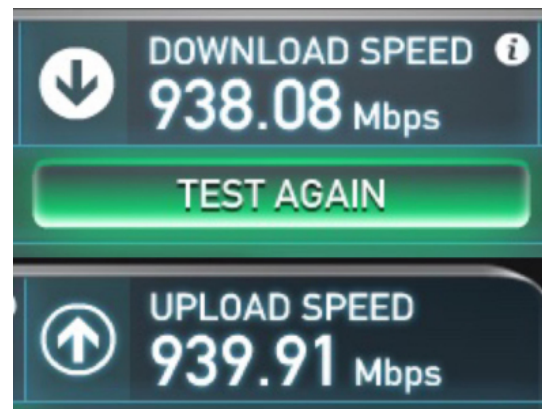
Cressida's lawn dig.



Family photo call.



Christopher and Cressida's fuse.



A great speed-test by Francis at the Dalton Hall Business Centre.





John's Land-Rover getting licked.



John collecting supplies from the farm store.



Tony Swidenbank and the directional mole.



Last of the Summer Wine characters watch the drill, Ron, John and Mike.

## Yealand Conyers, Redmayne and Storrs

John Calnan and Mike Macklin took on the Yealand Conyers mantle. John said he spent a lot of time getting licked by cows who nearly trashed his Land-Rover with their tongues.

His main issue was getting his hands on duct and joiners from the 'bolshy' B4RN store owner, but he generally cajoled his way into getting what he needed.

They were tireless in their efforts to get a connection to everyone. John holds the distinction of connecting the first monastery... and he trained others to pick up duct for him as he was more scared of the B4RN store manager than of Mother Superior =the prioress at the monastery, and she was well scary.

They also had the excitement of working with Tony Swidenbank and his directional drill. There were lots of little lanes to go under to get to the farms.

John, Ron Ogden, and Mike were hands-on during all the digs, and John says they worked with some great contractors and volunteers.

They trenched 23km to complete Yealand Conyers.

They picked up all the properties on the way from Borwick including a small industrial estate and the village church, which got a free service.

They carried on the dig to the next village, Yealand Redmayne, and half-way there was the village hall, where their cabinet was to be sited.

The village hall also got a free service.



## John's photo gallery



John Calnan and Mike Macklin making plans.



Reeling out the duct.



Put it there....



There I said.



Tony Swidenbank and the mighty mole plough.



Slave driver calls for tea break. Ron, John and Mike.



A hole sets off the mole.



Fettling.





John Calnan and Ron Ogden helped all the villages and got B4RN vests.



John and Ron telling Frank and Paul how far they had dug.

Then the great day came when the blowers landed and they began to see the end was in sight. Frank and Paul had to listen to all the stories and were amazed at how far they had dug.

Mike and John helped the next villages, Redmayne and Storrs, get going, and the projects often worked together.



Frank and Paul were amazed.



Mother Superior and John Calnan.



Bruce blowing fibre from the church, to the chamber.



Ron Ogden with a towel, cleaning the fibre on a blowing day.



Mike dug in the duct Granville had laid through the woods.





Granville finding a blockage.



Granville collecting duct.



Late night mole ploughing.





Granville Tunncliffe-Wilson laying the special reinforced 18mm duct through woodland.



Granville and the team at Yealand Storrs.



Jean taping the duct together in the Yealand woods.

Granville Tunncliffe-Wilson was the main mover and shaker in Yealand Redmayne. He and his wife Jean went to the village meeting, and had already heard about the project's success in Quernmore. They thought 'Thank goodness we could be included'. Granville already knew Barry from work, and knew if Barry was involved that it would actually happen.

Once Borwick was underway it was easy enough to get the Yealands motivated to invest and help. The Four 'A's leapt into action again. The EIS scheme was still running in those days.

They had quite a few issues with wayleaves, which was their main headache.

Granville says it was a case of 'drop everything else and get out there' every day, and they really enjoyed it. Their connection speed jumped from .25Mbps to 1000Mbps when they came live. There were not many houses but they were spread out in various out-of-the-way places and he had to organise some long digs and blows. He left nobody out and got to every farm or property that requested a service. He and Jean rolled out the duct and organised the volunteers and contractors.

### Jean's story:

Yealand Redmayne lies on the side of a limestone hill facing east and north-east. At the bottom of the hill there is moss-land, drained by a deep channel cut through the rock. Much of this land can be underwater for weeks in the winter so we were very lucky to have a comparatively dry summer and autumn in 2015 to dig in the broadband across the moss. Most of this is deep peat lying on a marl base, with occasional boulders, which are not always visible from above ground.

Progress on the mole plough, with Tony Swidenbank, was generally good, moving boulders when necessary and being careful not to stop where





Clare, Jean and the Yealand Redmayne tribe.



Laying multiple ducts through the wood.



Laying ducts to the houses.



Mike Macklin, Jean and Granville get their spade awards.

the ground was particularly soft.

The fields further up the slope may look smooth but underneath the grass there is a succession of irregular rocky ridges rising up the hillside. Mole ploughing along the hillside was OK as long as we were between the ridges. Some of them appear as occasional rock outcrops but many are hidden just below the surface. Taking a trench up the hill could involve a diamond cutter to make a channel across the top of a ridge for the ducting – no chance of burying deeper at these points!

Higher up the slope, above the fields, lie woods with too much exposed rock for farming and the additional hazard of tree roots.

At the northern end of Redmayne, a row of houses has gardens which border onto these woods. We decided to take the B4RN ducting across these gardens to avoid the rocks and tree roots of the woods, but most gardens had no access for heavy machinery like a mole plough – it required human labour.

The preliminary work meant burying pipes under garden walls and hedges, ready to take the ducting under garden boundaries once the trenches were dug. Teams of up to 10 people could dig a trench across a garden surprisingly quickly, with turf neatly cut and placed on one side of the trench while the soil and plentiful stones were laid on the other side. The aim was straight lines but we had to work around flower beds and fruit trees and, towards the end, between outcrops of rock.

Most participants were pensioners. At one point we called ourselves ‘the cripples brigade’ as people came and went with knee and hip problems.

All the ducts had to be laid together across the gardens nearer to the chamber, so a team worked together to push and pull them through the pipes under boundaries and lay them in the trenches. At





Some ladies dig their own trenches!



The fibre arrives to fill the core ducts.



John and the volunteers helping Bruce blow core fibre.

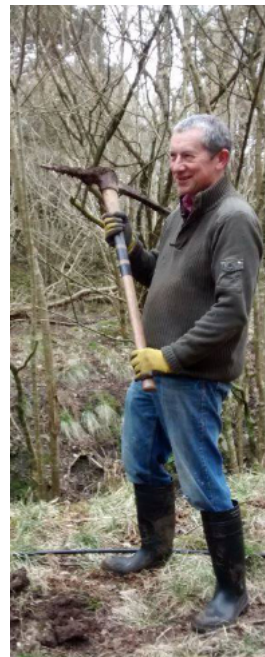


Paul Parsons fusing the core fibre.

each garden, one duct peeled off to serve that house until there was one duct for the last house.

Later, as each house was connected there was great relief as the fibre was successfully blown through the wiggly route from the chamber.

One of the more distant parts of the village posed a different problem. Barns had been converted into dwellings with the pipes for the broadband set hard in concrete. Unfortunately the bends in the pipes were tight and the ducting was reluctant to go round them, even when pushing it fairly steeply downhill. Fortunately there was an electricity supply available at the bottom of the hill so we could run our powerful vacuum cleaner there. We sucked a drawstring through first so we could then both pull and push the ducting through the pipes'.



Mark Bryson.



Clare Hunter.

Yealand Redmayne hosts the UK's smartest home.

Clare was supposed to be decorating her home when the B4RN project was happening in her village, but she ended up going digging every day. That paid off, as the smartest home also got the best connection in the country. All that ethernet they built into the house now had a reliable feed.



### **Clare's story:**

We were building a house in Yealand Redmayne and needed a fast internet connection. So, as Chris was managing the house, I decided to volunteer to work with B4RN, which was just starting in our village.

On my first day I went to join the volunteers - but I had trouble finding them. They were working to get a duct across a stream, I turned up late, and was faced with a group of men ... I was terrified. However they turned out to be very friendly and soon I was fetching various bits and pieces.

They were all volunteers, a great bunch, and good at working together.

One day we were hauling a thick core of duct up to the ridge, and dropping it down to the various houses. This obviously involved a right angle bend and someone at the bend to feed the duct down ... which was me. Trouble was many hands were feeding the duct up and only one was feeding it down. I was trying desperately to keep up and getting exhausted when a quiet, calm voice said, 'Shall I take over?' In a little squeak, I said 'Yes please'. I have never been so grateful to see Granville.

Another time we had to get a core of duct across a field and it had to be buried deep because the owner wanted to have his regular Bonfire Night bonfire right where we wanted to go. It was decided to also put the core in a 4 inch plastic pipe to give it more protection. So it wasn't easy. And soon there we were, a whole bunch of us, pulling on a rope tied to this core trying to get it through this pipe. Granville said "one, two, three, heave" and we all heaved. You should have seen us, but we did get the job done.

Another day we were working on the crossing of a drive. But there were stones underneath the tarmac, which spilled out on to the edge of the road. A trench had to be dug in these stones parallel to the road edge - only about a metre but a voice said 'Clare, dig that trench please'. I looked at those stones and knew it wasn't going to be easy but I set to. I wasn't going to give up, my arms started to ache, it was killing me but just when I'd had enough, I finished it - and I'm not sure if anyone realised how hard it had been.

We had a gentleman who had a digging machine and was our contracted digger. This day, though warm, it rained on and off. At one point I was drenched and looked like a drowned rat. Digger-man came by on his digger, took one look at me, made some sort of comment - that I fortunately didn't hear - laughed and drove off. Three times that day I got soaked and three times I dried off. Towards the end of the day, Digger-man passed me again on his digger - and I was waiting for him to say something again. He didn't stop, he didn't laugh he just drove on and I have never seen anyone so fed up in my life. The weather had got to him, and I 'Thought that will teach you'.

Volunteering with B4RN got me into the village - I was a newcomer - and it made me a lot of friends. I also got to see a lot of places I wouldn't normally see and ... I also lost weight.

One thing did happen - on an icy day I tried to jump over a pile of stones, landed heavily and managed to break my wrist (fortunately not my phone, which was on my hip). Husband Chris of course then had to





Node Zero in Clare's house.

do everything for me for a while. But one job I did not get back was making our meals. Now he might have been fed up with the salads I was giving him, but these days I get home and find a lovely dinner waiting for me.

So we got our internet connection, I made friends, and I now get my dinner cooked for me. Well worth all the hard work !





Ron Ogden gets his spade.



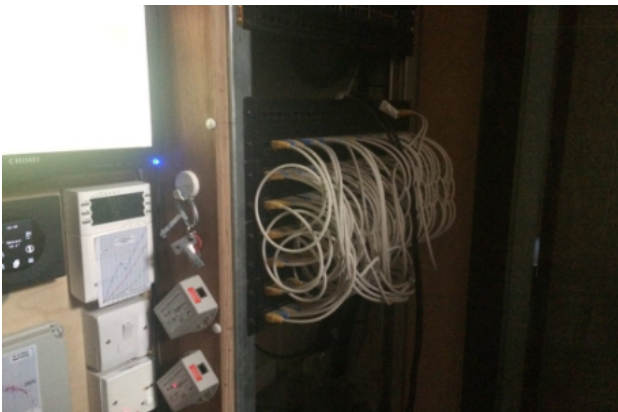
Volunteers digging in a chamber.



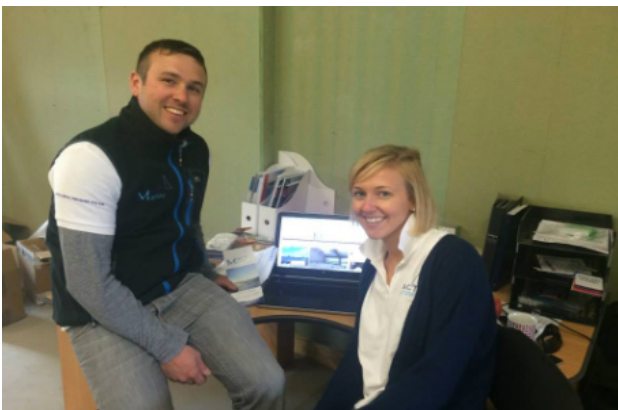
Rob Greenwood gets his spade.



Paul Parsons fusing a bullet for customers.



A hub at the industrial unit at Conyers.



Impact Marine, one of the businesses at the industrial unit.

Eventually all the spade work was over, and the volunteers got their spade awards. The fibre was blown and the B4RN fusers appeared to make all the connections. The Yealand cabinet came live in Spring 2015, just a few months after the Borwick link.

There is an industrial unit at Conyers that hosts several businesses, and now they have the best connection in the world to support their work. One of them Impact Marine, it is run by a couple, and you name it, they sew it!

Yealand Redmayne dug in 21km of trenches.

### **Beyond the book:**

[The Smart House.](#)

[Impact Marine](#)

[Tim's short film.](#)





The Burton dig from the main core.



Bob Coulton building the plinth with Graham Wilson.



Getting the ducts through from chambers to cabinet, are Nick Martin, Sue Caddy and Ollie Craig.. Photo by Mike Iddon



The plinth is ready.

## Burton-in-Kendal

The main route was going on to Silverdale, who were busy digging, but at this point a branch went off to Burton-in-Kendal. It would eventually join to the Dalton line and make a loop for resilience. The outskirts of Burton had been connected by Francis, but the village centre was fairly urban and it was a big job to take on.

Mike Iddon had moved into Burton and was appalled at the connection he had through his phone line. Francis Mason-Hornby suggested he spoke to B4RN, so he organised a village meeting and 80-100 people turned up; he was not going to be alone.

Martin Sansby had retired from teaching and wanted something interesting to keep him busy. This was just the ticket. Together they led a great team.

B4RN could have come through from the Dalton connection, but instead decided to give them their own cabinet and put Dalton onto that instead of the Borwick one.

By this time it had become clear B4RN would have to get to J36 another way.

They could not raise all the money to do the village in one go, and the EIS scheme had come to an abrupt end.

Mike and Martin spoke to Tom Rigg, and they decided to reach the school, and put the cabinet up first. This meant they only had to raise £30k initially for the dig and the cabinet.

They got a quote from a local builder, Graham Wilson, to install the chamber and cab plinth, but B4RN said they could not afford it until they got more investments. When they told the builder the bad news he said he would do it for nothing as it was so important for his village. Graham says "The culprit





Laying the duct on the school field. *Photo by Mike Iddon.*



The Burton school children watch the duct roll out. *Photo Mike Iddon.*



Steve Thexton backfilling the trenching the duct is in the trench.



The Toro with Iain Robertson works on the paths.

in the photo is Bob Coulton, who is one of our supervisors, There is a likeness between us and I do get mistaken for Bob regularly even though there is a 20yr age gap! Bob can take the photo credit but it was a team effort!'

The volunteers got the duct through the school playing field. Iain and the Toro dug through the paths. All the local houses near the school got their ducts in at the same time, all neatly labelled ready for blowing. The team installed all the local houses and reinstated them to a very high standard.

The reception class at Burton Morewood CE Primary Academy turned out to watch Steve Thexton who is the deputy head, Mike, Martin and Ollie Craig roll out the duct.

Sue Caddy, a volunteer on the Silverdale project, showed them the tricks of the trade, and the damage a rock could do in a trench.

Michael says that with her help and from Martin Lange at Silverdale they were confident that they were 'competent'.

Martin Sansby went to help at Silverdale to learn the ropes, but he said for every trip he made over there Martin Lange made very many more to help them at Burton. 'The Captain is magic' he said.

The cabinet arrived and the volunteers connected up the school and nearby houses ready for fibre.

Martin from Silverdale came to blow and fuse the fibres.

The first thing they did after that was have a BYOD (Bring Your Own Device) day at the school, the residents were amazed, and it resulted in more investments.

This meant they could extend into the village a bit more. It also served to get the residents involved in the project.



## Photo gallery



The cabinet arrives.



The cabinet is placed on the plinth and screwed down.



Martin Lange installing the exterior conduit on the school.



The finished cabinet sited.



Steve Thexton catching the fibre into the school, with Martin.



Multiple customer ducts marked up with addresses.



Sue Caddy explains the damage a rock like this can do to the duct.



A very busy but very tidy chamber.





Ollie Craig demonstrates his sub-duct skills.



Digging to the houses. Professor Keith is still helping his neighbours.



Johnathan Phillips, landscaping expert, whose turf roller is used after filling in the trenches.



Sam Robson and James Taylor from the B4RN civils team on a path job.

Vouchers were now coming into the plan, which also helped to fund the project. Mike scoured out all the little businesses who could get a voucher and helped them to apply. In those days you were allowed 10 residential vouchers for every business voucher you obtained, and Mike says they were lucky because they had lots of small businesses.

They found novel ways of getting routes into the urban areas of the village, and used some BT ducts, but B4RN had to cut 40% of the pavements where there were no ducts to lease.

The village already had FTTC, but the speeds fluctuated madly, and FTTCs reputation was that it was unreliable, so anyone who really depended on the internet migrated to B4RN. The tribe kept holding meetings to educate people about the benefits of B4RN fibre in comparison to a phone line broadband service. Ann Nichols did a website for them, went on Facebook, got it into the Burton News magazine, and that helped the project succeed.

Martin and Mike kept installing house kits where they could reach people.

They had multiple problems with wayleaves, but the bigger landowners like Peter Cummings, Mike Taylor, Karen Parsons, Richard Fawcett and Francis Mason-Hornby were very supportive. Some smaller landowners made some of the digs more difficult and expensive as they had to go round them.

Mike says that for him the project has all been about the community, ‘Our whole street now know each other,’ he says, and he and others ‘have made life-long friends’.

He says B4RN came at an important time for Burton, when they had to work from home, home-school the kids etc during Covid. ‘We could only have done one thing at once on the old broadband, but it brought out the benefits of B4RN to everyone,’ Mike said.

The Sunday Times featured them in an article.



# Villagers do their own spadework to bring in broadband before lockdown

Nicholas Hellen,  
Social Affairs Editor

It took a shovel and a lot of luck to get high speed broadband to Mike and Maddie Iddon in time for Britain's coronavirus lockdown. They were connected on March 13, the last day of school for their two young children, narrowly avoiding that most terrible of modern fates: isolation without decent internet.

Like an estimated 155,000 other Britons, the Iddons had been stuck with a connection of such limp and intermittent performance that they could use only one computer at a time at their village home in Burton-in-Kendal, on the fringes of the Lake District.

Broadband speeds were so slow that the headmaster at Burton Morewood school where Rory, 7, Tabitha, 5, are



Getting fibre cables installed is the key to broadband speeds that allow working from home  
GETTY IMAGES

pupils, could not provide on-line lessons.

Mike, 41, who works at the EDF nuclear power station in Heysham, Lancashire, and Maddie, who leads The Light-house, a mental health charity, began working at home early in the crisis because Maddie

survived cancer as a teenager and cannot risk infection.

Iddon and a fellow villager, Martin Sansby, turned to B4RN (Broadband for the Rural North), a not-for-profit supplier that delivers vastly improved broadband to isolated areas. A local builder joined a

community effort to get the fibre cables installed and Iddon got out his spade to help connect his home.

In the end, 30 homes were connected, with download speeds of up to one gigabit per second. Time ran out for 150 more, leaving them bereft of video conferencing and other joys of life online.

After a live exercise session led by Joe Wicks, the celebrity trainer, on YouTube, the children's lockdown routine includes a change into school uniform ready for two to four hours a day of online lessons.

The local pub closed on March 20, but with the help of the Zoom video-conferencing app, there is now a virtual local, named The Zoom Royal.

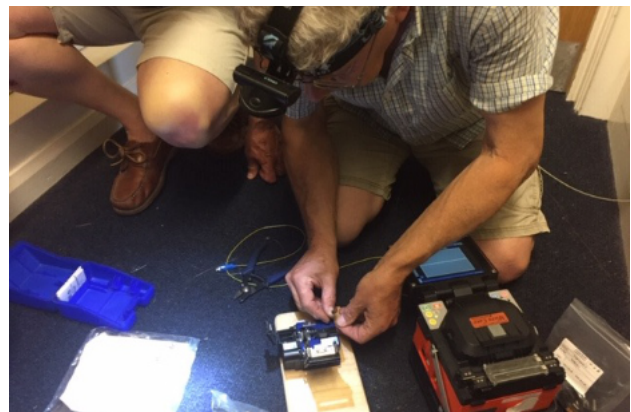
Internet service and mobile providers, including BT/EE, Openreach, Virgin Media, Sky, TalkTalk, O2 and Vodafone, have agreed to lift any data allowance caps on their broadband plans to help elderly and vulnerable customers during the outbreak.

Check your broadband speed and availability at [checker.ofcom.org.uk](https://checker.ofcom.org.uk) ■

Photo courtesy of The Sunday Times.



Martin Lange blowing the fibre into the school.



Martin fusing the indoor fibre.



Martin getting under obstacles.



Martin fusing the chamber in the field.





A tidy dig, with sod 'hinged'.



Using tarpaulin sheets keeps the grass clean.



Neat hinging of the sod means the grass carries on being green.



The Burton in Kendal team at the end of a long day. Martin Sansby, Alan Bethell, Sarah Colyer, Simon Little, Ian Thomas, Johnathan Phillips, Loz Colyer. Photo by Mike Iddon



Mike helping out with the mole ploughing between Dalton and Burton to bring the core into the village.

The school was already struggling with its PCs and whiteboards on its slow connection, but once it got B4RN it could do anything it wanted to do.

The school got a free service from B4RN, which meant it also freed up school funds for other things, and meant the head of the IT department did not have to spend all his time sorting out annoying problems with the internet.

It also meant the school VPN (Virtual Private Network) on its own servers speeded up, so teachers could log in and mark homework from home, without having to wait.

It is a source of great joy to the volunteer group that they have been able to do this for their school.

They made the most of their voucher money, and the dig grants were used to pay for much-needed tools.

All the volunteers worked for free, with Martin and Mike helped by Martin Lange (the Captain) from Silverdale connecting all the house kits. Together they formed a great team.

Some householders did all their own work and kept their dig grants, but a lot put it in the community fund. They had a proper charity bank account and kept records for transparency.

They ended up with a surplus, so have donated some of the money to other village charities.





Steve Thexton, Martin Sansby and Mike Iddon with some of the children and the B4RN banner at the school.

Francis from Dalton had inspired them, and gave them time in the parish council meetings to speak about B4RN. The parish council supported them very well, with ‘just the right touch’. Mike says they have enormous pride in the finished project (although at the time of writing they are still trying to bring in the last stragglers), and that it has been a pleasure to be involved in building such a great facility for the community.

Martin says It is worth mentioning that during the initial Covid lockdown and with exceptionally fine April weather, it was a pleasure to work outside with numerous residents who were only too keen to be able to do something positive’.

In the very early days one Ollie Craig was so enthused, that he leafleted the entire village, of 640 properties.

Other special mentions must include Kate and Alan Bethell whose approach to gaining ‘Expressions of Interest’ in 2018/19 were ‘terrier-like’. In a more subtle way Holly Philips was equally effective. Together they paved the way for the start of the ‘hard-dig’ in February 2022. Alan then became a key individual in numerous house fits.

Numerous garden digs and house fits were undertaken by Sarah and Loz Colyer. Their specialities included inserting ducting into sun-soaked tarmac and the use of a crowbar and 14lb lump hammer to route ducting under stone walls and hedges.

Gill Chilvers and her husband Akis, who run the post office, were very helpful in allowing the tribe to use their window display screen to publicise B4RN-related activities. They also host an MDU(Multiple Dwelling Unit) at the back of their property.

Over 14km of trenches were dug in Burton-in-Kendal.





Welcome to Silverdale.



A tribe formed.



The BYOD in Borwick village hall.



Barry Forde presents B4RN at the Gaskell Hall public meeting.

## Silverdale

Silverdale is a parish of 900 properties scattered over a very large area. The majority of it is limestone or bog. It is a very challenging area. It is part of the B4YS (Broadband 4 Yealand and Silverdale) group, and our first meeting with them was when they came to the Borwick open day run by Keith's group. They shared information and they were blown away by the demonstrations in the village hall BYOD day. Tim Mackintosh made a film about it. [Tim's short film.](#) They had regular meetings and open meetings to engage their community. Many told them it could not be done in such terrain, and to wait for BT to do it.

By 2014, Silverdale was beginning to see the fibre coming its way over the hill from Yealand.

From the volunteers: 'A group of movers and shakers from the five parishes got together. Some were pushing from The Yealands end, some pulling from Sandside and Storth end and Silverdale in the middle with pessimistic limestone-based expectations of feasibility and sharp intakes of breath all round. They helped out in Borwick to learn the ropes, and then took the dig further into the Yealands, and on to Silverdale.

'At this stage in B4RN's osmosis out from Quernmore, parishes had to raise their own money for materials. The B4RN mothership offered loans at a good rate of interest and those who purchased 1500 £1 B4RN shares were offered a first year's subscription for free. Alongside the digging and the ducting, we needed to cast B4RN's bread upon the water. Or seed upon biblically stony ground.

'What we all had in common was an AONB and their championing of 'sustainable development'. We were confident B4YS would qualify. Chris Ward from Big Fish at Storth and Tim Mackintosh from Silverdale,





The AONB banners.



Photo from the Westmorland Gazette.



Delicious home made scones.



Chief charwallahs at Gaskell, thanks to Georgina and Angela for scones.

made a full fibre presentation to the AONB Executive Committee seeking support and money, and before we all knew what was happening, we had a grant of £3000.

‘To help you and your group, we are pleased to offer you a grant towards the costs of project banners, informative printed and web communications materials, equipment, public meetings, transport and the distribution of a mailshot to every household.’

‘Only, we had to have it spent and accounted for in a fortnight before the end of the AONB’s financial year.

‘A mighty effort from all the above and wonderful hands to the pump from; the Skipton Building Society, Big Fish Internet, the B4RN mothership, Emtelle, the Gaskell Hall Committee, the cake squad and others too numerous to mention, we had the Gaskell Hall launch event bought and paid for, the agreement of St John’s Parish Magazine for B4YS to have a four page spread in the next issue all about B4RN and fibre and future proofing, and enough printed information and encouragement to persuade our neighbours to invest and/or buy shares.

Tom Milligan from Big Fish took care of our digital footprint. The sharp end of getting the fibre across B4YSland to Sandside is portrayed elsewhere in these pages but, as every where in B4RNland, would



At the Gaskell, Simon Wade from Emtelle shows us different ducts.





Getting control of multiple ducts.



Using the Toro to get to the houses and the church.



Soft backfilling the trench and removing stones.



Mattocks were valuable tools in Silverdale.

have been impossible without the active support of so many. In our case, all the usual volunteer suspects, we of a certain age for the most part but also our farmers, local businesses, conservation bodies, estates, country houses, local government, St John's Church and all our friends and neighbours.'

Even a few months after the optimism and confidence of the Gaskell Hall event, B4YS still really didn't know which route would be taken to get the trunk connections from the Yealands into Silverdale and on to Storth and Sandside. In Silverdale, in the absence of anything better to do, we spent time wandering the village pondering how to connect the two village halls, the churches and the schools, not to mention 900 other properties.

On one such (Compo and Clegg?) foray, Andy, Edgar and Tim were blundering about, trying to work out how to get duct from St Johns primary school across to Cove Road, and what wayleaves would be required. There was nobody much about except in the distance, at the other side of Townsfield, somebody was being busy at the back of the houses. A combination of neighbourhood watching, volunteer recruitment opportunities and the chance of a quiet cup of tea persuaded them to amble over for a chat.

A greenhouse was slowly being built, the better to occupy the imminent ungainful and unemployed time of an about-to-be-retired Captain of the soon to be King's (merchant) navy, on leave for the last time before the onset of pensionerhood. Andy, Edgar and Tim recognised an opportunity when they tripped over it and set to to persuade him that his time would be much better spent ...

... and so the seeds were distributed, taking root after six months completely at sea and Martin Lange was reincarnated as the answer to all those problems B4YS hadn't even identified by then'.



## Get me to the church on time photo gallery



Martin with the Toro in the snow.



Main trench cut through the concrete.



Duct layers.



Digging out for a chamber.



Sub-duct being laid in the trench.



Multiple ducts being laid in the toro trench.



Tidy job, all done.





Getting under the church wall.



There was a lot of head scratching that day.



Waiting for them to stop scratching.



Paul Parsons and Alex Colton fusing the church chamber.






Duct into the crypt, and cabinet delivered.



Martin patching in at the new cabinet.



Bringing the crypt live, Rob Staveley, Alex Colton, Tom Rigg, Paul Parsons from B4RN, and the volunteers working together.



# B4Ys Hyperfast


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B4Ys Hyperfast

They made their own flyers and distributed them through the parish.

Andy Wells and Edgar Porcher divided the large parish into areas with different champions for each area. Noel, Anne & Peter Roger and Dawn each took on sections of the longest route, route 1. They were joined by Martin, a retired sea captain for the initial part of route 2. Julia and Richard took on the most challenging area in the centre of the village, route 3, and did an amazing job, and Fred route 4. Ruth, a potter, and Phil had route 5. Glyn had route 6. Andy adopted a new route 7, which had to be put in when a wayleave was retracted that cut short the original route 2.

Andy recalls: ‘I think it is also the case that B4RN bought the Toro with a loan organised by Edgar and would not otherwise have had the finance for it at the time. We learned how to use the Toro for ourselves’.

They hired Tony with his mole plough and diggers, to get from the Yealands into Silverdale, ‘We only used Tony Swidenbank for a small part of the route from the Yealands. Chris Alty did a further chunk for us with a tractor-drawn mole plough and Arthur Graves likewise for some of the work in the village’.

Andy also says; ‘It would be nice to have a mention of Steve Whittaker, sadly no longer with us, who had a tractor and showed us how to operate a mini-digger. He was a staunch supporter from the start. Likewise Tim Mackintosh who played a key part in B4YS right at the start of the Silverdale project’.

They then borrowed a small digger and for the rest used the Toro, a small chainsaw type machine to cut through the fields and gardens.

Their first target was the church. As they dug through the fields they went under the walls to drop a duct to every house. Mattocks, moles, pickaxes and crowbars came into action.

A lot had to be done by hand. They all had six packs by the time they were done. Apart from Ruth, who was skinny to start with.





Clearing the trench of surplus stones.



Training day at B4RN. Martin and Andy get their hands on a fuser.



Martin's first ever fuse, in his own house.



Martin gets his very own blowing kit - a red letter day.

Clearing up afterwards is a major job. Volunteers took on all this work. The problem with using a Toro is that the sod is chopped up along with everything else. In the case of this field it left rocks on the top. The volunteers took the biggest ones away, and three months later after the grass had grown back, they removed any surface rocks still showing. There is very little soil in this field but it recovered remarkably well. The paths, gardens and driveways received similar treatment.

The tribe in the parish took 'responsibility' to make it work. Waiting for blowers and fusers just to connect one or two extra customers, prompted them to learn how to do it themselves, and because they proved they could, they had the training and the machines allocated to their project.

A few of them learned to blow and fuse when the time came. Andy is very proud of the fuses he did, but admitted his eyesight would not stand the test of time, so Martin became the chief blower, and then the fuser for the additional connections, as the build progressed. He then fused his own house fibre and caught the fusing bug too, fusing the house fibres as well as bullets, and ended up with a fusing machine at Silverdale too.

Martin says the whole thing was like cutting teeth. He had just retired as a sea captain, and had worked away from home for most of the 32 years he had lived in Silverdale, so he was not part of any local groups, not exactly a stranger, but he did not know many people. All that changed when he signed onto the B4RN project.

Silverdale, like all the early projects, had no funding or grants, and they had to raise all the money themselves. Martin encouraged everyone to buy shares and invest, if they could. He remembers thinking that if the project failed he would have to move house, as he would have been blamed. But he and all the others worked hard to make sure it did not fail.





Andy reeling the core duct.



Collecting the first duct and chambers from the new Melling office.



Typical 'site meeting' - deciding where and how to dig.

He remembers volunteers in the various zones near to tears in the field because they had made a mistake, forgotten a duct, forgotten to bring joiners or end caps, such was the pressure of working in those days. But he also remembers always someone being on hand to fix it. The duct is pretty basic technology, and there is always a solution. The main thing is to recognise a mistake. However, because the project in Silverdale is such a success, he feels it is important to remember these dramas.

With the help of the volunteers they got the duct to the church, which is where they had decided to site their cabinet.

Martin still connects latecomers to the party, and has also helped other villages get going and inspired them. He says the worst thing he has had to do is try to negotiate with the landowners who did not want B4RN on their land. Getting wayleaves is always a tricky job. In some cases they found it easier to go round them, but one route to three houses was on common land, on a footpath. Luckily the council confirmed it did not need a wayleave on the land on each side of it, so the duct went through okay.

One of the trickiest bits they had to do was on the Woodwell Cliff, and a special duct was ordered and fastened to the cliff wall by B4RN's Dave Ryall who is an expert caver.

The B4RN core fusers Paul and Alistair came to bring it all live. Andy stood still long enough to get his MBE spade award, and Fred comes live when Andy patched in the crypt. It had been decided to put Silverdale's cabinet out of sight and weather, underneath the church itself, in the crypt. Gives a whole new meaning to FTTC - Fibre To The Crypt!.

Once the main core had been done it was a case of adding more customers in dribs and drabs. Silverdale is enormous and there were many hard to reach areas, with numerous geographical obstacles and wayleave issues. There remains one area they



## Photo Gallery



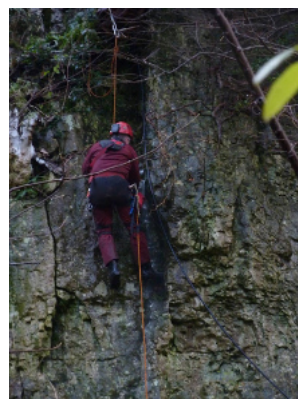
Mattock work.



Andy patches customers (including Fred) at the cabinet.



The blowing team at Silverdale.



David Ryall, the B4RN caver, fixing duct to the Woodwell cliff face.



Andy presented Julie Wise with her silver Simon spade for all her work.



Getting the chamber in a big enough hole.



Alistair Adams-Huset fusing the core fibre at Silverdale.



Robert Staveley and Paul Parsons fusing at Silverdale.





Fred was a route champ and stored the materials at his house.



Rosemary gets her MBE spade award.



Andy gets his MBE spade award.



Martin and Tom getting a connection to the station. JFDI in action.

cannot reach but hopefully will one day. Gaskell Hall is top of their list, blocked by a wayleave issue.

As with most parishes, once the bulk of the work is done the impetus dies and volunteers go on to other projects, but there will remain more people to connect once they decide they want a connection. A few had been content with what they had through the phone lines, a few were not interested, and considered themselves too old to use the internet, but as time went on they changed their minds or new owners moved into the property. This is where Martin came to the fore, and has continued connecting people for over 6 years. He can blow, and fuse, and dig, and connect the equipment into the property, he has been invaluable.

Because of Martin and a few others, B4RN started a scheme, whereby trained volunteers could become contractors. Martin had already helped nearby groups get going but now he could be paid for it. At least it stops him being so out of pocket, but will not make his fortune. His main reward is helping more people and removing the things blocking them from getting online. He also helps them get their devices connected to the wifi, helps them with mesh systems, or power-line adaptors, and even runs ethernet for them. He is also often their first port of call if they have problems.

The volunteers were on national TV, but they also made their own film about getting the core to the church. The link is in the blue box.

The last thing they had to tackle was the waiting area at the station. Network Rail could not provide information for passengers due to lack of comms. They did not want B4RN. There was no mobile reception. Enter stage left the B4YS team, who managed to beam a signal to the station from the golf club. Aided by B4RN's COO, Tom Rigg.



## Captain Martin Lange



Martin fusing customer fibres in the fields.



Martin doing a bullet, watched by an interested volunteer.



Back to reality, Martin mending a break in mud and rain.

From being a virtual stranger nearly everyone in Silverdale now knows Martin. ‘The great thing about being a volunteer is that you cannot walk down the street without everyone waving at you,’ he says.

Martin earned an invite to the Buckingham Palace garden party for all his efforts, accompanied by his other half, Brenda.

Martin is also often the first port of call if there is a break in the fibre, and he can do the repairs very quickly.

Over 31 km of trench was dug at Silverdale.



Martin and Brenda, scrubbed up well for their Buckingham Palace date.



Beyond the book:

[The Westmorland Gazette story](#)

[Getting to the church video](#)

[The Trowbarrow video](#)





Welcome to Storth spade on the post.



Here comes the cabinet.



The cabinet on the plinth.



Getting the cabinet settled and ducts put through.

## Storth

Once the fibre got closer, Storth started.

Another small village near Silverdale, Storth, wanted to join on. Steve Spencer and Duncan Brown organised a village meeting with Barry.

Mark Fisher and Greg Tagney sprang into action. They canvassed the village and organised the site for the cabinet.

Dealing with the village was okay, but getting the core route into the village proved to be a major headache for them. Despite the hold-ups they dug the ducts into the houses and back to the cabinet through to the local chambers, ready for the big day.

The big day was basically held up with wayleave issues, so B4RN decided to put a BT leased line into the B4RN cabinet, as a temporary measure. This was also held up, because BT decided they needed to do a road cut, instead of their usual pole method of delivery, and this was held up as well.

Nevertheless, the volunteers kept on working and waiting for the hold-up to clear.

Henry and Greg strimmed the long grass to make it easier for the diggers. As in Silverdale they had the limestone to contend with too.



Strimming before the Toro comes.





Dave Ryall from B4RN fixes external duct to solid rock.



The Storth terrain.



Team meeting. The best sort. With Beer.



The Toro in the rough.



The Toro in the smooth.

Duncan remembers getting David Ryall from B4RN to come and peg some UV duct to the rock-face down a cliff where it was impossible to dig, David is an expert caver and Arnbarrow, where the route was going, is literally a huge lump of rock. They helped B4RN plan all the routes using local knowledge. Adrian Walker organised volunteers to canvas the village and raise shares. One person invested heavily which gave them a good start. The EIS scheme was still going and saved taxpayers 30% tax, which was a great incentive. The first voucher scheme also started when EIS finished and that brought more interest in joining in. £80k was raised quickly to reach the £120k target they would need.

Mark says ‘innovation’ was their keyword, they found ways to do things.

Everyone in the village was very cooperative regarding wayleaves except one person, so they just went round his property. They enjoyed the project, despite the terrible frustration of not being able to get the main feed into the village. They say it was hard work but fun. Duncan recalls a lot of householders being under the impression that B4RN would do it all for them. This was because this particular project went on for SO long due to the wayleave hold-up,

B4RN at the time were transitioning into a professional network as opposed to self-install, and communications got muddled. Nevertheless Mark and Andrew did most of the house installs and a lot of garden digs for those who could not do it themselves.

The biggest disaster they had was using the Toro. They had a long route to do along the old railway line, and it went like a dream - they did 1.5 kilometres in a day. Despite being told to put the duct in the trench, the volunteers got carried away, and dug the whole length in a day. Overnight torrential rain came and the spoil from the Toro, which is usually so easy to backfill into the trench turned into a cement puddle that solidified. Too far,





Frank blowing house fibre.



Frank on the core blow machine.



Frank Brown and the volunteers tidy and label the fibres.



Bruce with his peg leg tidies up the core fibre in the cabinet chamber.

too fast, they said, taking this as a learning experience. Needless to say they did not make the same mistake again.

They were using multiple ducts, often 24 x 7mm duct plus a 16mm core in a trench, and reeling that out took a lot of time and planning too.

Andrew Skinner had been working with the Silverdale tribe, because he had a holiday cottage there, and learned how to blow and fuse from Martin.

The hold-up with the wayleaves set the project back several years, he says. He carried on working in Silverdale with Martin, connecting more properties, and did what he could to help his village of Storth.

The village install was literally in two halves; the first half was all ready to go, thanks to the hard work of Duncan, Greg and Mark and others, but the other half was partly hard dig, and very expensive.

B4RN undertook some of it where interest was high, but Andrew said that due to the delays Openreach had installed 4 FTTC cabinets, providing VDSL to most people close by, and that they were 'content' with that and not as inclined as the people in Silverdale to dig up their gardens. Andrew was used to working with committed people, and some Storth people were just not interested.

The way vouchers were allocated and the way they kept changing in those hold-up years meant Storth had literally 'missed the boat'.

But undeterred they carried on digging.

Once all their problems got sorted the blowing teams arrived, and blew fibre to all the houses the team had prepared.

Bruce was still in his ankle brace so Frank did all the running around. A lot of the local houses had their duct direct to the cabinet, so Bruce had a bit of spaghetti to sort out. It was okay as long as he did not



## Storth photo gallery



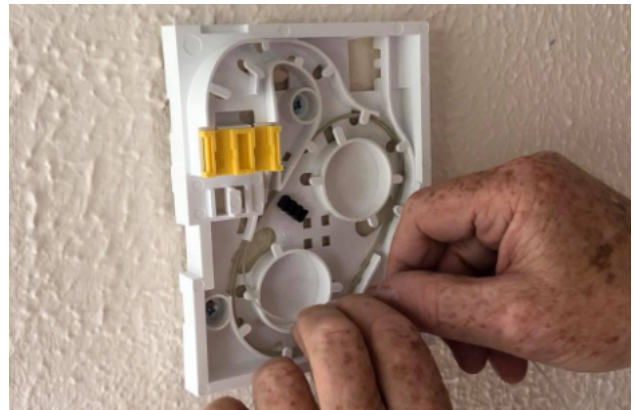
Frank Brown catching the fibre and labelling it up at the chamber.



Core blowing from the cabinet.



Mark, one of the volunteers, waits at the house to catch the fibre.



Mark wraps the fibre in the FTU on the wall.



Completed job, with the router on.



Overkeen chicken helpers backfilling, before the duct has been laid.

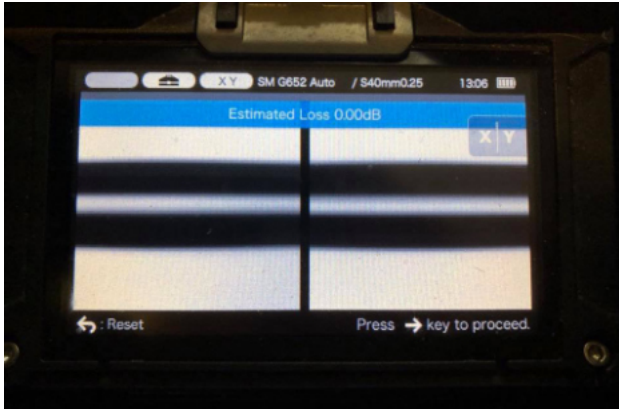


Greg Tagney and Andrew Skinner at Heron Hall.



MBE spade awards for Greg Tagney and John Weinholt.





Perfect fuse for the village hall.



Martin Lange from Silverdale blowing house fibres. On a wheelie bin!.



Wet digging too, on the field dig.

have to run around. Frank and the volunteers sorted it all out in the other chambers and it looked much better.

Frank blew the core to the chambers round the village.

The first house blow in Storth was to the village hall, and the volunteers wrapped the fibre ready for fusing. They had installed all the house kits and were ecstatic that at last the project was coming to fruition. The village hall had a perfect 0db fuse.

Martin from Silverdale also did some blowing and fusing as payback, paying it forward.

Despite all the ongoing work, the wayleave issue still was not sorted, and the decision from B4RN came through about the BT leased line to be used. Duncan remembers when the cabinet was to come live, they were watching the BT engineer make the final connection. There was a fault on his line, and he did not know where it was, except that it was 600 metres away. The volunteers knew exactly where it would be, in a BT chamber down the road. and took him there. He fixed it and the lights came on, amidst deep rejoicing.

It gave them a real buzz to see the look on the BT engineer's face, that a group of villagers could know so much about fibre networks. Duncan says to see the internet light come on in the village hall router was really all the reward they needed.

Half the village was on the Milnthorpe telephone exchange and half on the Arnside one. Openreach had enabled FTTC on the Arnside one and were starting to roll out FTTP, so for some people B4RN were too late to the party.

With hindsight Andrew thinks this could have been avoided, but nobody could have guessed that wayleaves would prove such an obstacle. Nowadays with PIA (Physical Infrastructure Access) the core





The field dig starts.



Field chamber.



The route to school under the roots.



The dig through the woods.



Digging through the woods and under tree roots.

could have come through Openreach ducts and reached Carr Bank, but those people were now lost.

When the cabinet finally came live there was another burst of activity to get the bottom half of the village live through a field dig.

Volunteers were thinner on the ground due to bereavements, changing jobs, health, holidays or whatever, but Greg, Robert and Andrew persevered, digging by hand to the customer houses, suitably rewarded with tea, and using the Toro when it was available, installing access chambers and hand digging under all the tree roots.

There was a group where a lot of shareholders lived and who really wanted B4RN, and now with B4RN having their own civils team, they did an 'urban dig' through pavements and laid ducting to reach them.

Urban digs cannot utilise volunteers as easily, as chamber access needs streetworks authorisation, so more of the work was done by B4RN.

B4RN used a contractor (Dave Rogerson) to fit the house kits and fuse the customers. Andrew fitted the routers and did the customer contracts, and gave advice on VoIP and wifi.

Cost-wise the project stopped after this. There is a chance that a connection to some customers on the route to Milnthorpe may be made in the future. PIA has meant that some of the issues with limestone and landowners can be solved, by leasing Openreach open access ducting. If this had been available at the start of the project, and if vouchers had been available, it could all have been done in a year instead of taking 6 years and missing out on a lot of the community.

Photos show the exhausted volunteers at the end of the final push to complete route 3 through Burntbarrow Woods. It was done during the heatwave in June 2023 with the help of B4RN





B4RN civils team do the urban bits.



B4RN civils team laying duct.



Tea break for the volunteers.

contractors, and the landowner produced refreshments for them to mark the completion of the route through her land behind Burntbarrow. The completion of this route marked the end of the project in Storth for the volunteers. Robert Harvey, Andrew Skinner and Greg Tagney. Work is still ongoing with infill.

Over 10 km of trenches were dug in Storth.



Digging for tea.



Robert Harvey, Andrew Skinner and Greg Tagney. at Burntbarrow.





The Kellets are in Phase 2, pink on the map.



Nick Ward and Lesley Gee.



The OK tribe.



Having a break on the dig.



Digging through a hedge.

The start of this long project for B4YS had started off in Capernwray, but another important route also came from the same branch of the tree, and turned towards Halton, which was already underway from a different branch, but by connecting extra parishes a resilient loop would be formed, so this story goes back to the Kellets in Phase 2.

## Over Kellet

Nick Ward had been asked by the parish via his role as councillor to find out about B4RN, so he came to find out about it in March 2016. He was most insistent that he did not want to get involved, as his village was already connected to FTTC and he thought most people were happy with that and he had a lot of other things to do.

However he was determined to get all the facts, and he organised a public meeting with Barry at the village school. He was blown away by the attendance and the interest, and by the ethos of the project.

He asked Lesley Gee what she thought of it, and she was all for it. She became his right hand because between them they had the skills to organise it all.

His wife realised 'he had not put his head down at the right time' and was firmly in the tribe. Nick made enquiries and found out that the Capernwray team had already got the duct fairly close to them, so they had a good start and got going.

They raised the money in investments to pay for it all as there was no government funding available. Lesley did all the admin work, sorting the spreadsheets and wayleaves, and finding out who wanted the connection.

They tried dividing the village into zones each with its own leader, but that did not work there, so they changed their approach and concentrated on one zone at a time, and this worked well.





Quick tea break.



Bacon buttie pit stop. With a hopeful dog.



Lunch with chips.



Lunch ready for the workers.

They walked the routes with locals in each zone and modified the B4RN maps if necessary, with Lesley reporting everything back to B4RN.

Nick concentrated on the engineering side, getting from one house to the next. A lot of the dig was through gardens, and volunteer days were set up to blitz an area every Saturday. Nick took lots of photos and Lesley updated their Facebook page and kept everyone informed.

They got funding from the local quarry for drills and spades.

They had their own community pot for donations, but also actively raised funds themselves through Ceilidhs and other social functions and this money went to provide Saturday lunches, where the volunteers enjoyed bacon and sausage butties, lots of cake, and tea. This approach certainly seemed to work well.



Freshly cooked grub.



Another day, another lovely spread.





Measuring out the ducts.



Labels ready for each duct.



A big duct day.



Frank Brown and Lesley Gee picking the ducts to blow that day.

Lesley sorted out all the duct labelling as it was laid, and let everyone know what had to go in the trenches. She made sure every house got a duct whether they wanted the service or not.

Duct was measured out before the dig, so as soon as the trench was dug it could be laid in. Sometimes duct was rolled out in a field without livestock so that a mole plough could pick it up and mole it straight in.

Lesley provided maps and wayleaves for both B4RN and the householders so future customers would know where it had been laid. The chamber work and labelling in Over Kellet was outstanding. The correct length of duct had been left in each chamber ready for blowing, and end caps had been used to protect the integrity of the duct so the fibre would blow well.

Frank blew most of the house fibres, and he left the fibre in a 'blowing tail' so the fusers would have some free fibre to fuse with. This was then all wrapped up in the chamber to wait for the core fusers. Lesley helped Frank get the fibre blows underway, checking the houses on the labels for those who want service. Nick was always on site making sure each area was complete and the right ducts were in the chamber for Lesley.

The Saturday digs continued, with the civils teams coming to help with long digs, road crossings, and particularly difficult digs under walls.

James and Sam from the civils team tried out new equipment at Over Kellet, the Toro and the self drive mole, with varying degrees of success.

They did not use many contractors within the village, they did most of the work themselves, apart from a few areas where hard dig was needed by the B4RN civils team. This work was because of some newts, and instead of disturbing them the Environment Agency said they would not let the diggers through. At great expense B4RN tried a method of putting the





More duct ready to lay.



Laying the duct ready to go to the houses.



All the duct in the chamber, labelled up ready to blow.



Nick Ward checking the ducts and labelling core ducts.

duct in the pavement and going up the front garden instead of the back garden. This was an inconvenience to the residents, especially when the newts continue to walk into the road and get squashed. Hey ho. A quick mole plough of some duct in the field around the back of the houses would have saved much time, stress and expense, and the newts would only have been disturbed for half an hour.

Just below Nick's house was a building plot for three new houses. Nick spoke to the builder about BARN, and he wanted it in his houses. He also wanted mains water, so they came to an agreement whereby Nick got the trench dug, and they put both ducts in the same trench. The builder paid Nick and the volunteers to do it. So it literally self-funded that bit.

To get to remote houses and continue the route to Nether Kellet they used local farmers who worked for shares. Johnny and his mole dug all through his own land and others picked up the idea.

Once the core reached Over Kellet it was time to start connecting customers. More core routes were blown by Bruce, Frank and the civils team.

Once a zone was ready Lesley called in the blowers and got the volunteers to help.

Nick learned how to patch them in the cabinet.



Blowing day with Will Dehany, Frank Brown and the volunteers.





Martin in protective gear.



Martin in his usual attire of awful t-shirt and shorts.



Martin hedge diving.



Road works to avoid some newts.



The newts ignored the signs.

Martin actually had a good connection in the village centre. They had FTTC and he was getting 30 mbps down and 10 mbps upload. He had managed to get an extremely good deal from an energy company and only paid £22 a month. The service was more than adequate for his needs, and he had to put a lot of thought into changing to B4RN where the equivalent service at the time was £30.

He got involved because it was a community project, and it would also help all the people and farmers outside the village whose connection was not as good as his.

He also realised the parish needed a future-proof connection that benefited the whole community, not just a few near an FTTC cabinet.

He threw himself wholeheartedly into the project (literally hedge diving with hard hat and overalls instead of his usual shorts), and brought the average age of the volunteers down. He gave up his Saturdays with the rest of them, and did the hardest bits, once being photographed upside down under a hedge.

He is a technical person, and he became the 'go to' person for problems, and eventually started working at B4RN as helpdesk manager. He is currently in charge of all customer connections with a new manager and several staff working with him. He also helps all the staff with their technical problems and keeps office systems working.





Another chamber with multicore ducts labelled up.



B4RN civils going under a wall.



B4RN civils moling duct in.



Frank Brown starting house blows.

By now Bruce had ‘bitten the bullet’ and learned how to fuse. Alistair’s team did the main core routes, but often Lesley and Nick completed a zone and because the bullet was already in the chamber they called Frank to come and blow, and Bruce fused them. Nick patched them and Lesley ticked another off her list. Nick and Lesley both helped install the routers in the houses and gathered the contracts in.

Over Kellet is now a gigabit village, no longer reliant on the slow service through phone lines. They laid over 14 kilometres of duct. Lesley and her records are still on call when new people move into the village, if their house is not already connected, and she can locate the duct for the engineers.

Nick has continued his good work, and has just raised £100k for the bells in the church. Funny how you can get funding for bells but not for broadband. Also support for newts, but not for children wanting to do their homework online.



Frank puts a blowing tail on the duct he’s going to blow next.



Bruce Alexander fusing the house fibre into the bullet from the chamber.



## Over Kellet photo gallery



Toro, driven by Iain, with house ducts splitting off to each property.



Putting the duct in the Toro trench.



Brushing in the spoil and replacing the turf.



Turf replaced, as good as new.



More bacon butties.



Local farmers dug for digging shares.



A shady brew.



And when they were only half way up...





Will Dehany un-fleeting core fibre as Frank blows it to the next chamber.



Garden digging.



Winder Garth dig with nonagenarian Malcolm Cobb.



Lesley on a route walk.



A team action day.



Nick patching customers in the cabinet.



OK. They had it in spades.

Nick says, 'So Lesley and I took it on as a double act and it turned out to be an excellent community project. We had an average of 20 volunteers, and sometimes as many as 30, turning out every other Saturday, rain or shine, over the 3 years for which it ran.

'Perhaps it was the lunchtime bacon sandwiches, produced by my wife, Jane, which helped, but more likely it was the spirit of camaraderie and community





Ryan Cook gets his MBE spade award.



Tom Rigg and Dan Richmond-Greaves blowing new fibre.



Tom Rigg and Robert Staveley at the cabinet Christmas 2023.

which it developed’.

This then continued when many of this group of volunteers morphed into the village ‘Covid Support Group’ and subsequently into the ‘Over Kellet Jubilee Bells Project’, to replace the three unsafe church bells with a new ring of 8, which is now coming to an end.

“What next?” I was asked the other day, “proper retirement” was my response...”

One can but dream Nick.

## Swarthdale

A small settlement near Over Kellet wanted to join on.

Their branch bud started in August 2014 when Ryan Cook made the first enquiry to B4RN. ‘We are a village of six homes, three of which are businesses.

We’d be interested in the services you and your company provide’.

Their route in from Aughton had been blocked by a landowner so they dug south to join on to Over Kellet. They were very determined. They got their fibre in May 2017. Ryan built a good tribe to help him.

They also managed to have a major fibre strike on Christmas Day evening, when a landowner was digging in a field next to them. Tom Rigg and Robert Staveley immediately went out to find out where the problem was, they measured it from the cabinet so they knew how far away the damage was.

Ryan turned out to find the routes he had dug so the B4RN team could blow in some new fibre. Tom called out the core team and they fixed it all within 24 hours, new fibre and new splices, and they were all back online. The repair team and Ryan spent Boxing Day in a field instead of in front of the fire.





'The crushed bit is definitely there Dan'.



Local knowledge of the route finds the right place to dig to find the blockages. The dogs and tea help.



Dan and Ioan Leonti fusing one of the bullets to bring the customers live again.



Ioan fusing a joint.





The speed sign in Nether Kellet and volunteers with spade awards.



Laying duct to the caravan site.



Moleing the duct and digging through gateways to the site.



Digging the tricky bits, and soft backfilling.

## Nether Kellet

John Bentham had been at the Over Kellet presentation that Nick Ward had arranged, and the Nether Kellet team got going once they saw Over Kellet was go.

They raised the money in investments to pay for it all, with some help from business connection vouchers from the government, as these had started now.

There were quite a few farmers and small businesses in the area who were suffering from poor connectivity. The money paid for contractors to do the core digs, and the volunteer team installed all the houses, for which they were awarded their MBE spades.

There was an issue on the main route from the church at Over Kellet through the quarry. The quarry wanted the connection, but the HSE officer put a block on the dig going through the car park, so the first feed into Nether Kellet actually came in through Halton.

The quarry had also supported the Over Kellet team. The HSE paperwork was finally sorted, and the other core completed, giving Nether Kellet and Over Kellet resilience from the start, which was unusual in those days. Nowadays paperwork is done well in advance, and lots of villages get two feeds in and out and even more in some cases.

Another caravan site near the quarry was also desperate for a connection, and despite the mammoth task underway to build the route, a little bit of legal paper held them up too. Such was life in those days.

A little community assisted in getting the feed to Nether Kellet. The community consisted of 12 properties down a country road. Their postcodes were actually in Halton, and they were in between





Andrew Towers gets his MBE spade.



Feeding the duct into the mole.



Laying the duct out.



A chamber dug in.

the two villages. Originally they were in the Halton central phase, but that was not in build at the time. The line had gone past them about half a mile away, to the Halton Eco project, and now Nether Kellet was stalled from joining on to Over Kellet because of the quarry paperwork.

Andrew Towers and his dad had heard about the B4RN project from a presentation Barry did at Halton, but did not want to wait until Halton central was done. Andrew ran a video production company, and he was very keen to get B4RN, because he knew he would benefit the most.

His dad William had a caravan site and taking bookings over the internet, and also the caravanners needed wifi.

They had meetings with their neighbours. Robert Aldren took up the organisation role with B4RN, who were reluctant to join them on to the Eco line at first, as there were no spare fibres for them.



Digging under obstacles.





Protective pipes for subduct on directional mole.



Labelled up and tidy for the blowers.



John and his team get spade awards.

When the Nether Kellet project stalled, B4RN changed their plans, and temporarily connected the properties to the spare management fibres on the line, and enabled the project to work. These negotiations and plans took a couple of years.

Robert knew their little community would have no help from major telcos, and he and his neighbours often did not even have a phone service. Repairs by BT took ages and they were all fed up. He liked the idea that the farmers around him could end up with a better service than people in the towns and inspired them to get together and make it happen. The farmers were great with permitting wayleaves and the duct went right to their farms and Robert and his team did the house installs. Will Dehany did the house fitting, where the householders could not do it themselves.

Steve Foster did the digging and moleing, and Robert says he is a tremendous guy. Andrew, his dad and Brian Taylor helped Steve every day, rolling out the duct and soft-filling the trenches for him. They took duct right up to people's properties and fitted some of the house kits.

Robert sorted all the wayleaves. There was one landowner who was not keen, but once Robert had explained everything he changed his mind. There were issues further down the line where it was to join onto the Eco route, due to some poor reinstatement by someone else, in the early days, and a different route was located.

Government vouchers for business became available, which helped with financing the project, and one person put in a large amount of investment to kickstart the project.

Andrew says he took two weeks off work to help do the dig from the Eco route to their properties and it was done within that time. This is further proof, if proof were needed, that communications and paperwork take longer than the actual physical work.





Ronan Halstead and Robert Staveley - the core fusers from B4RN with the best ever views from the office.

The dig went from farm to farm, under the lanes with a mole, under the walls with Steve's digger. They mole ploughed where possible but hand-dug under drains and utilities.

Once they got the fibre through to Moor End farm, the Nether Kellet group took it to the village hall to bring it live. Once it came live the little community was changed onto the Nether Kellet cabinet, where they remain. In helping themselves, they also helped others. They had great satisfaction in their success, and Andrew's business remains in the same rural location and has not had to move away from the area.

(Special thanks to Andrew for the photos of the dig, uploaded in seconds).

John says they had a lot of fun doing the project and made lots of new friends. The core fusers had some idyllic places to work on the chambers. The new employees tackled both routes with professionalism and gusto. John also says the farmers were amazing and very supportive.

Nether Kellet laid over 17km of duct.