

Chapter 12

B4SW-B4MS—Dad's Army, Mint and Sprint

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Old and New Hutton / Preston Patrick - Dad's Army

By Martyn Welch

For B4SW, the journey started with parish surveys that repeatedly placed potholes and poor broadband speeds at the top of parishioners' concerns. There were tales of children crying because they could not complete their online school homework, businesses struggling to work online and online home-working, video-calls or streaming practically impossible.



We lobbied about the potholes with some success. However, on the broadband front, we learned that Cumbria County Council had obtained a huge grant from the government to provide 95% of the



population with broadband. We contacted them for a grant only to find that all the funding was going to BT, and that we were part of only 5% of Cumbria that had been permanently excluded from the 'Connecting Cumbria' project, partly because of the very poor overhead (aluminium) conductors in New Hutton and Old Hutton parishes.

It was then, in early 2015 that fortunes started to improve. Paul Parsons, a member of the B4RN team and who grew-up on a farm in Old Hutton, gave a presentation to New Hutton and Old Hutton parish councils. In the presentation Paul described who B4RN were, how their network was delivered by communities, the speed of their broadband, and the key fact that the B4RN network was due to be available at the Auction Mart at M6 Junction 36 within a few months.

Knowing that only the parish of Preston Patrick lay between themselves and Junction 36, New Hutton and Old Hutton parish councils gave a presentation to Preston Patrick Parish Council, who accepted the proposal that the three parish councils should join forces to create a joint group to extend the B4RN

network throughout their three parishes.

In the autumn of 2015, an independent steering group made-up of volunteers, supported by the three parish councils, was established with the single purpose of bringing better broadband to the three parishes. At the inaugural meeting Martyn Welch was appointed project manager and chairman, Arthur Robinson the secretary, John Heap the treasurer and Jean Robinson the website manager. Choosing a suitable name for the group was difficult, but it was generally agreed that it would be good to have Westmorland in the title, and ‘Broadband for South Westmorland’ (B4SW) was born.

The group quickly formed a project plan, and set about fact-finding from several angles including meetings with B4RN, attending a B4RN ‘Look and Learn’ day and visiting several other groups to learn from their experiences.

Having gathered sufficient information, they established a communication plan which included a website created by Jean Robinson, and various social media sites created by Simon Gray. Once these were in place, public meetings were widely publicised and held at the village hall in each of the three parishes.

These meetings were very well attended indeed! Broadband was obviously a key issue for parishioners and they turned-up in their droves to the meetings. ‘Expression of Interest’ forms had been prepared in advance and were distributed at the meetings, along with details of how to access an online version. These forms captured key information such as contact details, if the applicant was interested in taking a connection, if they were willing to make an investment, and if they would volunteer to help the project. This proved to be a great way of capturing information, and it was quickly established that interest within the parishes was extremely high, and lots of people were willing to invest.

The chart shows how quickly this support was established.

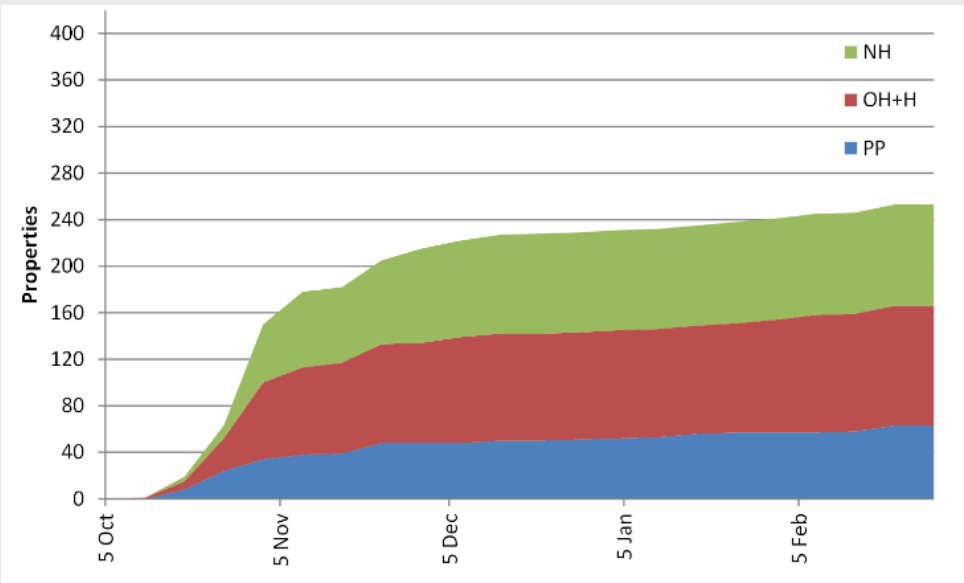


Chart 1 - Properties registering for a connection

When B4SW started their project, B4RN had three basic requirements that each group must meet before being allowed them to continue. These were:

Demonstrating sufficient initial demand for connections;

Raising sufficient initial funding;

Demonstrating the ability to deliver the project.

Having demonstrated the initial demand (see the above chart), we next needed to demonstrate that we could raise sufficient initial funding. In order to do that, we needed to know what the overall project costs were likely to be and, to do that, we needed a network design.

At that time B4RN had become a victim of their own success and were extremely busy designing other groups' networks, and did not have time to develop one for our group. However, we had a secret weapon, Martyn had spent an entire career working in utility companies, of which a significant portion had been in network design. So he spent late 2015 and the Christmas break designing a network based on B4RN's network principles, making it ready for approval by the beginning of 2016.

The resulting design was a resilient figure-of-8, with the bottom loop starting at the Auction Mart near Junction 36 on the M6 and crossing at the Old Hutton cabinet and with the top loop passing through the New Hutton cabinet. The lower loop needed a line running up each side of the M6 motorway to reach all the customers, because the M6 could be crossed only in very few places. Running out of this figure-of-8 were spurs towards Lupton, Preston Richard, Stainton, Oxenholme, Kendal, Skelsmergh, Grayrigg, Junction 37 on the M6, and Killington. The total length of trunk line was about 38 km (24 miles) and the spur lines added about 30 km (19 miles) in length.

B4RN accepted the design in principle, and it formed the basis of the initial estimate for project costs. At that time the estimated costs were around £300,000. By the time the design was signed-off this had risen to approximately £500,000, but at least we now had a target for the raising of funds!

When raising funds we were able to rely on the data captured through the 'Expressions of Interest' forms, which identified those people who were willing to invest. The next task was, therefore, to visit them, and convert their interest into a meaningful pledge or better still, hard cash. This task was split between members of the steering group, each of whom visited a number of potential investors with pledge forms (which included a disclaimer notice explaining that we were not qualified to provide any financial guidance). This was very successful indeed as it allowed all potential investors to ask more detailed questions about B4RN, the project, and any concerns they might have before making their investments. The money soon started rolling in.

The most popular method of investing was for people to pledge to buy shares in B4RN. This money was ring-fenced for use on the B4SW project. Most people we visited were happy to buy shares, and many provided cheques to back up their pledge made out to B4RN on the understanding that the B4SW group

would hold onto them on their behalf until such a time as the project got the official ‘go ahead’, and they would become shareholders and members of B4RN.

At that time, investments in B4RN qualified for 30% tax relief under the Enterprise Initiative Scheme (EIS) run by HMRC. This was very attractive to many of those who paid income tax. B4RN also provided a free connection (which normally costed £150) for each £1,500 invested. The combination of these two initiatives proved to be a ‘sweet-spot’ for many people and, therefore, investing £1,500 (or multiples thereof) became very popular indeed.

The group soon accumulated over £340,000 of share investments, something the group felt was an amazing response in such a short time from their three small rural parishes in South Cumbria.

People were also allowed to make loans to B4RN to be used on the B4SW project. Although the group was aware that some loans had been made, the details of those loans were confidential between B4RN and the investors and, therefore, we did not know how much was raised through that avenue. One loan that we were aware of, however, was from the community fund from banks who operated the Armistead Wind Farm. That fund provided a £10,000 loan to B4RN for use on the B4SW project.

A third source of funding was for the group to obtain grants. Peter Thornton was the leader of South Lakeland District Council (SLDC) at the time and was also the ward councillor for New Hutton and Old Hutton. Peter was very supportive of B4RN in general, and the B4SW project in particular because it was the first B4RN project to be undertaken in South Lakeland. He, therefore, fully supported an application to SLDC for grant funding towards the B4SW project. It turned out that the B4SW project qualified for funding under their Locally Important Project scheme (LIP), and the group was awarded £20,000 for use towards the purchase of the New Hutton electronics cabinet. This cabinet was a larger one than most in order to accommodate a link directly into the national North-South fibre which runs along the western edge of New Hutton.

By mid-2016 over £370,000 had been raised through the various mechanisms, an amount which represented around 75% of the expected costs of the project. This was sufficient to meet the B4RN requirement for initial funding.

Having satisfied the first two B4RN requirements (sufficient demand and sufficient funding), the group set about demonstrating its ability to deliver the project. We already had a well-functioning steering group which had managed proceedings to date. This was further supplemented with a network of champions who looked after each small group of houses (hamlets), and resolved tricky issues like working with each resident to determine where the B4RN equipment would be located in their house, the route the service would take to get there and, most importantly of all—who would provide lashings of tea-and-cake. This together with over 100 volunteers who registered to help with the project, meant that our ability to deliver was demonstrated in spades.

We next turned our attention to the thorny issue of wayleaves (the legal agreement to lay a cable or pipe across somebody’s land). The B4SW network covered quite a significant area of around 20 square miles

(51km²) and, when disregarding private gardens and lawns, it crossed land owned by around 130 landowners. Now, landowners are normally reluctant for utilities to lay pipes or cables across their land unless there is a significant financial return for them – a position which is very understandable. Add into the mix the B4RN principle that wayleaves should be free for their ‘community led’ projects, it quickly became obvious that obtaining landowner permissions was going to be a major task. But we had two major factors up our sleeve that worked heavily in our favour:

It was the community, the parish, their community, their parish who would benefit for allowing the network to be laid across their land, and we had Arthur Robinson. Arthur was a well-respected gent from a farming family in New Hutton, who was either related to many of the landowners or had known them for many years.

Talking to land owners about wayleaves involved an awful lot of sitting around kitchen tables drinking tea and eating cake. With our acknowledged expertise in this area we knew that we were in with a chance, and so we embarked on Mission Impossible to obtain continuous wayleaves for the whole of the network. We needed to get them all before we could start because there is no point laying across one landowner’s land only to find that you cannot cross into the next one due to lack of permission. On the occasions where permission was not given, we had to re-design that section to ensure we had a route with continuous permissions from start to finish.

The responses of landowners varied enormously. At one end of the spectrum we had landowners who could not do too much to help the project. Not only would they agree wayleaves but they were more than willing to use their own equipment to lay ducts across their land and otherwise to help us all they could. At the other end of the spectrum there were landowners who were reluctant to give permission. We even had one who stated that, in their view, the internet was “the work of the devil”, “it had gone far too far and needed to be stopped”. Understandably they were reluctant to let us across their land and we had to go round.

When obtaining wayleaves, Arthur took Old Hutton, Martyn took New Hutton, and Preston Patrick was split between various people. When problems were encountered, Arthur would help out where he could and, in most cases, that was sufficient. In all, we had a really high rate of success with only 8 significant landowners out of the original 130 who would not let us cross their land.

There were, however, some key areas which presented really big problems. One major landowner in Preston Patrick was very keen on the B4RN principle of ensuring that service would be provided to every property within the parish who wanted it, for no extra cost, no matter how remote it was. Now, this was, indeed, one of B4RN’s key principles and something they were absolutely sure to provide. However, the landowner was very keen to have this position established in some form of legal document before allowing any network to be laid across their land. Although this was a highly laudable position, it did not half cause our group a lot of heartache! After making suitable representation to B4RN, the situation was eventually resolved by Barry Forde having direct conversations with the landowner and providing a letter of assurance to the landowner’s satisfaction, and they finally gave their permission. We were mightily

relieved and the project was back on track.

A second area of major difficulty was in New Hutton where a number of landowners were reluctant to let the network cross their land. The location of their land proved to be particularly problematic, because together they prevented any cables being laid to or from the electronics cabinet positioned at the village hall without going along public roads (which was against B4RN's business case). This problem was eventually resolved by heart-to-heart talks across kitchen tables in which it became clear that everyone (including the landowners' families, friends and relatives) would benefit if the project could go ahead. Those were serious tea-and-cake moments. The landowners gave their permission, for which we were very grateful indeed, and we were back on track again!

The pattern of remaining refusals enabled us to reach everyone who wanted a service, but it needed us to lay an awful lot more core network than originally planned (and costing much more), right up to the northern border of the parish. Also we could not complete the top loop of the original design because of a 120m gap in the south-western section where wayleaves could not be obtained or got around. Overall resilience was not compromised, however, because alternative feeds were available through the significant number of spurs connecting with other networks.

We were then in a position where we had satisfied all B4RN's initial requirements (sufficient demand, sufficient funding and ability to deliver) AND we had obtained all the wayleave agreements necessary for a continuous network. The last thing we needed to be able to make a start on-site was for final sign-off of the design, but this proved difficult due to B4RN's other workload. So we waited, and we waited, and we waited. Eventually as it got nearer to autumn it became clear that some very important fields in the design would shortly be ploughed and seeded for crops, and would become unavailable for duct-laying for a long time, and still we waited. After lots of representation, B4RN allowed Tony Swidenbank (Swinney), to lay ducts in one of these important fields in Old Hutton on 26th August 2016. We were off!



Paul Parsons and Frank Brown moleploughing.

Very shortly afterwards the Fantastic Frank Brown, who was a farmer himself (and a senior volunteer who did lots of ploughing for B4RN), made an emotional plea to be allowed to lay similarly important sections of duct in Preston Patrick.

After much discussion it was finally agreed that we could do it, and the very next day, those essential ducts were installed. It was a VERY Close-run thing



Tea with waitress service.



Cheers.



Arthur with his buttie box of fruit.



A welcome tea break.

indeed, with the ploughing/seeding contractor turning into the fields to start his ploughing as we were turning out.

Community volunteers turned-out in massive force on both of those initial days, with everyone eager to be involved in the project that they had seen maturing for many months. In Old Hutton (the first day) the turnout proved to be somewhat embarrassing for the organisers, with more volunteers available than there were tasks to undertake, but everyone had a great day, not least because they could all say that they were involved in installing the first section of ducts in the project. In Preston Patrick the turnout was similar but, learning from the experience in Old Hutton, we were better prepared and matched people to tasks in a more professional manner. Most importantly, we had organised much better supplies of tea-and-cake!

And so it began, the marathon that was constructing the network.

Now, the skills required by volunteers are numerous and varied. The obvious skills that stood out on a project like this was the ability to dig. To dig consistently, for long periods, in good weather and bad, up hill and down dale, without fame or fortune, to just keep on digging. After digging trenches came the skill of ‘smoothing the bottom’ because, as we often liked to point out, when laying ducts, “we do like a smooth bottom”. Once a suitably smooth bottom had been obtained, there was the skill of running out the duct—sometimes one duct, sometimes many ducts, but no matter how many, no matter how far, or however complex the route taken, it was always accompanied by the much-chanted mantra “MIND YOU DON’T KINK IT”.

Yes, indeed, as previously mentioned, the skills required were many and varied, but above all else, to be a true volunteer ‘worth their salt’ everyone needed to be able to drink lots of tea (other beverages are available) and eat lots of cake, something we practised day-in, day-out and, in the fullness of time, we became reasonably good at it.

Indeed, the provision of ‘refreshments’ became quite the thing for some. At one end of the spectrum we had people who never provided anything. One day we installed a service across a field, under a wall, across a track, under a second wall then across a lawn, all in the same day, in constant driving rain in the middle of winter and we were never offered so much as a glass of water. At the end of the job, it was all the customer could do to answer the door to acknowledge that we were leaving the site.

Thankfully, that kind of experience was very much the exception rather than the rule. It was more the norm for those residents who could not do physical work to make sure that we got hot drinks in winter, cold drinks in summer and always, lots of biscuits and cake. At the best end of the spectrum, however, there were some ladies (and it was always the ladies) who seemed to make the provision of refreshments a matter of conscience, pride and honour. We liked those ladies—we like them a lot!

As a result we had shed-loads of bacon butties right across the parish, particularly from Irene aka Mrs Graham the Mud Angel, who never failed to provide heaps of bacon butties every time we called round. And we seemed to call round quite a lot for some inexplicable reason. We had hot lasagna delivered to the field in big Pyrex dishes, we have had ladies carrying trays weighed-down with pots of tea and heaps of cake, arguing with each other in the middle of the road over whose turn it was to deliver sustenance to the emaciated (NOT) workers. We had one kind soul (Sheila) who turned up day after day with a wicker picnic basket loaded to the brim with individually wrapped sandwiches, pots of tea and heaps of freshly-baked cakes. What an angel! And none of us will forget, in the middle of the winter of 2017, when Barbara said we could have lunch sat in her garage at Rawhead Cottage. We were just glad to get out of the piercingly cold wind and driving rain, and to sit in a relatively warm environment. We were just about to break-out our ‘buttie-boxes’ when Barbara emerged from her house with bowls of piping hot broth and a stack of crusty bread. Suddenly, the butties made with our own fair hands earlier that day did not quite ‘cut the mustard’ and they were hastily returned to our kit-bags. Having eaten our much-appreciated fill of broth and bread, you can imagine our surprise and delight as Barbara re-emerged from the house with piping hot bowls of home-made apple-pie, complete with lashings of hot custard. We liked Barbara. Oddly the job at Barbara’s house, which should have taken a single day, somehow seemed to last for several days -- very mysterious!

We could go on and on reflecting on the fantastic hospitality shown by dozens and dozens of appreciative folk around the parishes, but the point has already been well made that tea-and-cake was VERY important indeed and was always gratefully received.

As construction took hold, a recurring pattern of volunteers started to emerge. The nearer to people’s houses the work was, the more volunteers turned up to do whatever was needed. The further away from people’s houses the work was, the more likely you would find the work being done by the same stalwart



Arthur Robinson.



Arthur in a hole.



Martyn.



Colin in a chamber.

band of retirees who became affectionately referred to as ‘Dad’s Army’, a disparate band of prior-strangers, thrust together by the same driving desire to see the project through to the finish.

First there was Arthur, our secretary. Arthur, from a New Hutton farming family of many generations, was a tall, slender chap, strong as an ox and with more staying-power than a garage-full of Duracell batteries. A very experienced dry stone waller and related to many of the landowners on our patch, Arthur was our ‘secret weapon’ on many fronts. He knew an awful lot about fields and walls and, because he was clerk to two of our parish councils, when it came to mapping, paperwork or for applying for grants, Arthur was the man! He was also completely safe with a pickaxe.

There was Martyn, our project manager. With a career in utilities centring on telecoms, electricity and water, Martyn was well-versed in the rules and regulations around building a network and managing a utility construction project. He was chair of New Hutton Parish Council and, together with Arthur, was responsible for getting the project off the ground.

There was Colin, a retired farmer from Gatebeck. A stocky, strong chap with dry, cynical wit who loved nothing better than to ‘wind-up’ Martyn at every opportunity, and then the two of them would argue like an old married couple all day long. Colin was a great dry-stone waller but definitely not in the style of the Dry Stone Walling Association. Colin would wall anything, good stone, bad stone, bricks, concrete, in fact anything that looked hard and durable, but when he’d finished, it was as solid as anything that promises to outlast the pyramids of Giza. He too could graft ‘till the cows came home’ but, give him a chance, he would watch others working all day long. Colin was the star of



Big Dave.



Little Dave.



New Dave.

our group and all the ladies loved him.

Then there were 'The Daves'. First there was Dave. We were fine with Dave. He was just about the fittest chap in the group, notwithstanding his age. A small, slim chap whose stature belied an incredible inner strength. In a previous life he had been a PE master, and his fitness told that story well. Dave could dig trenches all day long and had a great ability for the digging needed to get under dry-stone walls and 'squaring-off' holes for chambers. Whilst others stood around debating how it should be done, Dave would be in there, getting the ground out.

Yes, we were fine with Dave in the group. But then another Dave turned-up. As we'd already used that name, we had to add some kind of refinement to distinguish between the two of them. The recently arrived Dave was very tall, well-built, with a strong stature, a real big chap, which was quite the opposite of the original small, slim Dave, so the answer became blindingly obvious—the newcomer would be named Big Dave which meant, by a strange puff of logic, that the original Dave would henceforth be named Little Dave. Big Dave was really good at installing house-kits and so, after installing a few kits together, Big Dave gave up being part of the core group and set out on his own, relentlessly installing house-kits whenever he could spare the time.

So there we were with the two Dave's, Little Dave and Big Dave, and all was well with the world until, after we'd been working like this for a while when another Dave arrived. At this point we were a bit flummoxed. What should we call this new Dave? We'd already used 'Little' and 'Big' and it seemed a bit churlish to call him Middle Dave or In-Between Dave. The question of what to call him was eventually solved by admitting the facts as they stood, we already had a Little and a Big and so this

new Dave was that - he was the 'New Dave', and the name stuck. New Dave was good at just about everything; give him a job and he'd get straight on with it. He was gutsy, reliable, never let you down and, like Little Dave, was superb at digging. One memorable feature of New Dave was his bike. New Dave was a keen cyclist and working 7-days a week digging on the project wasn't going to rob him of his cycling, oh no, not New Dave. He would turn up on his bike wherever we were working (sometimes in Lycra) and change into his working clothes on site before putting his shift in, then getting changed again and cycling home. Because of the size of our patch, this could sometimes add a good 10 miles of cycling onto his working day. Given that situation, it didn't take a lot of imagination to understand why New Dave might have been reluctant to move site several times in a day, but he just got on with it quietly, and then cycled home.

So that was the core team or 'Dad's Army' as they became known to some - Martyn, Arthur, Colin, Little Dave, Big Dave and New Dave. After the team was established, they could usually be found on site, somewhere on their patch, pretty much every day of the week throughout the year other than a week or two over Christmas.

Then there were the regular helpers who turned up, wherever work was being done to put a shift in. Some would come a day or two every week, some once a fortnight, but they could always be relied upon to turn up when asked, for those big days when more labour was needed. Because they came regularly, they knew what was needed, they knew what the regime was, they knew how to do it and just got straight on with it. By the end of the project there had been many dozens of volunteers helping with the project ranging in age from infants to octogenarians. In fact, a significant portion of the area population played some part in achieving the overall result, just as it should be, self-help at its best.

But the best days were those when we got close to small hamlets of houses and the champions helped to arrange 'boon days' when everyone turned out to help each other. There were huge quantities of work completed on these days and generally, most importantly, there was huge quantities of food in all shapes and sizes including, of course, lots of tea and cake.

When the project was first proposed, the intention was to build the network as an extension from the electronics cabinet at the Auction Mart at Junction 36 of the M6 motorway. As we inexorably got closer to making a start with construction, it became clear that B4RN was having problems making that cabinet 'live'. Meanwhile the Mansergh group had made massive progress and got a 'live' circuit to within a kilometre of the eastern edge of the B4SW network. Although always in the plan to include a link to increase the resilience of both networks, it was never in the plan that it would become the main, initial source for B4SW. But there we found ourselves, Junction 36 was not available to us, but the Mansergh one was. It was a no-brainer, and so off we charged towards Mansergh!

Our first planned day for proper digging of the main route was not one to remember. It was one of those days when daylight is timid and most sensible folk stay indoors. It was a cold day in February 2017 at Barkin House with constant rain that tested every seam. Only Arthur and Martyn had the misplaced devotion to turn up, and there was a dry-stone wall to dig under. Arthur took charge because Martyn had no experience of digging under walls. Together they battled against the elements and by the time the



Chalky.

funds for the group to purchase a few mattocks, battery and mains-powered hammer drills, a petrol-powered stone saw, a petrol-powered whacker-plate, a tool-box, some small assorted hand-tools and a few other items.

Many of these tools took up residence in Martyn's beat-up, ugly old MkII Toyota HiLux pickup, that they named 'Chalky', and which he had acquired from a previous utility company where it was used for off-road jobs. Chalky became the workhorse of the project, ferrying people, tools, materials, chambers, sleeving, drums of duct and anything else that was needed to wherever it was needed, whenever it was needed. It became identified as a focal point of the group with people from the parishes waving us on when we passed by, even when we didn't always recognise them. But they always recognised Chalky and the team. Chalky was a rugged old beast that took one hell of a battering over the lifetime of the project, but he made it through to the end, just! He now sits on the car-park next to Martyn's house, which he has done since the project finished, resting and quietly reminiscing about the 'good-old-days' when he was the centre of attention. Sitting, reminiscing, quietly waiting for the inevitable.

Amongst our first big jobs was to install the electronics cabinet at Old Hutton. An excellent location had been agreed with the Youth Group Trustees on a piece of their land right in the heart of the village, behind the school, public hall and church. We approached a local retired builder and asked if he could help with the casting of the plinth for the cabinet to stand on. We had the plans from B4RN but felt that we needed the expertise of someone who had done that sort of thing before, and Old Hutton resident John Shorrocks was the perfect choice.

When shown the plans and asked if he could help, John replied, quite naturally 'Well, I suppose I could work out a price for you'. It was then that we explained how a voluntary, community project operated and, after a moment's confused look, John's face lit-up and with a big, beaming smile he went on, 'Right then, we'd better get on with it'. That was the spirit of the project, that was the B4SW spirit right there, and that's how it continued most of the time. We cast the plinth on 10th September 2016, and we also had droves of volunteers helping dig trenches for the ducts. Everyone was aware that the cabinet was the hub of the network, and they wanted to play their part in getting it established. Some were keen to make sure their children took part in something they considered to be memorable for generations to come. We also remember the great food that was provided and that we managed to get in some good practice at drinking tea and eating cake.

milky daylight gave up, they were under the wall and had a sleeve installed. They were both cold, wet-through and Martyn's waterproofs turned out not to be, every stitch he was wearing was wet-through and cold. No, that day was not one to remember. It could only get better. And it did.

As construction got underway, we anticipated the need for some basic tools and some more specialised tools. To help with this the parish councils provided



Tractor mole.



Digger pneumatic mole.



Another tractor moleing.

The cabinet was delivered to site by B4RN on 19th September 2016 and local farmer Raymond Robinson arranged for it to be carefully lifted into position with his telehandler. It was a proud moment for all those who had played a part in getting us to that position.

Whilst our attention was focused on Old Hutton, Mark Meth-Cohn was rapidly getting the Hincaster route ploughed in by contractors. That route included a duct carrying our services to Millness at the south-western tip of our network. So by early October 2016, and as soon as it was available, we diverted operations to that end of the territory and started building out from our new provided duct. After doing the tricky bits with pick-and-spade and digger, the local farmer used a borrowed plough to finish the stretch across his land using his own tractor. After leaving a section that passed under the A590 for Approved Contractors to do, we finished that circuit ourselves with the same borrowed plough and with Paul Parsons using his dad's tractor. At this point we realised how essential it was to have access to a mole plough, so we had local blacksmith Frank Parsons make us our own plough that we could lend to farmers who were willing to lay duct across their own land. This was very successful and lots of farmers took up the challenge and installed ducts across their land. We were now starting to get some good lengths in the ground—and it felt good.

We even had one farmer (Raymond Robinson) who had a vibrating mole-plough that attached to a digger in place of a bucket. He used this to great effect by attaching it to a 15-tonne digger which laid duct as it tracked backwards over the entire length of his farm.

It was around this time that Colin Wightman joined the group and made his presence known by helping to unload some soil from a trailer. With

great gusto he jumped into the trailer and, after shovelling a good few spadefuls, tried to step backwards, tripped over the trailer side and promptly fell out, rolling gracefully as he went down. Once on the ground in a crumpled heap, he simply sprung back up again, brushed himself down and declared he was fine. That was the first time we saw Colin fall -- but it wouldn't be the last. Never had we come across a chap who could fall as often as Colin, in as many varied ways as Colin, and as gracefully as Colin could, and did.

This was just one of Colin's many talents that, over the lifetime of the project, we came to know and love.

By now, B4RN was starting to recognise that 'Dad's Army' was a force to be reckoned with and that it was making rapid progress. This became apparent with the constant phone-calls, persuading, cajoling and outright nagging for the use of one of B4RN's drum-trailers and CAT scanners. When B4RN's drum-trailers were unavailable, and we were desperate, we would throw ourselves on the mercy of Raymond Robinson's plant-hire company who would always, out of sheer altruism, lend us one of theirs for short periods. But that couldn't go on for long.

As time went on, B4RN let us borrow other groups' drum-trailers by negotiation, for a few days here and a few days there. This was quickly followed by B4RN lending us one of their centrally held drum-trailers for a week here and there. It quickly became obvious that this was a drag on progress for both our group and for B4RN themselves, and so Tom Rigg allocated B4SW their own drum-trailer for the duration of the project. Not only that, B4RN had recently taken delivery of a couple of brand-new drum-trailers, and it was to be one of the new ones that we were given. It was wonderful -- everything was intact, everything worked, there were no leaks, and it was a clean, bright yellow!

In a similar vein, in the early days of construction we would beg, borrow (but definitely not steal) mini-diggers from anyone who would let us. Having access to a digger helped progress and raised morale enormously. A digger carried on all day, never got tired, and didn't complain about the type of ground. As someone once said, 'it doesn't matter how big yer digger is - it's always better than a spade'. Having access to a digger, however, came with the attendant problem of transporting it around from site to site. Not having our own plant-trailer resulted in another bout of begging, borrowing (but not stealing). We always managed to get one by hook or by crook, but it took time and effort that could have been spent on better things.



John's digger and trailer.

We were incredibly lucky when John Dewhurst lent us his plant-trailer one day. A robust twin-axle plant-trailer made from thick, steel checker-plate, it was almost as strong and indestructible as a British Army battle-tank, and weighed almost as much. The tailgate was a two-man lift unless you had someone the size of Jeff Capes on hand, but the trailer suited our job down to the ground and we loved it. We remember asking John if we could borrow it for a



JCB 8008 CTS.

while. ‘About how long do you think you’ll be needing it?’ John asked, ‘Might be a couple of months or so,’ we replied (honestly at the time). Nobody expected it would be almost 3 years! But John never complained or asked for it to be returned, only that he could ‘borrow’ his own trailer every now-and-then, when he had an urgent need. We always kept the trailer fully maintained and replaced parts when they became worn. It wouldn’t be an exaggeration to suggest that when we returned the trailer to John it was probably in exactly the same condition (or better) as when we originally borrowed it, which is only as it should be. We would always be indebted to John for his kindness.

After begging, borrowing (but never stealing) diggers for a while, we started to feel a bit like we might outstay our welcome by continuously begging for a digger off the same kind souls. Now, we knew that B4RN had a digger which they couldn’t lend to us because nobody in our group had a ticket to operate it, so the group paid for Martyn to take his Digger Exam and qualify to operate diggers up to and including 10 tonne (the subject of Martyn’s dreams).

When he had passed the exam and got his ticket, however, B4RN were still very reluctant to lend their digger out, and so we started to hire diggers. These diggers were great. Always nearly brand new, everything always worked and some of them even had a ‘go faster’ button so they could race across fields to get to jobs quickly, but they were expensive. The group soon came to the conclusion that, given the likely timescale of the project, we simply couldn’t afford to hire diggers the whole time.



JCB 8008 CTS.



What an outfit! (Oh, and the other thing is a McLaren.)



Chamber install.



Under the wall.



Through the wall, with Arthur's bar.

The solution was simple in principle, if not a little more complex in how we went about it. Eight members of the steering group each agreed to invest a small amount of money and to establish their own limited company. We named it South Westmorland Broadband (yup, we squeezed the name Westmorland into another title, good, eh?). We then approached each of the three parish councils and asked for a grant from each of them on the understanding that, if there were sufficient funds left when we sold the digger and closed the company, they would get their money back. It worked. With the company established and the funds in the pot, we had enough to buy our own digger. It was delivered in April 2017, and it was glorious. It was a JCB 8008 CTS micro-digger, it was yellow, and it was ours.

Now, the good thing about a micro-digger, and in particular, OUR micro-digger, was that, because of its small size, it could go down garden paths and through garden gates and it could (a bit like Heineken beer) reach those places that other diggers couldn't reach. On this kind of project, that was very important indeed.

Unfortunately for the operator (usually the hapless Martyn), it did not come with an enclosed cab, heater, piped music or drinks-fridge, so there needed to be constant words of encouragement in cold, wet weather when he was frozen to the seat to 'man-up', and remember that 'All you need to do is to pull the right levers,' whilst the others wielded picks and spades (or stood and watched, as the case may be). So there we were, with the 'full shebang'. We had the beat-up HiLux pick-up, we had the battle-tank trailer, we had our own plough, we had the new drum-trailer and we had our own little yellow digger. What an outfit.

With everything in place, the pace of construction stepped-up a gear and we started to really crack

on, going under walls, installing chambers and doing all the tricky bits to give contractor Swinney and his team a clear run at getting the big stretches of open fields done. And we were good at it. We could get a square chamber installed within an hour from arriving on site with everyone knowing their role and getting stuck in as soon as we pulled-up on site.

When it came to going under dry-stone walls, occasionally they had fallen down before we arrived which made it easier to dig through. Colin and Arthur would sometimes offer to go back and re-build them for the farmer out of gratitude for letting us cross their land.

It was, however, going under structurally sound walls that became a speciality. Each one was an

individual challenge but, after we'd done quite a few, we developed a technique and rhythm that served us very well. On arriving at site we'd all help to unload the digger from the trailer and whilst the digger was 'tracking' to the job, Arthur and Colin would assess the wall and declare the safest position for going under. Little Dave would then spring over the wall using the powers of his inner gazelle and commence digging with pick and spade at the back of the wall. New Dave would join him and together they would dig like their lives depended on it. By the time the digger arrived and made a start at the front of the wall, the Daves were normally down to about the right level. Once the digger had dug an access trench and was down to the same level, out came Arthur's bar. Sometimes we used the digger to push the bar under and through, but sometimes we used a method we named the 'Call The Midwife' technique where someone, usually Arthur or Little Dave, whilst staying well back from the wall, would force the bar through by hand whilst everyone chanted 'push, PUSHHH, PUSHHH'. By the end of the project we could get under a typical wall in a little over half-an-hour, something that we were quite content with.

After we had gone under all the walls, installed all the chambers, and done all the other tricky bits needed on a section, we would start asking for some time from Swinney. When it was eventually our group's turn to have Tony Swidenbank



The mighty mole.



The wheeled mole.



Tony, Graham and Liam moleing.

ploughing for a week or so, everything was usually in place. Swinney's team were fantastic at what they did, even if it was cloaked in a shroud of irreverence. Their arrival on site usually followed a distinct pattern. First you would hear rumours that our group was next in line for Swinney. Next, after frantic phone calls to add credence to the stories, it would be confirmed, and a debate would ensue over the best section of the network to concentrate on. We would have our view based on where we'd done preparatory work and B4RN would have theirs based on a range of factors including where Tony had been working last. When that was all sorted, we'd make our way to the agreed location taking drums of duct for Tony to carry on his machine and to run-out those ducts that he couldn't.

Tony's entrance was always pre-announced by the arrival of Graham and Liam in their van pulling a trailer with a gorgeous, almost new, 2.5 tonne, Kubota digger complete with enclosed cab, heater and quick-hitch bucket attachment (no digger-envy here, honest.) Immediately on arrival, they would unload the digger and hurry around assessing the lay of the land to find where any more access holes were needed. It wasn't long after that, in the distance, you could hear the raucous sound of a huge Massy Ferguson slowly grinding its way inexorably towards the scene. He was coming, with a flurry of grandeur, Tony would roar onto the scene with his chosen mole-plough beast in tow (he had several) and, after lightly springing from his machine, the tirade of sharp, sarcastic abuse would commence. Tony enjoyed nothing better than to belittle anyone and everyone, to criticise and abuse anything and everything, and to spout a million reasons why what we had planned for him was either impossible, wrong, difficult or outright stupid. The tirade would continue whilst he offloaded his plough, parked-up his tractor and trailer, got the plough set-up and ready and had been taken through the job in hand. Only when everything was set, and Tony had delivered his fill of abuse would he deign to set off. But when they did, when they eventually coaxed the plough into life and they actually set off, it was a marvel to behold. It was a cacophony of throaty roar from the engine and impossibly loud clatter-bang from the plough. Tony's skill at reading the land and his masterful control of this wild raging beast of a machine was unquestionable, along with that of Graham and Liam following on foot, all the while stabbing and jabbing at the plough to chop tangled sods of grass from the blade. It was an outright assault on the ears and a great wonder for the eyes to see the team in action, to watch them inch-by-inch, yard-by-yard, rattle their way into the distance and out of sight, punctuated at intervals by Tony's voice rising above the racket with one more tirade of self-styled encouragement. It truly was a contender for the eighth wonder of the world. [Video of Tony and Graham in action.](#)



Martyn fixing an FTU (Fibre Transmission Unit).

With the network growing quickly and services being available only if properties had their house kit installed, the importance of installing house kits rose rapidly up our list of priorities. Big Dave was knocking 'em in whenever he could, as were Champions in their hamlets and individuals at their houses. While champions like Roger Millray, Dave Wightman, Simon Gray, Andrew Biggs, Keith Richardson and others had their patches pretty much

sewn up, some others needed a bit of help and so 'Dad's Army' swung into action and started installing houses at every opportunity. This was usually done at the same time as laying the service duct to the property but some followed-on shortly afterwards. Whatever the case, we all knew what was needed and, after we'd done a few properties, we got into a rhythm, and it ran like a well-oiled machine.

After arriving on site, first out of the traps was the SDS hammer drill and, after a bit of measuring (Arthur was good at the measuring) and checking for buried pipes and wires, through went the drill-bit, then back went the copper sleeve, sometimes accompanied by frustration, cursing, wiggling-and-whirling, twisting-and-turning and the odd expletive. Once through, the internal and external parts were attached and, towards the end of the project, within 30 mins of arriving on site, it was all done, dusted and we were away again (unless, of course, there was tea and cake, in which case we would make the odd exception, only to be polite, of course).

Once properties were ready, B4RN would blow house fibre and arrangements would be made for the famous, the incredible, the fantastic, the one-and-only, Chris, 'The Whirlwind' B4RN volunteer to swoop in and fuse the routers. Now, it was widely acknowledged that Chris was geographically challenged when finding a location for the first time. If you got her onto her natural topic of 'poor service



Martyn learning to fuse.

from national providers' or 'government schemes for funding broadband projects' or 'the finer points of how the B4RN system worked', there was no-one better. But getting her to find her way to somewhere that she'd never been before, well, you might as well try plaiting sand. So, when making arrangements for Chris, you had to include very detailed descriptions of how to get to the first property. After the first visit there were no problems - - definitely no problems after the first one, it was always the first one that was the problem, every time, without fail. The pattern of

events on the 'day-of-the-match' would normally start with a heartening phone-call from Chris with the calm, reassuring words "Where the hell are you?" closely followed by "Well, how do I get there from here?" and other words of general encouragement.

Having eventually 'talked her in for a landing', things generally picked up as she swung into action. First she decanted her equipment from her van (along with her famous carrier bag) and talked constantly whilst being guided to the first router location. Once in position and under way, it was like poetry in motion to see her well-practised fingers delicately stripping, teasing and positioning the gossamer-like threads and, within minutes, she was all done-and-dusted. With form signed, payment explained, and equipment all packed into her famous carrier bag, she was back in her car, ciggy in hand, and being guided to the next property - - without ever pausing for breath. She was a wonder to behold.

After he'd been helping for a while, Chris started training Martyn to fuse routers and, after being tested by Tom Rigg, B4SW were allowed to borrow fusing equipment from B4RN and become self-sufficient.

In our experience, Chris was always the best at fusing houses - - without doubt a true enthusiast and absolute expert at what she did. She held the record for the most houses fused in a single day, 30, a huge number indeed. But we were getting better. The well-oiled machine that was 'Dad's Army' was becoming well-practised at smoothly and efficiently fusing routers.

We were quite proud of what we did, to the point that, one day, we decided to have a go at the record. It was obviously something that needed planning, not something that you just happened upon. The first piece of the jigsaw was to have sufficient properties to fuse and so we worked towards a reasonable number and eventually had around 40 properties available. The second piece was to make sure that we had unrestricted access to those properties on the 'day-of-the-match' and to make sure people would be in at the right time of day. The third piece was to have the right process in place. First, the access team got to the router position and moved any obstacles to ensure unrestricted access. Then, Martyn swooped in to fuse the router whilst the others got the form signed and did any explaining. Once the router had been fused, the 'fuser' moved on to the next property whilst others tidied-up. And so it went on.

After a slow start in the south, things started to pick up before - disaster! Possibly due to the over-enthusiastic delivery of a particularly interesting sermon, the service at St Patrick's church finished a little later than planned. This resulted in a very restless bunch of chaps standing outside the church, anxiously waiting to get in, probably for the first time in their lives. This delay had a 'knock-on' effect at the St Gregory's nursing home where we arrived after a round of refreshments had already started and we had to wait until the residents had finished before we were allowed in. But on we went from one chamber to another, slowly working our way northwards, fusing properties as we went with all the precision of a military manoeuvre.

By the end of the day, at around 6pm, we had covered the full length of the patch (about 8 miles long), and fused 33 properties fed out of 15 different chambers (should have been 35 properties but couldn't get in 2). We'd done it, we'd 'pipped' the previous record - - quite an achievement, given the size of territory and spread of the properties. But, although we may have had the bragging rights for a short time, in our eyes it is Chris the Whirlwind who will always remain the Queen of Property Fusing. (After being goaded by our challenge, her record is now 35 in a day. But not over the same mileage or as many chambers.)

The same pattern applied for blowing fibre. After some training and a bit of testing, the group was pronounced competent to blow house fibre and allowed to borrow one of B4RN's small blowers (a Nanoflow). With this addition, it wasn't long before B4SW was doing just about everything within their patch except blowing core-fibre and splicing bullets in chambers.

After blowing house fibre for a while, similar to other activities, we started to develop a well-honed pattern of working. As we approached the end of each house installation, out would come the Nanoflow, tripod and fibre, and off Colin would sprint (or, more usually, drive) to the receiving chamber, complete with label and 'tail' in hand. When he was set up with label and tail in position Colin would phone Martyn and the blowing would start. First would come some air to make sure we were all working on the same

duct (awfully amusing for everyone except Colin if he was on the end of the wrong duct) and we'd listen for a signal from the chamber-end that all was well. This would normally take the form of some loud grunt of satisfaction from Colin to confirm that he'd received the air on the correct duct. Then off would go the 'sponge' to make sure the duct was clean. This would be expertly (not!) caught by Colin in a bottle or in his hand, followed by a frantic search to find it again. Once the sponge had been retrieved, we would get a more excited shout from Colin on the phone along with some short, barked instruction to "send the fibre". Once under way we would all gather eagerly around the Nanoflow watching the numbers on the machine as the fibre shot down the duct like fishing line with purpose.



The B4SW depot.

Usually, as the distance travelled by the fibre went up, the speed of travel went down. This information was analysed with great solemnity by everyone present, all great experts in the science of fibre-blowing, who would each pronounce wisely on the chances of the fibre getting to the far end without coming to a complete stop. Comments like 'Blimey it's fairly flying' or 'It's started to struggle a bit now' were commonplace but were always brought to a shuddering stop with an earth-shattering bellow from Colin announcing the

fibre's arrival at the chamber. 'WHAAAAAY!' would come the signal down the phone (although why he used the phone for this we'll never know because people for miles around could hear it completely un-aided). After confirming the fibre's arrival (rather than some other event more fitting for a sound like that - - such as a cow landing in the chamber with him), we would allow ourselves a moment of 'smug-mode' before starting to finish the job off and pack everything away.

On one occasion (at North Lodge) we knew it was to be a particularly long blow and so everything was laid out very precisely so as to aid easy blowing. As the blow progressed, the speed started to slow as normal and as we passed 500m the air volume was increased and the pace picked up again. By 750m we were on full pressure and still progress slowed until by 900m it was creeping along at an alarmingly slow rate. By 950m there was a concerned body of men stood around the Nanoflow, hanging on every metre of progress whilst contemplating the need to dig-in and blow again from halfway. 990m - 992m - 994m - 996m - 998m - 'WHAAAAAY!' Never before or since had we been so pleased to hear Colin's gentle tones - - with or without a phone.

All this work, whether it be undertaken by 'Dad's Army', Swinney, group champions or residents, needed supplying with a constant supply of materials. There were two sizes of chambers, drums of various ducts, coils of sleeving and, later on, the miscellaneous multitude of bits-and-pieces needed for installing house kits. And it all needed to be available at the drop-of-a-hat for anyone who needed it, so that progress was not hampered. After a short while it became common practice to leave materials at Martyn's house and it wasn't long after that Martyn's house became an out-and-out depot with materials, vehicles, trailers, machinery, plant, power-tools and hand-tools.

Maintaining the correct stock-level to keep the construction-animal well fed needed constant visits to B4RN's depot at Melling, something that Colin absolutely loved to do. His trusty Honda CR-V was equipped with 4-wheel drive and that very essential tow-ball. Colin loved nothing better than to be asked to go to Melling with an empty trailer and to come back with it stacked with chambers, duct and various assortments of house-kit bits-and-pieces; in fact he was constantly asking if another Melling run was needed. He assured us that it was out of a complete sense of duty and that the free-vend coffee and opportunity to chat with the ladies in the office had nothing to do with it, but the spring in his step and wry smile when he returned constantly suggested otherwise.

By August 2017 the New Hutton cabinet was nearing completion and almost ready for its ceremonial



Knocking down and building up the wall.



Working on the wall.



Cabinet arrives.

landing on its plinth at the Village Institute. Only trouble was - - there was no plinth! In fact, there was a dry-stone wall running right through the middle of where the plinth and cabinet were to go. Len Atkinson, an unquestionably kind farmer whose large stature was only exceeded by his generosity, had freely donated a corner of his field to site the cabinet. What we needed to do was to take down that part of the wall that formed the outside-corner of the field and replace it with an equivalent one that formed an internal corner so that the cabinet could be housed in the space created. This was a job that had Arthur's 'Skilful Waller' name written all over it in 6-foot-6 tall letters!

When we started dismantling the old wall we had lots of help. After all, dismantling a dry-stone wall is fairly rapid, not very skilled and you get a great feeling that you've achieved a great deal with not much effort. Next came digging-out. Martyn set to with our trusty yellow digger and before long we had the wall down and the ground dug out. Soon after that we had the chamber in place (always need a chamber when there's a cabinet) along with the ducts running from the chamber to where the cabinet was to be - - three big, important, 110mm black corrugated monsters with a life of their own that could only be tamed by backfilling with soil and compacting it down.

Progress was fantastic. After trailering away the

excavated soil, the route of the new wall was laid out and the original massive foundation stones dug out and positioned ready for installation in their new location. It was at this point that, whilst digging-out for the new foundations and delicately ‘pawing’ at the ground in a manner similar to that of a charging rhino that Martyn, with great panache, dug straight through the corrugated monsters and ripped them up again, to the ecstatic delight and enjoyment of his ‘Dad’s Army’ colleagues. After all, if you can’t have a jolly good laugh at your mate showing himself up in full view of everyone, with such panache and style, what can you laugh at?? This was one bit of digging that the ‘Army’ will never let him forget, no matter how time fades the memory.

After replacing the unfortunate ducts, the work of casting the plinth and building the wall could begin again in earnest. The undoubted skill of the group’s two dyed-in-the-wool wallers came sharply into focus on this job as both Arthur and Colin swung into action supported ably by a number of other very capable volunteers. What we never expected was the diametrically opposed styles of our two walling experts. Arthur was steeped in the tradition of walling. Being a proud member of the walling fraternity, he was very particular about the quality of the wall, its structure, its visual appearance, how it was planned and executed and able to perform its intended function for decades if not hundreds of years into the future. Each stone was considered and chosen because it was the perfect stone for that position; if it was not, then it was devotedly sculpted with a few well-aimed blows from his hammer until it was flawless. Colin, on the other hand, would wall anything, big stones, small stones, kerbstones, house-bricks, concrete blocks, just about anything that came to hand. Colin’s skill was in his ability to do just that, to be able to manufacture a sturdy, functional wall out of almost thin-air, using whatever was available, a skill that had been honed by years of building and repairing walls on his farm and others far and wide.

So, given the diversity of walling skills available to us, it will come as no surprise that, while building our new wall for all to see, Arthur took charge of the front of the wall where it would be on display to all and sundry who visited the Institute. Colin, however, took charge of the rear of the wall, where it could be constantly admired by grazing sheep or cattle for decades to come.

Having finished installing the plinth and building the splendid new wall, the cabinet could be delivered and lifted into position – a drab green coloured box that was the mother of modern life for so many people. On October 2nd, 2017, the cabinet was lifted carefully into place by local farmer Arty Pickthall using his tele-handler. No need to hire cranes or lifting equipment, just the power of a community, working in concert for the benefit of everyone. By mid-December 2017 the core-network to ‘light up’ the New Hutton cabinet had been installed along with the network and house kit of most properties and so, on December 21st after Alistair and his B4RN team had completed the splicing of cables into the cabinet, ‘Dad’s Army’ was invited to make the final connection to bring the cabinet on-line. As their New Hutton representative, Martyn made the connection and at around 5pm a significant number of New Hutton residents received a slightly early Christmas present as their 1,000Mbps broadband connection to the rest of the world burst into life.

So on they went, day after day, week after week. Weeks turned into months and months into years as they dug, laid, blew and spliced their way across South Westmorland, a merry bunch of chaps pulling each

other's legs as they went whilst drinking as much tea and eating as much cake as they could at every opportunity.

On some occasions it was just too warm to dig, such as when we were laying a bunch of service ducts across a particularly 'boney' patch of ground at Low Audlands, Old Hutton. It was a mid-summer day, with scorched, dusty ground and a sun that beat down relentlessly from a cloudless, azure-blue sky. On returning from another job, Arthur was surprised to find the site lifeless, like the Mary Celeste. Chalky, the beat-up HiLux was still there with the trailer attached, tailgate down. The little yellow digger was still there, sat at the end of an open trench stretching half-way across the planned route. Mattocks and spades were strewn randomly across the site. Ducts were laid-out, ready for their imminent internment. Everything was in place, just as it should be - but there was nobody to be seen! It was just like someone had arrived with a tray-full of tea-and-cake and all tools had been cast quickly aside in the rush to be first at the feast - just as it should be. But there was no tea-and-cake, and no merry bunch of chaps sat around eating, drinking and chatting amongst themselves. There was nobody. The site was lifeless. Just the sun baking down onto a motionless scene. As Arthur approached cautiously, wondering what could possibly have happened, all became clear when, as he rounded the back of the trailer, he found several unresponsive workers sheltering in what was a vanishingly small patch of shade behind Chalky's bulk. After a brief greeting it quickly became clear that there was very little enthusiasm to continue for quite some considerable time.

On other occasions it was perishingly cold. On one occasion when we were captured on video at Hayclose sitting round a patio table, enjoying tea-and-cake during a snowstorm. Well, we were a hardy bunch and consuming tea-and-cake was a serious business, and someone had to do it. But the coldest period of them all was the one referred to as The Beast from the East when an icy, polar vortex of heavy snow and particularly low temperatures blasted us from Siberia. We knew it was cold when, not only was the ground so hard that we needed to use picks and mattocks to chip through the turf, but the tracks of the digger froze hard to the ground and the first job each day was to rock it gently backwards-and-forwards, slowly ripping the tracks out of the grip of mother earth bit by bit, inch by inch. On days like that, progress was painfully slow. Moving around wearing the layers needed to keep The Beast out was cumbersome and exhausting, but we always maintained progress so that whenever we had the chance of Swinney, there was enough work to make it worth his while coming to our group (and we knew that the cold never stopped Swinney).

One day the snow had drifted overnight, and everything had frozen absolutely solid. It was one of those days when the numbing cold grew icicles from the breath on a moustache (mainly the lads) but, with the sun shining down on a winter wonderland, it was great to be alive. Having finished a section the day before we decided to re-trace our steps and compile a 'snagging' list of jobs that needed finishing off before the route could be deemed finished. So off we went, walking the route at Butterbent, making note of where holes needed finishing off, where ducts needed tidying-up, where records needed amending.

As the hapless group trudged from field to field compiling their list, leg-pulling as they went, they came to a field gate where the snow had drifted and frozen and the gate couldn't be opened. They knew that

they had recently gone under the wall, and they were all fairly sure that, at the other side of the wall, there was a hole that needed filling in now that the fibre had been blown -- but they had to be sure. Quick as a flash, Arthur was up the huge snow drift that had formed on the lee side of the wall and was peering over the top, surveying the scene. After relaying all the necessary information, much to the satisfaction of his admiring compatriots, Arthur turned to come back, let out a yelp, broke through the icy crust and shot downwards at a great rate of knots until he was waist deep in the best snow that The Beast had to offer. Such a great and obvious misadventure was obviously received with the customary roars of sarcastic laughter that are reserved for the dearest of friends. Nothing better.

We had hot weather, we had cold weather but, more than anything else, we seemed to have wet weather and mud, lots and lots of mud. Like the time at High Butterbent when it had been raining for what seemed like forever and our little yellow digger got bogged down in a patch of soft, claggy ground. After around an hour of attempting to dig herself out with all the best 'experts' at the controls, she was declared well and truly plugged and surrounded by a battlefield of muddy ground with not a bit of grip to be found anywhere within reach of her flailing bucket. In the end we resorted to using a series of straps anchored round a big tree and part-winchd her out whilst she continued to pull as much as she could with her bucket. After a fair amount of effort, cursing, and more than a few choice words, she was out. Safe to say that, when she came out, she wasn't quite as yellow as when she went in.

On another occasion, we were putting a duct under a wall near Hayfellside and, again we were surrounded by a sea of mud. It was the kind of mud that covered your welly each time you put it down and then tried to suck it off your foot when you picked it up. It was exhausting work, with every step sapping ever more energy as the day went on. But our spirits were lifted in an instant when Graham, one of our more regular team members, got one of his wellies well and truly stuck in the bog of sticky black ooze. Try as he might, his welly was not for budging. Then, in his slightly off-balanced efforts to dislodge the immovable footwear, his second welly became just as stuck as the first. His fate was sealed when, with both wellies caught in the relenting grip of the mud, he lost his balance and, in a scene reminiscent of a well-crafted Charlie Chaplin movie, he tipped backward, stepped smartly out of both wellies, staggered, and fell full length in the sea of oozing mud. As you can imagine we were all full of sympathy for this unfortunate mishap of one of our close colleagues -- NOT. After this he was referred to, with great affection, as Graham the Mud Angel.

It was in this environment of never-ending rain and mud that our merry band of chaps was approached and asked if we minded being filmed by an Australian TV company who wanted to report on how B4RN was helping volunteers roll-out gigabit broadband to their communities. After agreeing to help out and arranging the date, we were told that the TV company was keen to film work taking place somewhere muddy and asked if we knew of anywhere. Well, did we? DID WE!? You bet we did. We knew just the place at Canny Brow. Looking great in summer, the location we had in mind got paddled-up by cattle when the weather got wet, resulting in the kind of thick, claggy mud that ate wellies for breakfast. To be fair to the film crew, they got on with the job in hand with enthusiasm and, after deploying the drone and hoisting huge cameras onto their shoulders, filming commenced.

As things progressed it became clear that wallowing around in claggy mud wasn't high on the list of an Australian film-crew's skills, and things started to get serious when the mud suddenly grabbed hold of a welly belonging to the chap lugging the heaviest and most expensive-looking camera. Up to that point he had been doing very well at tottering around in the gloopy mud, as far as tottering in gloopy mud went, he wasn't half bad – for an Aussie. But suddenly it all changed. As soon as the mud grabbed hold of one of his wellies, panic shot across his face, and he started to give a distinct impression of someone who had only a tenuous relationship with being vertical. After a few moments of sheer terror and an impromptu (and yet highly amusing) performance of an Australian, one-legged, stamping jig, balance was regained and another international diplomatic incident avoided. We were all mightily relieved that his expensive-looking equipment was spared the pleasures of a fresh Cumbrian mud-pack - - but we were all highly amused at the same time. After all, they did ask if we could take them somewhere muddy! (If you want to see the film they made, you can find it here: [Unlikely tech hub fuelling an internet revolution](#))

Amongst other media fame, (Oooo, the bright lights!) the BBC spent half a day filming and interviewing our merry band of volunteers working at Little Brunthwaite. The material was used for a programme about choice in broadband providers for their series Rip off Britain hosted by Angela Rippon, Gloria Hunniford and Julia Somerville. We were assured that we were the good guys in the story which was broadcast in May 2018.

We were also recorded by BBC Radio Cumbria whilst we were working to connect Bendrigg Trust, a wonderful activity centre for disabled people. On that occasion Colin was taken completely by surprise when, without warning, the interviewer swung round and stuck the fluffy mike in front of his face and asked him a question. Without so much as an um or an errr Colin gave an eloquent and well-reasoned response – something that shocked us all, because he never normally did that! BBC Radio 4 got in on the act with a piece ([link](#)), as did Border TV. But we never let it go to our heads - - well, perhaps just a little bit.

Things did not always go right or as planned and, as time went by, we amassed a small list of things which could have gone better. Like the time at Hutton Gate, when one of our band of merry men was joining seven small 7mm service ducts onto a particularly chunky monstrosity, that had seven individual 7mm ducts all bundled together inside a single fairly rigid outer sheath. Being so big and so rigid, it was very difficult to handle, and particular care was needed when joining the individual ducts. Having travelled to the job with just the right number of connectors to do the job, our top man (don't tell 'em yer name Arthur), laid everything out neatly and cut the ducts exactly to length. Well, that's not quite right. Knowing how awful this stuff was to deal with, the service ducts were carefully cut a few millimetres longer than necessary so as to give a degree of security if something went wrong. Unfortunately, (and I think, dear reader, that you may well be ahead of me by now), the few millimetres had been measured the wrong way and the ducts had all been cut a few millimetres too short. Now, if only he had taken more connectors, he might well have got away with the mistake by inserting small pieces of duct and not mentioning it to anyone. But, having just the correct number, he needed to return for more and had to endure a 'walk of shame' to get them. I think we were all very supportive and that nobody even thought about 'pulling his leg' - - but, knowing our sense of humour, I cannot be certain.

And then there were the rodents. On one occasion, a hamlet of customers started to display really odd faults soon after being connected. Some customers' fibres stopped working completely whilst others were absolutely fine. Even adjacent fibres in the same tubes were displaying different properties. It was all very mysterious. After spending a couple of hours tearing his hair out trying to get service back for customers Paul Parsons (a superb B4RN engineer) emerged triumphant, with a most confusing record of how he had needed to cross-splice fibres between tubes and spares to get any semblance of service for everyone. He had also, using his trusty Optical Time Domain Reflectometer (Colin loved trying to pronounce that), pin-pointed where the odd goings on were taking place. On digging down at that point to find the duct, all became clear. We quickly found that there was a nest of rocks lying innocently beneath the sod providing a 'des res for rodents' in which Ratty and his extended family had set up home. It was right through this humble abode that we had arrogantly ploughed our duct without even so much as a by your leave. Given the circumstances, Ratty (and, going on the evidence, all his relatives) had taken the opportunity to accept this unexpected gift of bright orange food and decided to have a banquet. However, being discerning connoisseurs of only the best fibre, they had decided to eat only a random selection of individual strands leaving the others for a later feast. Having discovered this and now knowing the source of the problem, there was only one solution - we reluctantly accepted Ratty's prior claim on the real estate, left him the food source that he loved so much and re-laid a new duct away from his estate.

A similar problem occurred not long afterwards when a customer lost service at Birks. When locating the fault, all seemed fine when B4RN tested at the nearest chamber, but nothing was getting to the customer. Out came the OTDR (optical time domain reflectometer) and a break in the fibre was pinpointed to a few metres before entering the property. When we followed the service-duct back, it was found to go underneath some decking. When we hoiked it out it was obvious that yet another family of ravenous rodents had helped themselves to some of B4RN's finest. After a quick duct replacement, fibre re-blowing and re-splicing (along with backfilling with particularly unpalatable aggregate) another satisfied customer was back up to full speed and singing B4RN's praises.



Eric Proudfoot, Chris Winders, Jamie Normington, John Shorrocks, Roger Millray, Colin Roberts, Paul Parsons, (Big) Dave Whitcombe, Simon Gray, Stephen Capstick, Arthur Robinson, Martyn Welch, John Heap and Colin Wightman.



Lots of cakes.



The special B4RN cake.

As we neared the end of the project, work started to become very piecemeal with individual services being requested here, there and everywhere, usually long after we had moved on from finishing those areas. In a realisation that we needed to bring things to an orderly finish so that everyone (including our long-suffering wives) could get back to something that resembled normal life, we issued a Final Date for people to get their service requests submitted. After that they would need to either dig their services themselves or go through the normal B4RN channels (except for the odd, very special case).

Whilst progress was made through the expected flurry of last-minute service requests, we started making plans to wrap up the B4SW operation. This included some unexpected but obvious tasks. There was the collection of the outstanding GPS tracks so that they could be committed to permanent records, the return of B4RN's drum-trailer, unused drums of duct and other materials

to Melling, the return of John's battle-tank trailer (along with our eternal thanks), and a final run round the routes to resolve any final outstanding jobs.

We also closed down South Westmorland Broadband, the limited company that owned the little yellow digger and plough. This involved billing B4RN for all the ducts laid, walls gone under, chambers installed, etc. The income from this, along with those from selling the little yellow digger and the plough, enabled the company to return all the funds (plus a little bit more) to the parish councils who provided the money in the first place, so that it could continue to be put to good use in the parishes.

As the winding up of the project was progressing the villagers of New Hutton and the villagers of Old Hutton each arranged a special Thank-You celebration for all those who had taken part in any way. This included not just the members of 'Dad's Army' but also the regular helpers, anyone else that helped out, landowners who allowed network across their land and, especially in the eyes of the 'Dad's Army' team, those that provided tea-and-cake and all manner of other delicious sustenance along the way.

The celebrations were very well attended, showing just how popular the project had been.

A significant quantity of tea-and-cake (including a very special one depicting volunteers hard at work laying duct) was consumed - - particularly by Little Dave, New Dave, Arthur, Colin and Martyn - - but, then again, they had had so much more practice than anyone else. Colin Wightman, got his MBE spade (Member of the B4RN Empire) and went on to get a Certificate of Recognition for volunteering, issued



Colins MBE spade.



Colins certificate..



Colin in the news.



Colin wins a FTTH (Fibre To The Home) council T-shirt.

by the Mayor of Lancaster. Colin was 'person of the week' in the Westmorland Gazette for all his hard work on the B4SW project and then going on to help Preston Richard get connected once the B4SW patch was finished.

A further celebration was held in 2022 when, unknown to Arthur and Martyn, some very appreciative parishioners nominated them to receive a civil honour for their work on the project.

As a result, on 8th June 2019 it was announced in the Birthday Honours List that Her Majesty Queen Elizabeth II had conferred the British Empire Medal to both Arthur Robinson and Martyn Welch for their voluntary services to the community in South Cumbria.

To say that they were surprised and yet blown away at the same time would be a gross understatement indeed.

As a result they were presented with their medals by Mrs Claire Hensman, the then HM Lord-Lieutenant of Cumbria, at a special ceremony held in New Hutton Institute, attended by family, friends, volunteers from the project and, most especially, the other members of 'Dads Army' who, again, made short work of the tea and cake.

Arthur, Martyn and their wives were also invited to attend a Garden Party at Buckingham Palace, something they all enjoyed enormously (although, obviously, cucumber sandwiches at Buckingham Palace isn't in the same league as tea and cake in the Cumbrian countryside.)

Beyond the Book

[Australian news article](#)

[BBC radio 4 story](#)

[Tony and Graham moleploughing](#)





Mrs Claire Hensman, Lord Lieutenant of Cumbria, presented Martyn and Arthur with their BEMs.



Martyn's BEM.

In summary, the project started in the autumn of 2015, and, through various means, parishioners raised around £500,000 to allow their network to be built. The first ducts were laid on 26th August 2016 and, by the end of the project, 30 kilometres of duct had been laid through New Hutton, 35 kilometres through Old Hutton and 42 kilometres through Preston Patrick. The first house service went live in January 2017 at Millness and, by February 2018 it was estimated that 51% of all houses in the project had been connected. In total, 97% of the houses and businesses in the three parishes were connected. 'Dad's Army' formally disbanded at the end of October 2018 but has worked occasionally since then. In January 2019, B4RN reported that there were 496 connections.

But this short summary doesn't even start to tell the tale of the real project that was the bringing together of communities to work tirelessly in delivering a worthwhile project whilst making new friends, having great craic and enjoying lots and lots of tea and cake. Tally ho!

Dad's Army MBE spade awards.



Brian Rigg.



Dad's Army – (New) Dave Richardson, Arthur Robinson, Jean Robinson, Martyn Welch, (Little) Dave Stevenson and Colin Wightman



John Shorrock.



Roger Millray.



John Robinson.



They have it in spades.



Martyn's MBE spade and the B4RN digging cake.



Millennium Clock.



The Crooklands dig.



Measuring out the duct.



Hard dig with the civils team from B4RN.

Preston Richard (Endmoor)

By John Lyons

There had been a couple of previous attempts to launch B4RN in Preston Richard parish neither of which got off the ground mainly because of the time demands.

In late 2018 a trio of retired businessmen, plus Colin Wightman, a seasoned B4RN volunteer, got involved.

It took almost a year of planning, working with local landowners, B4RN staff and engaging with the local community, raising funding before we were able to put spades in the ground.

The first location was Crooklands. This had been planned as part of the Preston Patrick project—and it was there where we first came up against the bureaucracy of CCC Highways—but at least it gave us some valuable experience of crossing water obstacles.

The main digging started in January 2020 to create the link to the main B4RN route via Preston Patrick, and from there to the Head End location at the village hall.

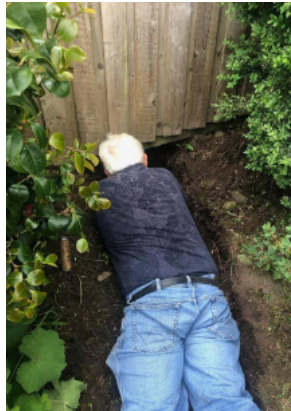
All of that was comparatively easy — mainly digging through open fields

However, it soon became clear that Preston Richard would be a hybrid project with a varied terrain. This consisted of open fields, mixed with urban areas of small estates, gardens (people are very protective of their gardens) and the tarmac of pavements / roads, so we had a variety of workers—contractors for the fields, local volunteers serially hand-digging and B4RN for the hard dig.

At times the varied terrain was challenging for our



Colin at work. We have to go under...



Colin helping the volunteers lay duct in the trench.



Three of the Big Hitters.



Multiple ducts in the trenches.

health and safety experts.

We had a core group of volunteers supplemented by ad hoc help and found that it was more effective to split into specialist groups – the ‘techies’ installing house kits, Big Hitters (a group of four needed when a lot of digging was needed in a short time), and Neat Diggers for navigating through gardens. It looks messy on an organisation chart but it worked.

Problems? We had a few – BT OpenReach grabbing all grants for certain postcodes, multiple changes in government funding (Colin still comes out in a cold sweat if you mention GBVS), and including the possibility of complete withdrawal of funding.

And of course, Covid.

What are we proud of? Obviously making B4RN technology available to the parish, but particularly the hubs of village life, the bakery, the club, the Crooklands hotel, the village hall and the school. And maybe it’s the last of which we are proudest.

The availability of hyperfast broadband had made a big difference to the school especially during Covid–but children had to share Chromebooks.

We had some cash left over so were able to fund the purchase of more. It meant each child in a class had their own. The head teacher said ‘You won’t know what a difference this makes.’ We probably don’t but it seems a good legacy of the B4RNPR project.

Beyond the Book

[Chromebooks for school](#)





Dad's army came to help. Martyn and Colin.



25m done 10m to go.



Getting there.



Keep fit in furlough B4RNland style.

John and Glenn kept everyone updated on progress through their Facebook page:

A few entries read as follows:

On behalf of the B4RNPR steering team

‘On a very warm August day, these lovely ladies (and men), all volunteers, gave up their Saturday to help bring hyperfast broadband to the village.

‘Thank you to those who provided cakes and refreshments. The volunteers are always very grateful for these. If you see them at work near you, an offer of a tea/coffee goes a long way as they are giving up their time for you.

‘Hyperfast broadband is only made possible to your property by volunteers like these ladies. If you would like to help, please do contact us.

‘We spent a couple of hours today assisting (from a very sensible distance as you can see) a B4RN (B4RNPR) trench dig. 25m done, 10m to go.

Even dogs can help 🐶

‘It’s still an ideal time, especially for those furloughed. Do yours or help a neighbour (safely).

‘If you need to know route plans etc, please shout up on here or to the steering group; Hey even ask me if you want and I will pass your questions on.

#SocialDistancing

#DigToAGig #B4RN #B4RNPR

On behalf of the B4RNPR steering team

LAST WEEKEND

‘Great turn-out and decent weather meant we completed laying core and service ducting in Sycamore Close. Thanks to all who kept us



Garden digging..



Round the flowerbeds.



Even dogs can help.



Fin, as part of his Duke of Edinburgh award, digging through the woods.

supplied with drinks, cakes and chip butties - much appreciated and some of the best coffee I have tasted in years.

‘NEXT WEEKEND

‘No group dig planned, fortunately as the forecast isn’t good, but we will be trying to finish off any outstanding individual properties.

FELLYs FIELD (and others)

‘The “ring main” around the village (East of DoveNest Lane/Main St) and around FELLYs Field is complete except for a small section south of the Club Inn. This means that anyone living next to the ring main can connect to the service.

And a willing youngster, Fin, as part of his Duke of Edinburgh award, helped them dig through the woods to reach open fields.

Changes with the voucher system were ongoing, but they kept everyone informed as best they could. News from their website:

‘POSSIBLE CHANGES TO GOVERNMENT FUNDING

‘We understand that DCMS may be changing the current funding arrangements. Full details are still to be clarified but what is definite is that anyone wishing to take the B4RN service MUST register their interest with B4RN by 10th September, and the installation work MUST be completed within the following 18 months.

‘Not the best of news but we are in the hands of the DCMS and will keep you updated as we get information’.

‘Hyperfast broadband built for the community by the community.’



Sub-ducting when needed. Some careful work to avoid existing utilities.

Preston Richard's village hall came live on 2nd August 2020.

They dug over 10 kilometres of trench.



Digging team with Colin.



The village hall comes live.



"The group have done it really because they want to improve the community for future generations. "

- Glenn Smithers (B4RNPR)

Mint and Sprint.

(B4MS)



A duct man at the signpost.

Dan lived off the beaten track near Selside in Cumbria. He had seen reels of orange ducting in and about ‘Dad’s Army land’ at Old and New Hutton, and had got chatting to them. At the time he was trying to produce a document for work – a guide book for rock climbing – and downloading a photograph was a nightmare. His business was struggling due to emails not arriving in time and not being delivered and one night he had just had enough.

He knew Martyn Welch from Dad’s army at the Old/New Hutton project, as Martyn had been his old youth club leader, and he knew Tony Swidenbank (B4RN contractor) as he had worked with his grandad, and now he needed to find the community help he would need to build a network.

He phoned B4RN, and based on what he had picked up from ‘Dad’s Army’, he bypassed the normal routes and got

to speak to Ed Wilman. Ed, who was the chief planner at the time and a totally brilliant source of information. Dan in his own inimitable way started on his plan. In May 2018 he called a meeting with 6 people at his home. 26 turned up. They looked at their area, and it made sense to do the watershed, all the land between the Mint and Sprint rivers, and that is where their name was born. Initially this had been 11 parishes, but with boundary changes was now amalgamated into 8, so about the same size as the original phase 1 of B4RN.

Dan took the plan to Barry. He was told it would need half a million pounds of investment from the community to enable B4RN to buy the materials needed and pay contractors to dig it all. About 78km of trenching was needed, with a further 47km for the Grayrigg join to ‘Dad’s Army’ land at Docker. The first part of the project at Selside would have its own breakout point and cabinet but the Grayrigg one would be needed for resilience.

They did public presentations in the four village halls, Selside, Grayrigg, Skelsmergh and Longsleddale. Dan told them all they had to be ‘light and fast’, and they needed a champion for each area. They also needed volunteers to deliver home-made leaflets to everyone, and for everyone to ‘DIY if you want it’. By the time they had done the four meetings they had had massive sign-up and promises of investment. He needed this information by June to get the ball rolling with B4RN.

He designed and ran a website with masses of information on, and a register an interest form that asked landowners for permission to work on their land, etc, which greatly speeded up the process of planning routes. All the landowners in Selside were very keen for the service. Ian Robinson did Route 6 to Skelsmergh Hall and sorted the wayleaves, and Dan coloured-in the map of all the area. Debbie Williams took care of Longsleddale with brisk efficiency. The story is on their website and the following information comes from there. This is the only project so far that has documented everything online for their community updates.



Swinny's team arrives.



Digging out the chambers and plinth.



Duct in, plinth ready.



5/9/18 Head End gets lifted in.

Mint & Sprint begins – Selside Head End

Dan Robinson's stories from the Mint website and facebook pages, and Dan's recollections: 'I love it when a plan comes together! Less than 4 months after the initial meeting in my kitchen, a road trip of village hall presentations, a huge number of emails, conversations, meetings, then a massive amount of support from landowners and folk buying shares and we have done it!

'The green light, the contractors digging, the cabinet site nearly completed, and a huge number of property owners digging to the fields in time for when the mole plough comes round the hill.

'A big thanks this week went to: Chris Taylor, Ricky Yates, Logan Tamm, Mark Jennings, John Howson, Eggan Bland and Swinny and his team.

'Chris Taylor was a hero and let them put the cabinet on his land and all the routes going out of the cabinet went through his land too. The cabinet is right next to the Geo fibre breakout point so it couldn't have been better. They are very grateful to him, and he sold the land to B4RN for £1. He is the only landowner who has been paid a dime, and that was just for legal requirements.

Chris also got the MBE wooden spade award.

'B4MS could not have happened without the help, generosity and good will of Chris Taylor!'



Chris and his spade award.



TS Trenching, Tony Swidenbank and Graham cracking on.

Swinny and his fleet of mole ploughs and men cracked on in the fields.

Mike Packham was awesome; he sorted out all of Docker, which was where ‘Dad’s Army’ handed over to Mint and Sprint. He had a few problems with wayleaves but they got sorted when Grayrigg got done.

Their website was updated with the following information on 28th August:

Property works complete – Well ,what a busy weekend folk have been having. Property 7mm spurs have been laid from property boundaries to walls, holes have been drilled and FTUs (Fibre Termination Units) have been fitted.

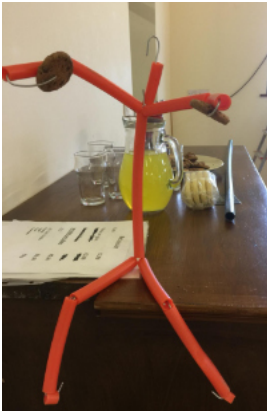
- * Edge Bank have been out with a mini digger and opened trenches for ducting.
- * Garnett Folds will be threading 7mm ducts through existing ducting under roads.
- * Tarn Bank have been finalising their dig plans and are imminently about to dig.
- * Goodhamscales seem to be too busy planning a fibre network rather than digging.
- * Garnet Bridge ducting laid in during the early 80s has been threaded.
- * The rest of Longsleddale are either ready for the mole plough to go past or a few will be within a week or so or when road crossings are confirmed.
- * Kiln Croft have been grafting away picking at builders’ rubble – not the easiest of going.

Contractors Booked – Wednesday the 5th is official start day with work by contractors in the field. Tin Cans on the end of strings will be tied to Swinney’s mole plough with a sign “Just Buried” on.

Talk through your dig plan or core route – The offices at Meal Bank are open every Thursday night 7-9pm, pop in and see us, collect materials, learn things and meet folk. P.S. if you have offered to make tea and cake, bring some along with milk. Thanks’ . Dan Robinson

They had training sessions in their own workshop, which was kindly given free of charge by Paul Procter in Unit 3 at Mealbank, which was empty at the time.

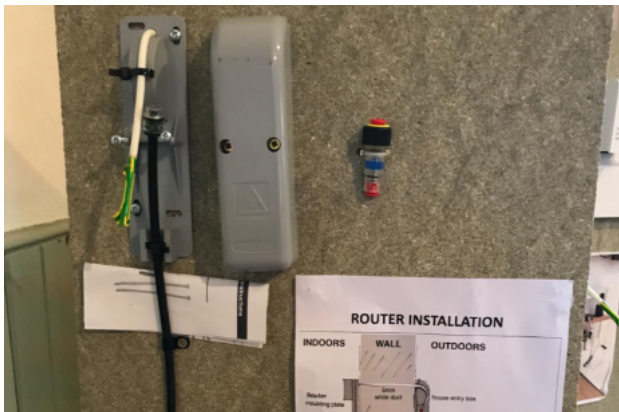
Activities in Unit 3, training sessions and duct man workshops



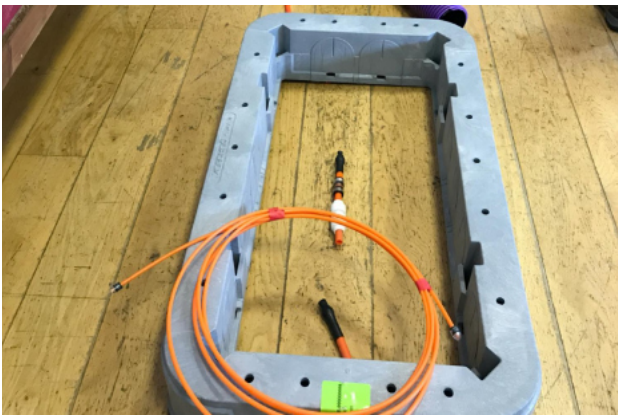
Duct man construction.



Way-marker painting.



Premise equipment demo kit.



Chamber ring and samples of duct and joiners.



Duct men appeared everywhere.



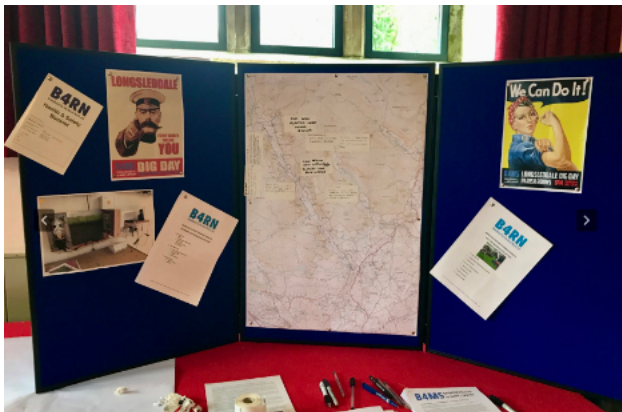
Stones at the ready to deploy as way-markers.



The Stone workshop.



The headquarters.



Map with stickers.



Dan, Logan and Tony on their way to install electric feed to the cabinet.



Trench ready for levelling and duct placement.

They had group sessions at their industrial unit and they assembled duct men, made with gash (waste duct from Melling skip). The duct men appeared all over the area.

Dan had a big map at the office and put stickers on the houses that had registered, and this encouraged more to put their stickers on and not get left behind. It also meant he could see where people had not registered and volunteers could call on them to explain it all.

They started digging in houses in August after their first meetings took place. September saw the start of the cores. That short delay is a record in the B4RN history and a testament to Dan's organisational skills and the grit of the community.

Route SE6 – Part 1 Completed 13/9/18 (from their Facebook page)

'Well big it up for Tony and his crew—in just 6 days of work they have completed Route SE6 from the Head End through to SE604 (Kiln Croft). After the weekend the last 4 or 5 FTUs (fibre termination units) will be on the walls of the properties. It will then all be ready for blowing and splicing the fibre.

'If you are on Route 1 or 2 then please get digging and drilling so you are ready for when Swinny flies past your house.

'Swinny and his team are on the way Longsleddale, passing; Crake Hall, Poppy Farm, High Thorn, Watchgate then split off either side of the A6. Route SE2 begins at Garnet Bridge.

'Oh the Irony! Am trying to upload video on a 0.25 Mbps upload speed. That was a challenge for the copper. Bring on symmetrical 1000Mbps up and down load speed... x4000 faster than what I am on now!



Kiln Croft have been grafting away picking at builders rubble.



Mole Ploughing to Longsleddale 16th September 2018.



Tea break.



A duct man.

'If you live along this route and haven't already signed up or dug in your connection to the field then get digging.

Impact Mole

Impact moles are powered by compressed air and hammer their way through the ground from trench to trench. They can make a hole under walls, hedges, minor roads sections of wooded areas, patios etc. They come in 3 sizes – tiny for single multiple 7mm or single 16mm duct or medium for multiple 16mm or XL.

Here is a [link to a short video](https://www.tstrenching.co.uk) of [tstrenching.co.uk](https://www.tstrenching.co.uk) working magic under walls and minor roads on SE Route 1 with an Impact Mole.

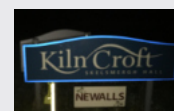
Duct Man Gallery - The Duct Family have grown, pop along to the [Duct Man Gallery](#) to find out more...

If you have a member of the Duct Family living near you and it's not in the gallery, send in a photo to dan@real-adventure.co.uk and I'll pop it up on the site.



The Unity in Community – A perspective from a resident

by *Hilary and Phil Robinson*



Having previously lived in Skelsmergh as a child, it was with both excitement and trepidation that I looked forward to living there again, although this time it would be with my husband Phil.

Over the years there have been many changes to the place I used to call home – Skelsmergh Hall Farm. It is now no longer a farm housing a whole host of Taylors, but almost a whole hamlet mainly inhabited by people who were strangers to us both, and now called Kiln Croft. However, we need not have worried because, with perfect timing, along came B4MS.

From our first contact with our soon-to-be-neighbours at a social event we felt welcomed, people took time to chat and we made our initial introductions and ate cake! At this same event we first heard of B4MS and the potential opportunity for us and our new neighbours to have hyperfast broadband. For us it was a no brainer and we signed up.

‘It’s a ‘community’ project’ they said, ‘you work to help those who can’t do their own digging, everyone has a role and can do something’, they told us. Well, Phil and I could physically dig, so we said we would help our nearest neighbours at Kiln Croft and off we went to purchase some trench spades.

The first community dig day resulted in no digging but lots of talking, planning, sharing of contact details, introductions, reacquainting ourselves with friends from days past and eating cake—not necessarily in that order.

Plans were made as to which routes to dig, both to connect our soon-to-be new home and all the other dwellings in the Kiln Croft area, and slowly but surely the first tentative trenches were dug. And we ate cake!

Phil and I supported the Kiln Croft team as much as we could by measuring routes, cutting cables to length, rolling metre after metre of cable, getting it in a knot and rolling metre after metre of cable back up again. We dug, drilled, barrowed, stone-picked, carted soil back and forth and sweated companionably. Oh and we ate cake.

But throughout this whole process we chatted, taking time to really get to know everybody, and people took time to get to know us. Now, when we do move in to our new home, we won’t just say ‘hi, what’s your name, where do you come from?’ (a poor version of Blind Date) as we wave from a distance. We actually know our new neighbours, we have been invited into their homes, they have shared food with us, made us cups of tea and biscuits, happily let us borrow their tools and equipment, and told us about their families as we have told them about ours. We have made friends.

Without B4MS we would never have really had this opportunity to fully know our nearest neighbours, and we know, as the community dig progresses, our chance to make new friends and acquaintances will continue! Something we look forward to (as long as there is cake!)

B4MS Update – 5/10/19

‘Zayo – On Tuesday 2nd, I had a meeting with Tom from B4RN and Neil from Zayo and there is now a plan for what exactly needs doing for the connection from our head end / node / big green box to the world wide web (Zayo Line). Work will be carried out at some point in the next 3 to 4 weeks at the dead of night when the internet is less used. Team B4RN arrived and drilled our ducting into the chamber and our fibre is ready to be spliced into the Zayo line.

Network Digging Progress – So on Route 1 (SE1) is complete to SE108 Watchgate & along Spur SE108b (High Above Park). Swinny and his team have nipped over the A6 and are now down the back of Garnet Bridge. Next week they will pop back and drill the A6 once the 3 days notice is formally in with the council. They will then be gone up Longsleddale for a month or two, going up the west side from Cocks Close first. 90% of the properties up Longsleddale have their connections dug and drilled and ready for completion to the chambers when the team fly past. 90% of the community have also invested in B4RN; some have counted coppers to scrape the £100 and some have invested heavily. Hopefully a good proportion of the valley will be live by mid. December. It won’t be long now until Swinny deploys Thunderbird 1 – the big tracked beast that leaves minimal trace on wet ground and can travel anywhere in any weather (as long as the team behind it have tea and ginger bread).

Materials – We have yet to take delivery of the promised large order of duct and chambers, so between myself, Swinny and a couple of other volunteers, we are collecting materials in an inefficient, time consuming way, but we are just about coping. If anyone has a large trailer and can pop to Melling for a load or 2 let me know and we can send you on a hunter-gatherer mission.

Fibre Blowing – We had been booked for fibre blowing early October but this has now been put back for a week or so.

Electricity – Our cabinet for the electric meters and switching gear has arrived at B4RN and is being kitted out and should be in place next week. Thanks again to Logan Tomm for his work laying the foundations and ducting. We are just waiting on Electricity North West to finalise paperwork and then send the contractors to get the spark off the pole and down to the cabinet. After that we will be live and ready to equip the head end.’

Getting hold of duct and supplies was a thorn in Dan’s side and also a major issue at that time for B4RN. Too many groups were digging at once, and when supplies came in they ‘just disappeared’ and Dan got a lot of the blame because he had a van. A big van. When a group had committed enough money for B4RN to buy enough supplies they assumed there would always be sufficient stock, but the market had other ideas. First there was a hold up with the house kits and routers, as the company making them was over-stretched. Then there was a complication with a shortage of fibre in the world market. B4RN suppliers expected reasonably large orders, so a big (for us) investment had to be made in fibre one month, ducting another month etc, and stock had to be regulated. B4RN decided it was time to employ a proper store manager and system, and they did that during the Mint and Sprint project, and the thorn



Logan Tomm gets his spade award.



The Lindsey spade on the signpost above Logan's head.



The cabinet gets a new wall round it and a special stone.

INVESTING IN B4RN

the MINT & SPRINT

OUR NEW NETWORK WILL BE OWNED BY MEMBERS OF THE COMMUNITY INVESTING IN B4RN. SHARE PURCHASES ARE THE WAY WE WILL MAKE OUR COMMUNITY NETWORK HAPPEN.

ALL DETAILS AVAILABLE IN THE B4RN INVESTMENT PROSPECTUS, VISIT: B4RN.ORG.UK/SHARES

CLAIM 30% TAX REBATE

ON YOUR INITIAL INVESTMENT

EXAMPLE: £1,500 OF B4RN SHARES = £405 BACK FROM HMRC AS ONE-OFF EIS TAX-RELIEF, FOR UK TAXPAYERS + £150 FREE CONNECTION.

EARN 5% INTEREST

AFTER YEAR 3 OF INVESTMENT

EXAMPLE: £1,500 INVESTMENT = 5% ROI FROM YEAR 4 ONWARDS AS A PAYMENT IN SHARES OF £75 / YEAR.

FOR EVERY £1500 PURCHASED = EARN A FREE £150 INTERNET CONNECTION

FREE CONNECTIONS CAN BE GIVEN TO FAMILY & FRIENDS

MAXIMUM £100,000

1 VOTE PER PERSON AS A B4RN MEMBER

pricked Dan even harder. He always managed to work around it somehow and his digs went on. Katie became the new store manager and soon had everything organised and things got better.

‘Network Design – I have been working hard surveying the land and tweaking the routes. After another visit to B4RN today we have a selection of changes now in for re-drawing with local knowledge applied. Many an hour has been spent looking, talking, thinking, walking and remapping with B4RN. Route 3 is now nearly ready for release. We have a confirmed way into the school and again Logan not only laid ducting in the 80’s over Garnet Bridge but had laid at the school a spare duct into the boiler house from the car park. This means that we won’t have to dig through the tarmac’.

(He must have a crystal ball. Logan got the MBE spade and the Lindsey spade on the same night of installs on his patch).

Terrace Houses – Today down at B4RN I have been asking and learning a few finer details about how rows of houses can be best served. We now have some ideas to bounce around and finalise for the city of Watchgate, Mealbank, etc.

Knowledge Corner – a 12-fibre cable can be blown short distances through a 7mm duct. Surface mounted fibre splicing boxes can be mounted on property walls and serve up to 6 properties. Wayleaves are required from all properties that have adjacent property connections attached.

SEHE – Ground works at the Selside head end are near completion. The dry-stone wall is complete (tidy work, Mark Jennings) (thanks for all the stone, Chris Taylor), gate is hung, (thanks Will Hodgson), land is levelled, (handy digger driving Ricky Yates), grass seeded by grandma and Tom & Ari Robinson, Parking area to finish off, and hardcore to fill the compound, (thanks John Howson) and then we will be ready for a party once it is live. Not long now.



Norman's spade award.



Paul's spade.



Graham and Dan.



Mark's spade.

Shares – I am contacting everyone by e-mail requesting permission to submit their shares applications to B4RN and only doing so when I have had confirmation. I am doing this batch at a time so look out for an e-mail over the next week or two directly from me (Dan Robinson). If this is not fast enough and you would like your shares to go to B4RN then e-mail me and I'll send them on.

B4RN_Invest-2 Investment Still Needed – We have met our initial target to get the green light but by no means does this cover the full costs. SEHE is estimated at £473,000 and GRHE at £312,000. If you can and are willing to buy more shares or haven't and can afford at least the minimum of £100 of shares it all counts to the total we will need.

The EIS tax relief was coming to an end in this project's life span and it was dropped in like a bolt from the blue. It upset many people who were going to invest. A year later the voucher scheme came in, which helped projects get started but involved a lot of paperwork, and extra admin staff for B4RN.

Dan and his teams got all the houses ready for service and it all ran very smoothly. Spades were awarded.

Tony Swidenbank is an excellent digger, and all the farmers up there knew and trusted him: many wayleaves were signed because of Tony's reputation.

Digging continued, and he bored up both sides of Longsleddale, aided by Debbie who sorted out all the properties. When the duct was in and fibre blown by Frank, Will and Bruce, it was time to get the fusing done.

The core fusers arrived and joined the main fibres in all the chambers up the valley.

The team of volunteers had got all the house kits fitted and so the house fusing was started at Kiln Croft. A rainbow shone that day. This was a combination of new and old build properties, and

Fusing days at Mint and Sprint



Core fusers Alex Colton and Hugh Tamlin the trainee.

Dan escorted the fuser round to speed up progress. He had arranged access to them all and knew where everything was. Within the first hour he had learned how to fuse and took control of the fusing machine.

A lot of customers were fused that rainbow day.

Typical Dan.



Kiln Croft rainbow.



The property isn't finished but the fibre goes in.



Dan lights up for the fuse.



Dan installing the router in the eaves.



Fusing in the new properties.



Dan's on a roll now.

Dan's summary from Facebook:

Thanks to:

Route Champions Selside Head End

- * SERoute 1: Selside – Dan Robinson & Norman Winter & John Howson
- * SERoute 2: Longsleddale – Debbie Williams & Logan Thom
- * SERoute 3: Selside – Dan Robinson & Caroline Holden
- * SERoute 4: Patton – Dan Robinson
- * SERoute 5: MealBank – Clive, Tony & Angela, Herman.
- * SERoute 6: To Kiln Croft- Matt Woods & Graham White, Mealbank West – Ian Kell, A6 West – Ian Robinson
- * SERoute 7: Garth Row and beyond – Tim Maggs

Grayrigg Head End

- * GRRoute 1: East of Grayrigg – Chaz Stock, Tim Guest
- * GRRoute 2: Whinfell – Jen Hesmondhalgh & Adam Rubinstein
- * GRRoute 3: Lambrigg – Mike Brown
- * GRRoute 4: South of Grayrigg linking NH4 – John Ellis

NewHutton Head End

- * NHRoute 4: Docker – Mike Packham, Bill Loyd.

Core Team

- * Second in command – Debbie Williams, Tim Maggs
- * Navigation – GPS Tracking – Tony & Angela Brand-Barker
- * Support – Matt Woods, Paddy Finn, Hillary Robinson, Logan, Bill, Simon & Jill Frost
- * Office networking and internet supply genius – Tim Maggs

Other Volunteers

Many many people have helped in many ways to make this project happen, you know who you are, you have helped paint rock, deliver leaflets, assist at meetings, make the wheels turn in councils, etc, etc.

Duct Man Creators

Also thanks to my boys Tom & Ari for inventing Duct Man after we made a stickman out of duct from the popular Julia Donaldson book. The original Duct Man was created in proportion to Tom. Thanks to Eggan Bland for his many creations of Duct Men for the area, and to all those who have created them in support of the scheme. It helps as that little daily reminder that the fastest internet in the world is on its way to the 8 parishes of the Mint and Sprint river catchment.

Contractors

- * Main Contractor: TSTrenching – Tony, Liam & Graham
- * Property Digging: Ricky Yates (mainly by mini digger)
- * Property Digging: John Howson (mainly by mini digger) – 07789 857441
- * Property Digging: Stephen Bateman (mainly by hand) – 07947 567604

- * Property Digging: Tyler Knowles – 07784943332
- * Property Drilling: Ian Robinson – 07770 690094
- * Property Drilling: Dan Robinson – 07816 870756
- * Drystone Walling: Mark Jennings
- * Cabinet Bases: Logan Thom

Special Thanks

Chris Taylor & family need a special mention; they have been legends and a cornerstone for the works at the SEHE. All the rock for the cabinet compound has been sorted and delivered, not to mention selling the area for the grand sum of £1 to B4RN. Thanks Chris, and let your whisky supply never run dry as none of us would have had this without you.

Thanks to Kapellan Animal Rescue for hosting the Grayrigg head end.

A big thanks also goes to Paul Procter and family for the FOC use of Unit 3 Meal Bank for the 6 months start-up period and continued support into the future.

The last and the first thanks goes to my family for supporting me and tolerating the constant demand this project has had on my available time.

So, A big Thank You to you all, and if you are keen to get involved then please get in touch.

Dan Robinson



Dan Robinson, centre, with B4RN volunteers

Is there anything more irritating than a slow internet connection? Just when you want to sit down and get on with some work, the internet decides to decelerate all the way to glacier pace; downloading a picture takes an age, you may as well forget about watching a film and a Zoom meeting is a pipe dream. Many businesses in Cumbria know the pain of a slow connection all too well,

lives online during the pandemic. In May Openreach announced plans to connect around 100,000 more homes across the county to full-fibre broadband over the next five years. It followed an announcement by BT that it would create 7,000 new jobs as it strives to bring full-fibre broadband to 25million homes nationwide by 2026. Full-fibre broadband, which offers speeds of up to

transport data at the speed of light – connect directly to homes and businesses. Openreach says a total of 21 exchanges across the county are being upgraded, with the majority of homes and businesses in places such as Appleby, Carlisle, Keswick, Longtown, Shap and Whitehaven set to benefit. However, communities and fibre providers have been taking matters into their own hands to bring gigabit connections to some of these

North (B4RN), which began life 10 years ago as a community project spearheaded by founder Barry Forde MBE and installed its first connection to the Quernmore area in Lancashire. Over the years it has grown to employ 34 people, with a network stretching from north Lancashire into many parts of south Cumbria and plans to grow much further. B4RN, based in Milling, near Carlisle, installs new

Contractors or local volunteers with the necessary skills and equipment lay the cable across land from the cabinets, but it is up to property owners to organise digging the necessary ditches and drilling a hole in their wall for the fibre to enter. In practice people can engage contractors to do this, while local champions will often come forward who will carry out the work for their neighbours. Chief executive Michael Lee says the key step is for rural communities to

“The volunteers help us with the build literally end to end, so everything from the planning, to securing the wayleaves across the land, and helping advertise and leaflet and actually installing the kits in the house,” he says. “What they get back from us is we promise to connect every property in a community – not just the ones in the village centre but the one that’s 600m up the hillside – with a full-fibre gigabit connection.” Households and businesses

rising to £60 a month for businesses with up to 15 staff and £150 for those with over 15. Last year OFCOM said the average internet speed in the UK hit 64 megabits per second. Michael says that although such a connection may allow people to do things like stream movies with ease, these speeds are at the top end of what can be achieved with fibre-to-cabinet and other non full-fibre technologies.

become more advanced and require more data usage. B4RN’s network currently passes 17,000 properties in Lancashire and Cumbria, with 8,600 connected, and is in the process of gaining consent to build in many more areas of central, southern and eastern Cumbria.

Under its current plans it will grow its network to pass 52,000 properties.

As a community benefit society, B4RN cannot pay a profit and has to invest any money it makes back into its communities.

For now this investment takes the form of putting money towards creating networks, but in time could be used for community projects.

It is also possible for local people to invest in B4RN up to a maximum of £100,000, which is held for a minimum of three years with a five per cent return.

Anyone who invests over £1,500 in a single transaction gets their £150 connection fee waived and can claim up to four waivers for every £1,500 they invest, with people often choosing to gift the free connections to local organisations such as schools or churches.

Dan Robinson first became involved with B4RN in 2008 on a voluntary basis as a frustrated citizen vying to improve connectivity to his own home near Sedside, north of Kendal.

“I knew that there was a fibre optic cable that ran 100 metres away from the house,” he says. “But I didn’t realise I could tap into it until I spoke to B4RN. B4RN said yes, you just need to get your neighbours involved.”

Dan got his own property connected just before Christmas 2018 and has continued connecting others in



Debbie cat scanning and measuring duct to go under the wall.

Longsleddale Valley

By Debbie Williams

BEFORE B4RN

In 2015, when we bought our house in Longsleddale, one of the first things we checked out was the internet connection. We both worked remotely so a decent, reliable connection was a must. But the new house was 6 miles from the nearest town, down a blind valley with a single

track road with zero mobile signal, and we'd heard that the internet connection could sometimes be an issue. BT insisted that we could get their super fast service at our postcode so we went ahead with the house purchase. A month later we were tearing our hair out.

The first engineer took one look, laughed and told us that not only could we not get super fast at our house he couldn't even hook us up to the not-so-fast service and we'd have to get someone else out. Thus began a stream of BT engineers to our home, all of whom swore blind that we were connected, when in fact, we weren't. We sat in Morrison's car park to work, phones tethered to our laptops, or we begged for the use of a friend's flat and their internet for important deadlines. And then Storm Desmond hit and we were totally cut off from the world for 4 days when the entire valley flooded and became completely impassable.

So the next BT engineer to arrive got a bit of an earful. Happily he was a local man who fully understood the issues of living in rural Cumbria and amazingly he went above and beyond to get us connected. Donning a pair of waders he walked the full length of the line through the receding floodwaters, some 6 miles or so, to diagnose the fault. He reported back that there were sections where cable that should have been below ground was above ground and vice versa, that the line zig zagged back and forth across the river, that at one point it was being held up by a dead tree and elsewhere by an old leather belt. 'I think the tree is your problem though', he told us, 'but I'll have to come back with another engineer to sort that out'. Sort it he did, and we were incredibly grateful to him while at the same time totally dismayed by how shockingly awful our whole BT experience had been.

BT's internet service continued to be appalling. We were lucky if we got half a megabit and once the valley kids got home from school it would plummet into non-existence. I used to dread seeing the school bus coming up the valley if I had a work deadline. There were many occasions where there was no connection for days at a time. We were relatively lucky though, living halfway down the valley; at least we got some internet. But copper phone wires were never designed to carry an internet connection, and as the signal degraded with distance from the nearest box, our neighbours at the top of the valley got nothing. It still amazes me that there are rural residents in their 50s who have never used the internet and never had an email address, but it's not uncommon in areas like the Lake District. And the many

thousands of pounds quoted by BT for a connection were beyond the reach of well, pretty much everyone. We started to talk about selling up and moving elsewhere after I'd had to turn down a contract because our internet connection made it impossible to do the job.

We'd heard about B4RN in passing and thought it a great idea, but they weren't in our area so it didn't seem worth pursuing. Then my neighbour Peter, a local councillor, told me that a man named Dan Robinson was trying to get a project off the ground. I sent my husband along to the meeting since his technical knowledge was much better than mine. He came back with good news; the project had legs and Dan subsequently came round to talk to us both. The project was split into parish-sized areas and he was looking for volunteers to spread the word and get expressions of interest. Since I was currently unemployed largely due to our awful BT service I jumped at the chance to help. The year that followed was intense, frustrating, at times incredibly stressful and a very steep learning curve. But ultimately it was also one of the most rewarding things I've ever done.

THE MINT AND SPRINT PROJECT

Broadband for the Mint & Sprint (B4MS) was a community project that aimed to bring gigabit broadband to eight parishes in the South Lakes area of Cumbria: Longsleddale; Fawcett Forest; Whitwell & Selside; Lambrigg; Skelsmergh & Scalthwhaiterigg; Whinfell and Greyrigg – a total of 707 properties.

The project as a whole was run and overseen by Dan Robinson, a man with an amazing amount of energy and enthusiasm, who worked his backside off to get things up and running and to keep them on track. Without his desire to drive things forward the project would never have happened. Although I had some involvement in a few parts of the wider project, such as helping with funding, writing emails and preparing budgets, the bulk of my focus was on the valley (and parish) of Longsleddale, so my story really deals only with that.

Compared to many other projects that I've heard about, Longsleddale was actually pretty straightforward, though had you told me that at the time I wouldn't have believed you. For a start, it's a linear valley that dead-ends at Sadgill with only one road in and out, 35 main residences, a small Outward Bound centre, a handful of holiday cottages and a centrally located church and community hall that used to be the local school. It's the sort of community where everyone knows everyone else, where you can count on your neighbours for help when you really need it, and where a simple short dog walk up the road can take an hour or more depending on how many of the local farmers you run into and how long they want to chat.

The calendar here very much runs on the farming year, much of the talk centres around the weather and the latest sheep prices, it's a bit like living in the 1950s, but in a good way. The fact that I already knew most of my neighbours well enough to stop for a short chat gave me a huge advantage over those parishes that were more spread out. There was a small complication in that the hamlet of Garnet Bridge at the bottom of Longsleddale Valley wasn't part of Longsleddale parish so Logan Thom took over as the main contact point there. His amazing technical skills and foresight proved invaluable to the wider project.

FUNDING THE PROJECT

In order to get the green light to go ahead we needed sufficient funding. In those days this was achieved by investing in B4RN. There was a great scheme called the EIS (Enterprise Investment Scheme) whereby anyone who bought £1500 worth or more of shares in a community interest company could claim back 30% in tax relief, so this was a massive incentive to people to buy shares. In addition, B4RN would also give a free connection, waiving the £150 connection fee. And when you added in the fact that shares in B4RN meant that you had a say in how the company was run too, well, it was a no-brainer for many people. We needed 30% of the funding in place for the project to proceed and a sign-up rate for taking up the service of 60%, and we hit this target easily. I'm fairly sure that we raised enough to cover the cost of our part of the project entirely, in fact.

Unfortunately, the government suddenly withdrew tax relief for B4RN and community internet providers part way through the project. This caused a lot of issues, and we were worried that the project would be pulled at one point. But the introduction of a new voucher scheme where residential properties got £1500 and Businesses £3000 to help with the cost of getting a superfast service meant that ultimately we were ok. The voucher scheme didn't come in until right at the end of the project though, and it was a mad scramble to ensure that everyone had their vouchers applied for before they could be connected to the service.

Additional funding was needed to build the box (or head end as I believe it was referred to) so many emails were sent out at this point by Dan, myself and our parish chairman, John, looking for community funding and planning budgets for the wider project of which our valley was a part.



Chris Dilger, Debbie Williams. Discussing installation at Cock's Close.
Image by Dan Robinson.



Chris Dilger and Tony Swidenbank hard at work.

FIRST STEPS

Aside from funding, my first job to get the project off the ground was a leaflet drop with information about the project and expression of interest forms. Since most of the residents here are farmers, retired people or working from home, I found that as soon as I appeared, leaflet in hand, I was invited in for a brew and a chat, and in some cases a glass of wine and a chat. Ducting and chambers were installed at the



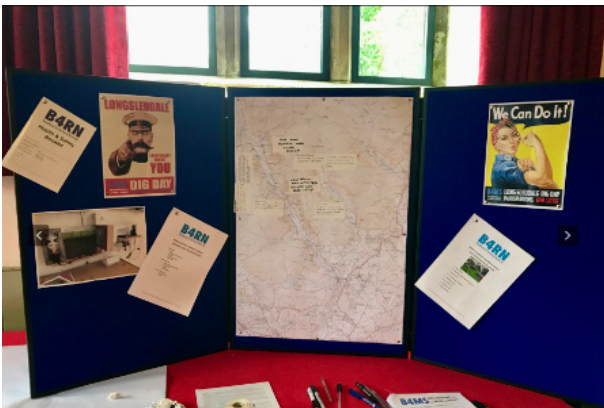
Some of the posters.



More posters for Longsleddale.



The presenter and her glamorous assistant (image by Diane Hubbard).



Dig Day information display (image by Dan Robinson).

head end first while Chris was conveniently renovating his property. The task took close to a week to complete, instead of the single afternoon I'd planned for, but was well worth it as I got the chance to explain things properly and answer any questions in a way that a leaflet could not. Pretty much the entire valley was on board by the time that first task was complete.

Wayleaves came next. Farmers and landowners are all familiar with these but were less familiar with the idea of offering wayleaves for free in order to keep project costs down. Longsleddale is linear, so any landowner refusing permission for ducting to cross their land would effectively block the rest of the valley from accessing the service, but with everyone on board this wasn't a problem.

Since we were the first parish in the project to get all our ducks in a row with wayleaves and funding sorted, we got first dibs on the contractor who would be laying the ducting as soon as B4RN gave us their proposed route map and the green light to go ahead. We were aware that many previous projects had chosen to keep costs down by doing the digging part of the project themselves with volunteer labour, but we really didn't have anyone available to do this and the cost of a contractor had already been factored into our budget, so this made sense.

Our contractor was Tony Swidenbank (known locally as Swinny) and he and his small team of son and brother-in-law were amazing.

DIG DAY

But before that, we had to look at the proposed route on the ground, and explain to residents that they'd need to connect their own properties to the main route. Dan was keen to hold a number of Dig Day events at locations across the project area to get everyone fired up, and we decided to use this as



Working on the chamber at the community centre.



Discussing a suitable spot for the ducting to cross the road.



Longsleddale residents painting boundary marker rocks in the community hall.

an opportunity to discuss the next phase of the project.

I plastered the valley with a bunch of different posters that I'd made, prepared a presentation armed with a couple of large route maps, printed instructions and borrowed a range of B4RN paraphernalia from the main project office at Mealbank, such as different types of ducting and conduit, a model router and a length of fibre cable for my 'glamorous assistant' (my husband) to hold up and demonstrate for me as I talked. Afterwards, the landowners got to look at the route map and flag up any potential issues. Meanwhile the residents asked questions about the dig plans we'd prepared. We'd asked them to make their plans so that we could check they were taking the best route from their house to the property line to connect with the main route. I still have a bunch of those dig plan drawings. Some of them were absolute works of art, especially the one drawn in wax crayon!

We also painted flat rocks gathered from the sandbanks at the head of the valley and deposited at the community centre by tractor bucket. We painted them white with B4MS in blue, and people took them home to mark the point where their house connection met their property boundary. This let Swinny know where to look when he connected them to the main route. Others used the rocks to mark where the main ducting crossed under walls and fences, and I'd often come across them when I'm out walking the dog. This makes me smile.

FULL STEAM AHEAD

After that, things got really hectic and more than a little stressful. Every evening was spent taking phone calls, poring over and annotating maps, arranging contractors for those unwilling or unable to dig their own trenches or fit their own routers, and writing or answering emails - so many emails. A



Part of the route through the valley as planned by B4RN.



Planning the actual route on the ground on that buttock-bruising quad bike.



The award for the neatest hand-dug trench goes to Mike.



Swinny takes ducting across one of Longsleddale's bridges.

typical week saw me visiting people to discuss their dig plans and measuring and dispensing various types of ducting and conduit from the two large reels sitting in my driveway. I still have the empty reels, by the way, as they make great garden tables.

Other days were spent on the back of a farmer's quad bike examining the proposed route and making notes of any changes. Unfortunately, when the B4RN mapping guys prepare a proposed route for a project it's done on Google maps. They aren't really seeing the exact lay of the land, nor how rocky and steep it is, so a number of changes were needed. Also, I discovered that farmers are very protective of their field drains and don't like them being cut up with a mole plough. Longsleddale is a fairly typical lumpy, steep-sided Lake District valley, so I would come home after a day spent on the back of a quad bike and gingerly lower myself into a hot bath while I waited for the bruises across my backside to develop. Painful though that was, I got to know every nook and cranny in what I now thought of as my valley, rather than just the valley where I lived. It was quite a turning point.

Swinny took the ducting across Longsleddale's bridges. Longsleddale has a lot of bridges plus one of the fastest-rising rivers in England so bridges were one of our biggest issues.

THE INEVITABLE SNAGS

I was really pleased with how smoothly everything was going. So of course we immediately ran into a major snag. Just a couple of weeks before the contractor was due to start I was contacted by a farmer who asked whether he would need a derogation for the ducting to be mole-ploughed across his land. Not being from a farming background I was clueless until he explained that

his Higher Level Stewardship grant needed advance permission for any work taking place on his land. This would apparently require the filling out of many forms and a long wait for approval, which would substantially delay the start of the project, and there were at least 5 or 6 others who would be affected. Any delay at this stage meant we would lose the slot for our contractor and we needed to avoid that at all costs.

It seemed pretty hopeless until one farmer suggested I speak to a man he knew at the Environment Agency who might be able to help. I promptly emailed to explain the issue, asked for suggestions on how to proceed and was invited for a meeting. Armed with a bunch of pre-prepared diagrams, one for each landowner. I explained who would be affected, showed him maps of the overall route, videos of a mole plough in action so he could see the exact impact of the process on the land, answered questions on the depth that the ducting would be laid and the process for running ducting under the river (directional drilling) and across our many beck and gutters.

To my absolute delight he said he would be happy to issue a blanket derogation for the entire valley without the need to fill in any forms. It is so rare to meet this type of person who is willing to listen and to help in any way that they can and to make reasonable suggestions and solutions. Unfortunately we've lost touch and I don't have his permission to name him here, but I am forever grateful to him for making my life so much easier in what could have been a disaster. The only tiny issue was a small concern that the proposed route was a little too close to the River Sprint at one point and he wanted me to talk to Natural England about this.

Enter snag number two. The River Sprint at Longsleddale is a SSSI (site of special scientific interest) and houses a nationally important population of native white clawed crayfish. You're not even supposed to pick one of these guys up without a special crayfish handling licence, let alone cut through their habitat with a mole plough. There followed a series of mildly panicked emails between myself, Dan and B4RN. Apparently there was some doubt as to whether we would need a permit to work so close to the river, as well as concerns about the wildlife.



Crayfish.

The native white-clawed crayfish, seen here on the photo, walking up the valley road after Storm Desmond. It is at risk from the introduced American red signal crayfish which carries both plague and outcompetes

our native species.

Meetings were arranged. By this time Swinny had already started work lower down the valley so we were really hoping everything would go smoothly. After a couple of site visits and several discussions we were asked to produce an environmental method statement. To my surprise B4RN had nothing suitable on file so I ended up writing one. I learned rather more than I'd expected about the lifecycle of the crayfish, the protection of aquatic species, plant pollution control and biosecurity, but the report was deemed acceptable. A friend of Dan's with a crayfish handling licence did some surveys for us, didn't find



Paul Parsons fusing a chamber enclosure in the field.



Fusing photo taken looking down from the chamber.



This pele tower house dates to 1426.

We have very old properties around here and getting wifi round them was an issue. This pele tower house is dated 1426. Other people came on board to do this, namely Heather Fitzsimmons and my husband Guy, so I was able to take a back seat and have a rest. I think this was the point where I realised just how stressful the whole thing had been, even though I'm aware that my account above perhaps makes it sound easier than it was.

WRAPPING THINGS UP

The initial meeting about setting up a project for the Mint and Sprint area in Dan's kitchen took place on 9th May 2018 and the Longsleddale Valley was fully live by March 2019, a mere 10 months later. I had

anything of note, and we were allowed to continue as planned. I have to say that B4RN weren't particularly helpful with any of this, but we got there in the end

After that it was pretty straightforward though still very hectic. Having Swinny as our contractor was an enormous benefit since he was local, knew the valley well and knew all the landowners too. So if there was a problem with the route at any point generally it could be resolved pretty easily with just a short chat. I'd go out to see him most days, sometimes with cake or sausage rolls and he'd let me know when he was running low on supplies so that I could get in touch with B4RN and order more. And finally it was mostly done.

The rest is pretty much a blur of chasing up people to get their contracts signed and Gigabit vouchers applied for, arranging visits for Will and Frank to do the fibre blowing and helping Chris to do the house fibre splicing. And emails. I can not stress just how many emails there were...

Once we were live there were a whole new raft of things to do such as helping people to set up VoIP, or using Mesh systems to improve their wifi, setting up smart TVs and devices and helping those who'd never even had an email address to connect to the internet for the first time.

to go back and check these dates in my email folder as I couldn't quite believe that we had managed to do what we had done in such a short time, but we absolutely did.

When I look back and when I hear about how other projects had fared and the problems they ran into, I realise that we were actually very lucky. Everything just fell into place for us. Dan at the helm driving things forward; me being at a loose end and being able to devote myself to the project full time (and believe me, it was a full time job and then some) and having the skills from previous jobs to be able to undertake it in the first place; a good community spirit and people who were always willing to help whenever they could, either by investing money, time, granting free wayleaves, or donating goods or services into the project; having the right help at the right time from those organisations like EA and Natural England who could have easily thrown a big spanner in the works. And Swinny and his team were absolute stars who just got on with the job without any fuss or bother. The fact that the Longsleddale community is contained within a linear valley was also a big help because they were easier to get around than they would have been in an average nucleated rural village, as was the fact that I already knew pretty much everyone in the valley before the project began.

SO WHAT DID I GET OUT OF THIS?

Well, I got a lot of stress, that's for sure! But that comes with the territory of running any project so it wasn't surprising. There were many benefits too. I learned an awful lot about networks, most of which I have promptly forgotten. I truly bonded with my valley during this project. I learned so much about the land and I got to know all my neighbours too. I can now say that I've drunk tea, coffee or alcohol in every house in this parish (sometimes all three) and I also know pretty much where everyone's spare house keys are kept!

My main reason for doing this was basically so we could continue to work from home and wouldn't have to move house, but since there's no such thing as an unselfish act, my community benefitted along the way too. One of the most telling things is that two houses that had sat on the market for ages sold pretty much immediately after we went live, which shows how valuable decent internet is.

We completed the project one year before the first Covid lockdown, almost to the day, and I dread to think how that would have gone without the internet, especially as we have no mobile reception here. And since most of the valley now own smartphones we have two thriving WhatsApp community groups, so it's easy to keep in touch, put out alerts during flooding or heavy snow, check up on dodgy vehicles or poachers and of course send each other amusing memes. All really important things. And now the farmers among us can watch the sheep auctions on live streaming while staying warm by the fire. This also makes me smile.

Although I am very much a northerner I'm not a native Cumbrian and I hadn't lived in Longsleddale for more than a few years before this project started. It is rare that an offcomer like myself gets the opportunity to do something of this magnitude for their community. It's rarer still for that community to give their trust to someone like me and to have faith that I knew what I was doing, because there were certainly times when I wasn't so sure myself. For that alone I am truly grateful.

So, a massive thank-you to the following people without whom the project could never have been completed:

- * My husband Guy for advice, missed meals and for putting up with my complaining and whining
- * Every single Longsleddale resident for their help, support, patience and trust
- * B4RN volunteers for blowing, splicing, hand holding, explaining and advising
- * Tony Swidenbank and his boys for being no nonsense and just cracking on with the job
- * Dan for getting the project off the ground and driving it forwards
- * B4RN staff for support and advice
- * The farmers and landowners

Thank you all. You were awesome and we did a great job.

I'm proud of you all.



Editor's note, Deb also got a silver Simon spade and MBE award.



Graham, Liam, Debbie and Tony celebrate with cake.



Tim Maggs with his spade and MBE award.

Skelsmergh

By Tim Maggs

Tim Maggs of Garth Row, Skelsmergh joined Dan Robinson's small team quite early on in June 2018. Sometimes notionally referred to as Dan's right hand man - as well as champion for Route 7 (serving Stocks Mill, Otterbank, the sprawling hamlet of Garth Row & the newly evolving Holme House development of about six new properties).

He recalls that Dan didn't delegate anything of substance regarding project planning or development, so he was initially deployed primarily as IT and network support for the impressive, temporary B4MS offices established at Mealbank Mill (generously "donated" for one year, by owner of the

industrial estate, Lucian Proctor). He also assisted new grant applicants with planning their individual property installations, and as the routes went live, helped resolve wifi problems, networking and additional wifi infrastructure requirements at individual properties - including in the churches and village halls etc.

As the last of the first six routes were nudging towards completion, Dan's omnipresent involvement in the project declined. There were ever-growing project delays and time-slip over the winter of 2019/20, exacerbated by exceptionally wet ground conditions and Covid. With the entire scheme covered by GBVS grant funding, the completion of the B4MS project effectively moved in-house to be managed by B4RN. Their newly appointed Hannah Robinson (entirely unrelated to Dan, despite the shared surname, but actually the goddaughter of a prominent Selside farmer) introduced herself in May 2020 as network build project co-ordinator for the remaining Selside routes. Tim worked with Hannah (and Cath Halstead), as primary community contact and coordinator within B4MS, for the installation of Route 7, which finally went live in the last days of October 2020. Hannah and Cath then moved on to the Grayrigg/Docker routes, parts of which still had significant outstanding way-leave issues.

For a few months, Tim continued as the residual B4MS quartermaster for duct and basic installation materials, also providing Grayrigg early adopters with basic in-community, duct installation training.

Tim also learned to fuse the houses.

His relatively short time, not quite a year, as B4RN's principal B4MS community volunteer contact for completion of the initial seven routes of the B4MS project, wound-down as Hannah and Cath



Tim wrapping the fibre in a customer connection.



Tim fusing customer connections.



Drilling under the A6 at Stocks Mill for Route 7 - September 2020.



Drilling under the A6 at Stocks Mill for Route 7 - September 2020.

established lead contacts in the increasingly galvanised Grayrigg/Docker community. Tim supplied the following photos of Swinny doing directional drills under different things to get routes joined up.

They then reached the Grayrigg cab.

Route 7 was the first B4MS route to use Zyxel free-standing routers, with an enabled, built-in ATA (Analogue Telephone Adaptor) providing dual channel VoIP support (unlike the wall-mounted Genexis router issued to all previous B4MS routes). Tim's B4MS swan-song was custom-configuring numerous Zyxel routers for a good number of Route 7 subscribers and assisting them to port their existing BT Openreach-supported telephone to SipGate Basic hyper-low cost VoIP.

It's a little sad, but also the greatest back-handed compliment, that only three years on, nobody ever mentions B4RN or B4MS in our community. Presumably because the network and the service it provides is so rock-solid and reliable that it's become entirely transparent and taken for granted!

Tim Maggs (office networking and internet supply genius) was involved all through the project and he says 'We owe so much to Dan and to B4RN for the amazing service we all now receive.'

The Selside project (Mint and Sprint) had been a standalone project at first, with its own feed from the Zayo fibre. As time has moved on it has joined up to the surrounding ones, providing resilience for everyone. It has eventually joined up to 'Dad's Army'.

Mint and Sprint dug 77 km of trenching.

Grayrigg photo gallery



Swinny drilling under Gurnal Bridge Lane.



B4RN civils building the base for Grayrigg cabinet.



Cath Halstead from B4RN, Tony, Graham and Liam, aka TsTrenching.



Tony Swidenbank and one of his mole ploughs. He has different machines for each type of terrain.



A great blow, 1750 metres of 192f, blew like a dream with good fleets.



The Grayrigg cabinet.

The Grayrigg cabinet, above, is the end of the branch of the mighty Mint and Sprint project, which eventually joined to the cabinet on the right, which 'Dad's Army' (B4SW) were showing to Peter Thornton from Longsleddale at the start of the project.



The 'Dads Army' cabinet, with the dads and Peter in the middle.



ZyXel router.



Tim's mug.