

Progress 2016

Strategic Intentions:

So where do we go in 2016?

Our main effort must be to re-wheel both the locomotive and the tender underframes; the former is now planned for 18 March. We can then reinstall the cab and complete it as well as prepare to start work in earnest on the pistons, rods and cylinders, as well as the valve chest components, subject to funding. Work should also start on the tender superstructure, the steel for which is already paid for, subject to the availability of our welder. As to the superheater header, we are now closely engaged on an R & D project with a number of companies over its manufacture using sand mould printing, a large scale, but similar version of 3D printing on a PC. Again subject to funding, we hope to be able to reactivate work on the external motion and consider ordering the extension bars and valve rods. We will be getting quotations for the Lot 354 pattern smokebox saddle and we also intend to order the front tube plate, the smokebox wrapper and the two sections of the boiler barrel in 2016.

As far as recruiting is concerned, we are still very interested in talking to potential volunteers who have transferable skills such as fitters, machinists, welders or CAD design competencies.

Mike Cooper.

January and February

On the personnel front, the bad news that Mike Cooper is on sick leave. With Keith Gilbert away, the Project is rather leaderless. However, the good news is that Ladonna is mobile and that the Project has such a good and loyal crew that the teams can press on with each department able to take responsibility for itself. Barry Pickup, our welder, has returned – much needed with tender tank assembly approaching. Welcome back Barry. Sadly it has been noticed recently that members have been absent due to work commitments. Hurry back lads!

The Project is always on the lookout for new members, both skilled and relatively unskilled. A fair number of valuable man hours are lost due to low skill work, such as someone being needed to hold a spanner in an inaccessible place, having to be done by skilled personnel.

If you are free every other Saturday and would like to clamber over a wonderful piece of GWR history you are very welcome to join us. Dicky Boast looks forward to meeting you:

dickyboast@hotmail.co.uk 01980 652921.

Locomotive Progress:

January saw work start on the locomotive axleboxes, with disassembly from the horns, a good clean and the oil keeps separated. The wicks, pads and loctite have arrived and the top plate cork gaskets have been cut; the plates now remain to be straightened.

Dicky and his team have developed a scheme of working to fit the boxes to the axles and it is generally good to go on the first pair. By the end of February four had been fitted, with one more cleaned and ready.

Unfortunately, it transpired in February that access to the wheel-drop is very limited, consequently it has been decided to prepare the axles at our leisure and insert the wheels one axle at a time, once the inside frames have been painted.



Fitting the prepared axlebox onto the driving wheel axle.



First axlebox fitted on locomotive driving wheel axle.

Work continues to paint the frame behind the wheels which will be inaccessible once they are fitted. Detail work includes preparing the spring assemblies for the locomotive.

Welding repairs on the blower flange are complete, with re-threading the flange done.

Planning work for the boiler barrel, the front tube plate and the smokebox wrapper is cranking up now that that funding approval to get these components manufactured has been received - the contract has been signed for rolling the barrel for the boiler. This will only take a few weeks and then it can be matched up with the firebox. Ready come summer.

The smoke box saddle drawings are nearly complete so with the drilling jig for location welded up ready for pilot drilling the order can soon be signed.

The brief to the insurer on the material for the superheater prompted some supplementary questions on the heat stability of SGI at 800 degrees F. These are being addressed both with Boro Foundry and in-house.

Tender Progress:

Latterly, as a consequence of the limited access to the wheel-drop, work has been focussed on the tender.

Work on the tender wheel bearings and spring hangers continues. The prototype seal carrier is complete and work has started on the heavy duty task of torquing up all the nuts on the tender to the correct value. The tank packing timber is cut and ready to fit.

The drop valances still need to be completely bolted into position prior to riveting. Furthermore, cleaning up threads on the spring hangers before fitting the springs is required.

Once a clear and agreed method statement for the tender lift is produced, the wheels will be fitted.

Apologies for the scant nature of the update - in the light of Mike's illness and death there was no report to refer to, so the above has been cobbled together from information contained in a Didcot Railway Centre Newsletter.

MICHAEL COOPER



Returning from a holiday, the first e-mail opened contained the very sad news from Dicky Boast, that Mike Cooper, Project Leader, had died on the 13 March 2016.

Mike, or to give him his full title: Lieutenant Colonel Michael Cooper, M.B.E., Retired, was appointed Project Leader in 2007, soon after inauguration of the Project to recreate a Hawksworth County Class 4-6-0. After leaving King Edward VI School in Bath in 1965, Mike joined the Army, serving in the Royal Engineers, Field and Specialist Units with distinction. He retired in 2005 as a Lieutenant Colonel, having led in the development of the British Army's deployable accommodation, known as Expeditionary Campaign Infrastructure, as well as SME for deployable field utilities for which he was awarded his M.B.E.

Soon after retiring, he came to Didcot Railway Centre and joined the team restoring 4079 'Pendennis Castle'. In 2007 he was asked to take over leadership of the nascent GW County Project, a role for which he was well-suited and in which he excelled. His vision and drive has taken the Project forward, from an incomplete selection of bits and pieces from other

March and April

On Monday 4 April a good number of Didcot workers, including most of the County Project Team, met at Abbotts Ann Parish Church with many others, to say and sing our farewells to Mike Cooper. It was a pleasant service, during which Mike's brother-in-law told us of Mike's life, work in the Army, love of rugby football and Lambrettas, meeting and marrying Pauline, the children Sarah and Elizabeth, their son's-in-law, Poppy their granddaughter, etc. all rounded off by reference to his most recent activities at Didcot Railway Centre, leading the GW County Project. The ceremony concluded with two buglers playing the 'Last Post'.

Thereafter, we were invited to join the family and a range of well-wishers to a delightful and sumptuous buffet at Abbotts Ann Village Hall, where another of Mike's accomplishments was on view - histories of those named on the War Memorial. When the family returned from the Crematorium, County Setters were privileged to be able to speak to Pauline Cooper and one of Mike and Pauline's daughters. We were encouraged to hear they considered Mike's work on the County Project was also a family affair, they were eager to see the project completed and dedicate it, notably for their grandchildren, as 'Granddad's engine'!

All too soon, the time for departing came, conversations concluded and guests departed whence they came, glad that Mike's life had been celebrated in style.

Message from the new Project Manager, Dicky Boast:

As has already mentioned, the Project Team were all shocked and saddened at the news of Mike's passing.

Mike was an inspiration and is a hard act to follow. We are not just refurbishing a loco, we are not just building a loco. We are changing a loco and incorporating parts from different classes in the best way we can.

Mike's military career enabled him to take this in his stride. My military career means that this is a vertical learning curve.

There is a wonderful phrase "Grandfathers Rights" which means that refurbishing a part is quite acceptable, whereas changing it is subject to all sorts of permissions. Thus it must be decided if the parts being built will be based on a Modified Hall or a County.

Locomotive Progress

The 'big' news, is that despite the aforementioned events, the Project Team were able to start the re-wheeling process in late April as shown in the series of images shown below, courtesy of Frank Dumbleton.



23/04/2016 - 1014's frames in Didcot running shed ready for re-wheeling.



23/04/2016 - 1014's frames outside the works ready to be wheeled.



23/04/2016 - first set of wheels positions on the wheel drop.



23/04/2016 - first set of wheels positions on the wheel drop.



23/04/2016 - reassembling the removable set of rails over the wheel drop, in readiness for the next set of wheels.



23/04/2016 - County setters hard at work rolling in the next set of driving wheels.



23/04/2016 - with three sets of driving wheels in the wheel drop, 1014's frames are gently moved in, over the wheel drop, by the GWS 08 shunter.



23/04/2016 - 1014's frames positioned over wheel drop.



23/04/2016 - with one set of wheels lifted into position, the second (middle) set of driving wheels rising up to its position.



23/04/2016 - LaDonna close-up and personal with an axlebox following the lift of this wheel set.



23/04/2016 - two wheel sets in, one to go!

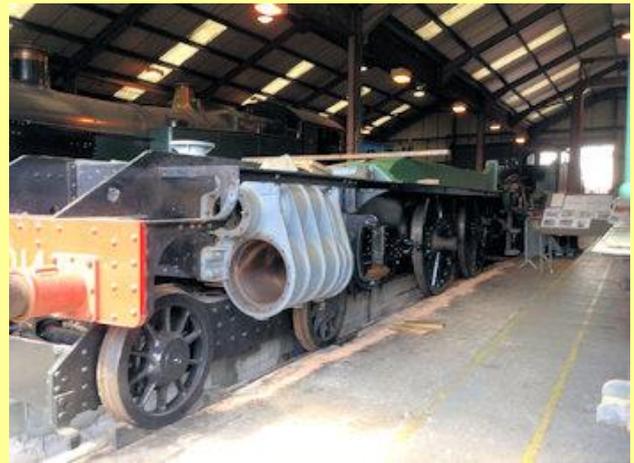


23/04/2016 - mm! Two 'up' one to go, but it will not go in.

The loco is at present over no.3 road having its wheels fitted. This has been a partial success - but there is now a 4-4-0 County in the shed!

A problem was encountered fitting the front axle, consequently, the team either have to try again or employ a different method. This could involve turning the loco and fitting the axle the other way round so the track is straighter, or fitting the axle boxes into the horns and bringing the wheel set up into them.

Once that is achieved and she is back on no 4 road, refitting the springs and brake gear, plus painting the cab will commence in readiness for the 'County Weekend' on August Bank Holiday when she will be on show on the turntable - 27-29 August.



23/04/2016 - as Dicky Boast said, the first 4-4-0 County seen since 1933! Only the front set of driving wheels to fit, but we have a rolling chassis.

Mike Cooper would be delighted!

At Crewe Works, the redesigned 8F firebox is nearing completion with a few stays to be riveted in place. There has been much welding of new plates and all new crown stays fitted. The contract for the barrel to be rolled has been signed and that should not take too long.



23/04/2016 - the almost complete firebox at Crewe.

Future aims will focus upon around the Connecting and Coupling rods and crossheads. The forged blanks for the rods have been manufactured and are in store. The next major decision is whether to machine them to Modified Hall or County design and whether to modify the cross heads or manufacture new ones - back to the "Grandfather's Rights" dilemma.

Tender Progress:

On Easter Saturday, despite, or because of Mike's death, the team re-wheeled the tender. It now is sitting in its axle boxes waiting for the bearings to be machined by Gary using his fabricated jig. There is a small amount of painting to be done to the axles and frame spacers before the latter will be refitted. Once they are in place the springing and brake gear will be assembled.



26/03/2016 - the tender re-wheeling team.



26/03/2016 - tender wheels positioned for rolling under tender underframe.



26/03/2016 - first set of wheels being rolled under raised underframe.



26/03/2016 - raising the underframes high to enable first set of wheel to reach the front axle box.



26/03/2016 - lowering the underframes onto the wheels, checking alignment of axles and axleboxes.



26/03/2016 - almost there - axle and axlebox alignment being checked.



On subsequent workdays work continued to finish the task of ensuring bearings are correctly fitted and true. Spring hangers and springs still to be fitted.

23/04/2016 - Gary setting-up axlebox bearing.

Final word from Dicky Boast - "We have had a difficult month following Mike's death, but the team have always pulled closely together and we are determined to do Mike proud".

May and June

The period began with a 4-4-0 locomotive and a re-wheeled tender. Since then, the third set of driving wheels has been fitted and both locomotive and tender are being prepared for the County Weekend over August Bank Holiday weekend. This involves fitting springs, and other items, the cabsides and undertaking a lot of painting.

May has been such an eventful month. It started with a pair of frames on a bogie and wagon and ended with a fully wheeled loco and tender. They are not together yet but this has been a significant advance. Thus we have a loco.

Locomotive Progress

The first problem to be overcome was fitting the third driving wheel set. It appeared that what prevented fitting the front wheelset, was a bracket to support the running boards, which blocked the wheelset rising through the horns. Consulting the Lot 354 angle drawing, it was noted that the brackets were original, thus designed for the 6' 0" wheels of a Modified Hall. As a result the additional 1 1/2" radius of County wheels meant the brackets had to be ground down to provide more clearance. Once completed, the recalcitrant wheelset was fitted.



21/05/2016 - locomotive chassis positioned over wheel drop. Front driving wheelset already positioned in wheel drop. (Frank Dumbleton)



21/05/2016 - County setters checking progress as the wheelset is lifted into position - ensuring there were no other unforeseen impediments to progress. (Frank Dumbleton)



21/05/2016 - front driving wheelset in position. (Frank Dumbleton)



21/05/2016 - A 4-6-0 at last! (Frank Dumbleton)

While the locomotive is over the pit, the springs are being fitted. Work continues preparing and painting all the various parts which make up each unit, or those places which might be impossible to reach once the springs are fitted.

Furthermore, Doug Middleton has been able to fit the rest of the axlebox wicks and pads, which can then have the top covers fitted.

The cab is being painted – which sounds easy. More time has been spent repairing mistakes than applying paint. Hopefully it will be finished and fitted ready for County Day over August Bank Holiday.



10/06/2016 - loco axlebox packed with a wooden block until the springs had been fitted.



10/06/2016 - cabsides being prepared for further coats of paint.



10/06/2016 - cabsides having received another coat of paint, drying.

On the long term, thoughts are turning to machining the connecting and coupling rods. The forgings were completed a couple of years ago and they have been 'normalising' in the open air at the Ufone Engineers foundry. In all probability, the first job will be the coupling rods as they can be completed without detail work on the cross heads.



29/06/2016 - Coupling rods (on top) and connecting rods (beneath) forged blanks 'normalising' at Ufone. (Owen Sharples)



29/06/2016 - Connecting rods (on left) and coupling rods (to right) at Ufone, awaiting machining. (Owen Sharples)

Tender Progress



10/06/2016 - tender chassis after the spacers and vacuum tanks had been refitted. Also shows clearly the wooden tender packing pieces in position.



10/06/2016 - location of a bracket removed for re-wheeling.



10/06/2016 - Gary fly cutting the bearings.

At present work is concentrating on the tender. To wheel the tender it had to be lifted, whereupon the wheels were rolled underneath. To accomplish this various spreaders and brackets had to be removed. These are in the process of being repainted and replaced in readiness for inserting the bearings and fitting the springs.

Gary has been fly cutting the bearings and once fitted the springs can be fitted.

The brake gear is next. All of it is to hand, except the adjusters, so it can now be rubbed down and painted and then assembled. Once completed, the task of riveting the buffer and drag beams can be undertaken, and made ready for the tank base.

July and August

For most of this period work has concentrated on preparations for 'County Day/Weekend', the results of which are outlined below.

On the personnel side, news was received that Keith Gilbert was in a poor state of health. Despite the gloomy initial reports, on Bank Holiday Saturday it was stated that he was making a slow recovery. It is hoped this improvement will continue and the County Set send their good wishes to this end.

Locomotive Progress:

By mid August springs had been fitted to the middle set of driving wheels, the culmination of considerable effort by the team aided by Alex and Ed. As a result, the frames were deemed fit to be moved. Meanwhile, good progress was made with painting the front of the locomotive. Work started on fitting the brake gear. Sadly neither time nor labour availability allowed painting the cabsides to be completed.



27/08/2016 - Left hand driving wheel, recently fitted spring visible through spokes. (T. J. McCarthy)



27/08/2016 - view of left hand spring beneath frames. (T. J. McCarthy)

Tender Progress:

With Mike the 'riveter's' return, efforts were made to fit the tender plate, which required some rivets to be fitted first. Thereafter, work began to fit as much of the brake gear as could be managed for the County Weekend. Painting the tender underframe continued, to the point where the paint work was considered 'great'.



27/08/2016 - tender underframe in Didcot Railway Centre workshop, showing springs fitted. Displayed on the left hand corner of the underframe is one of the whistles, a standard GWR product, apparently from Castle no. 5086, kindly donated to the Project some years ago. (T. J. McCarthy)



27/08/2016 - detail of newly fitted spring on tender underframe. (T. J. McCarthy)

County Day:

Following several weeks of preparation the GWS 'County Day' arrived. The locomotive, i.e. the wheeled frames, were positioned on the Didcot turntable, while the new-build and also recently wheeled tender frames could be seen in the workshop.



27/08/2016 - right hand side of locomotive frames positioned on turntable. Wooden replica nameplates fitted for the event. (T. J. McCarthy)



27/08/2016 - view of the left hand side of the locomotive frames on turntable. (T. J. McCarthy)



27/08/2016 - head-on view of 1014's frames on turntable. (T. J. McCarthy)



27/08/2016 - a rather nice touch, the late Mike Cooper's photograph placed on the running plate. When the rains came it was removed to a dry position on top of the tender underframe. (T. J. McCarthy)

Proceedings, scheduled for a midday start, were delayed because several of the guests travelling by train from south Wales and Bristol were diverted onto alternative, but longer route (re-signalling work around Bristol) and a thunderstorm! The torrential rain abated and delayed guests arrived in time for a 12.30 start, whereupon GWS Chairman, Richard Croucher, called for members of the County Project Work Team (the County Set) to join him on the turntable. Joining him too were Councillor Stuart Egan, Mayor of the Vale of Glamorgan, John Buxton, Cambrian Transport and Andrew Dakin, Welsh Development Agency, all of which played an important role in initiating the project.



27/08/2016 - The turntable party. GWS Chairman, Richard Croucher addressing those who gathered around the turntable. The party included eight members of the County Set, Councillor Stuart Egan, Mayor of the Vale of Glamorgan, Mr. John Buxton, Cambrian Transport, and Mr. Andrew Dakin, Welsh Development Agency, the last three gentlemen represent in the main authorities who made the County Project possible. Project Leader, Dicky Boast stands in front of 1014's right hand cylinder. (T. J. McCarthy)

Richard proceeded to introduce the principal guests; Pauline, Mike Cooper's widow, their daughters and partners, plus two grandchildren, all eager to see and commemorate his leadership of and visible achievements of the County Project. Thereafter, the Chairman, despite suffering audible competition from 6023 and the Steam Rail Motor working on demonstration lines and a 'reluctant' microphone, outlined the history of the project from its early days, when it was but an idea in David Bradshaw's fertile imagination, up until today when all can see the progress made in recreating 'County of Glamorgan'. Mike Cooper's role and leadership was emphasised, plus the regret shared by all present that he did not live to see even this auspicious moment. Credit was given to the County Set and, especially Dicky Boast, for rising to the challenge of and achieving the wheeling of both locomotive and new-build tender, in the sad aftermath of Mike's untimely death.



27-08-2016 - The late Mike Cooper's family, plus David Bradshaw and other guests. (T. J. McCarthy Steam Railway Magazine)



27-08-2016 - The late Mike Cooper's family with Pauline Cooper in the middle, flanked by granddaughter Poppy, two daughters and their partners, plus the latest arrival (a grandson), in front of 1014's underframe. (T. J. McCarthy)



27-08-2016 - model of 1005 in Works, at the locomotive-end of the tender underframe and alongside 1014's number plate. (T. J. McCarthy)

Following more photographs, the main party retired to the works for a light buffet lunch and talk more about Mike Cooper's achievements and the project. Meanwhile the wheeled locomotive underframe, coupled to the GWS' 08 diesel shunter, 'Phantom' and was hauled to a display place of honour outside the Centre's Buffet, in front of Burton Agnes Hall, where onlookers were invited compare County and Modified Hall underframes and note the necessary modifications and comprehensive nature of the work completed to date.

Thereafter, County of Glamorgan's admirers dispersed, having enjoyed a good day and, perhaps, looking forward to the event, suggested for two years hence, when it is realistically felt, she could be on display, with her new boiler in position accompanied by a tender with a welded tank fitted.

A significant outcome from the event was Steam Railway Magazine's offer to fund manufacture of a smokebox door for 1014. For this the Project Group and GWS are very grateful. In addition, Steam Railway issue 458 (September-October 2016), contains several references to 1014, including publication of an appeal to readers to help fund some of the work remaining to be undertaken, plus an article, contributed to by Mike Cooper before his untimely death, describing what has been achieved and future plans.

Consequently, to Dicky Boast and his team 'well done' and 'all the best' as they move forward to achieve the next goal, towards completing the re-creation of 1014 'County of Glamorgan'.

September to December

Project Manager's Annual Report:

2016 has been a year of great change and turbulence. The largest factor was of course the loss of Project Manager Mike Cooper, and the indisposition of Project Engineer Keith Gilbert - positive progress has been received indicating that Keith's health is slowly improving.

Mike led the project from its outset and was aware of all of its details, ably solving problems and moving forward for about 7 years. I, Dicky Boast, have taken over from Mike and am trying my hardest to follow in Mike's footsteps with the help, where possible, of Keith.

As far as both the locomotive and tender are concerned the great success of the year was wheeling. However, the locomotive wheel fit has not been quite as successful as hoped for - details below. Meanwhile, the tender chassis has been assembled basically from scratch and is sitting on its wheels, looking super.

Locomotive Progress:

The wheels are indeed in place, but as with the Grange it is a case of one step forwards two steps back. The frames were designed for 6' wheels and the extra 1½" radius of the County wheels means that snap head rivets holding the rear frame spreader are rubbing on the rear of the rims. Likewise the brackets holding the running board to the frames at the front wheels were designed for a Modified Hall and needed to be cut off and modified to suit.

Another problem is that the GWR designed two main wheel axlebox keeps with individual links to couple the springs to the axleboxes. Of course, 1014 ended-up with sets that did not match and not until someone noticed this on Facebook, was the nature of the problem realised. Consequently, the Project is waiting for new links to be manufactured. Once they arrive, each wheelset can be dropped in turn and while out of the frames the spreader rivets can be countersunk and the links changed. Once completed, the brake gear can be assembled.

With regard to the boiler work; the firebox is being rebuilt at L.N.W.R. Heritage Ltd and should be completed by the end of the year. The go-ahead has been obtained to order the boiler barrel, and once the boiler height has been confirmed, for the smokebox and saddle - plus of course the smokebox door generously donated by Steam Railway. As with all preserved locos the overall height must be reduced to fit the Network Rail loading gauge, the final points of which have not yet been confirmed. As this necessitates the boiler being lowered exhaust draughting problems arise, which need to be solved (see 6023) and this fact is one of the major ones governing the eventual height of the boiler.

Tender Progress:

The brake gear is coming together and being finish painted ready for assembly. Once the vacuum seals have been installed it can all be fitted together, whereupon the bottom tank plate can be fitted.

Locomotive Progress:

David Bradshaw reports that the two coned boiler barrel sections for 1014 have been ordered from Barnshaws in Dudley, with a delivery schedule of approximately 6 weeks. These, the smokebox and smokebox door have already been sponsored, but sponsors for the door ring and front tubeplate are still needed.

Apologies for the lack of photographic coverage - none has been provided. However, the September 9 - October 6 issue of Steam Railway contained an article on the 1014 Project, with updates appearing in subsequent issues.

Hopefully, the next update will be illustrated.