

**Email to Rick Hellings Senior Asset Engineer Drainage & Off Track – NW&C Region (North)
11 September 2020 from Cllr Adrian Owens**

Dear Mr Hellings,

I am a West Lancashire Borough Councillor and I have very kindly been given your contact details by our council Drainage officer, David Owens. I am assisting residents in the area.

I am writing in connection with the Drainage System in part of Burscough, West Lancashire close to Crabtree Lane which crosses beneath the Manchester to Southport train Line. I understand that Network Rail have been contacted regarding this previously, the reference number is **Network Rail - Service Request Notification [200114-000419](#)**.

The primary intention of this email is that discussion and communication can be opened up with yourselves, the Local Lead Flood Authority; other agencies and local residents in order to explore the possibility of considering works which could ultimately lead to reducing flooding locally with funding being made available from other sources than Network Rail's alone.

I understand that in previous correspondence from a resident, enquiries were made regarding Culverts and drains which were believed to pass beneath the Railway but had fallen into disrepair. Network Rail responded indicating that these could not be found. However, as a result of recent work carried out on drainage nearby, one culvert and one drain have now been uncovered and cleared. These are shown on attached images pic 1 and pic 2. As you should be able to see from the pictures, the Culvert allows a considerable amount of water to pass through.

Despite the extra capacity in the system created by the "Old Culvert" being freed up, water still backed up, flooding fields on the Southern side of the Line, (pic 3). I understand that this in turn caused the drainage system to fail on the northern side of Crabtree Lane, flooding one house internally and others externally on 11th August 2020. There were 2 further flooding events for which there are photos and video footage for the 16th and 17th August. The flooding at this location is now very well documented.

It is firmly believed that without the co-operation of Network Rail in trying to resolve matters here, that flooding will continue indefinitely as there is only one route for water to be drained from the Northern side of the line, and it must cross beneath the Railway line twice in order to clear. It should be added, that the house located on the Southern side of the Line has flooded on a number of occasions and any work carried out should take into account how risk can be reduced for this property. Pic4 and Pic5 show the property flooded and the watercourse overtopped.

I have included a screenshot from Google Earth, taken in 2018 after a dry period which highlights old structures and possibly old drainage systems. The photo is annotated and numbered 1 - 10 as follows; picture 6.

1. Estate Railway Culvert.
2. Railway foot crossing.
3. Recently uncovered Culvert.
4. Recently uncovered Drain.
5. Village Railway Culvert.
6. Northern Culvert outfall.
7. Possible old culvert.
8. Drain, previously mapped by local farmer.
9. Drain, previously mapped by local farmer.
10. Location to which all field drains exit the field outlined in green.

1. Estate Railway Culvert. Although this is remote from the affected properties, it is known to have backed up several times in recent years including 2011/2; 2015; and this year. When this happens, the water which cannot escape, backs up and the tops the "Estate watercourse" as outlined on the Farmers drainage map. (Pic7). It then either crosses the field Northwards and also travels up the roadway of Crabtree Lane towards the Railway Crossing. There is good video footage of the water running at least 3" deep in the crown of the road. This has happened on a number of occasions.

This excess water then overwhelms the Village Watercourse, which can fail regardless of water coming from the Estate Watercourse.

3. Recently uncovered Culvert. Pics 1 and 2

4. Recently uncovered drain.

5. Village Railway Culvert. This is the most problematic area. This historic opening is only approximately 15" x 20" and regularly fails to allow water to pass through in heavy rain. This in turn raises the height of the water in the watercourse, overtopping its banks on occasions, but always covers the top of the Northern Culvert outfall.(6).

6. When this happens, it has an effect of reducing the flow from the Northern side of the Railway. It is best Illustrated in the following video which explains about the flow of water through culverts. Please watch from 12 mins.30 secs. through to 17. Mins. 30 secs; https://youtu.be/vnXmGyb_hKQ It is not necessary to take on board the technical information, just the principles.

The greater the height of the watercourse, the greater the resistance to the flow from upstream which will create flood conditions for homes. Pics 10 and 11.

7. Is the possible location of an old culvert and was likely a direct route to the watercourse. Shading on the screenshot suggests old drainage here.

8 and 9 have previously been located by the local farmer who has placed them on his map of the drainage system. (Pic7).

10. Is now the location where all the field drains now leave the large field outlined in green. They previously exited via 8 and 9, possibly 7. But around 15 years ago, because drains 8 and 9 beneath the Railway failed, the drainage was diverted to point 10 which means that the whole field drains directly towards the houses instead of towards the field on the opposite side of the Railway Line. This may well be a contributory factor in the speed at which water rises here, as it cannot get beneath the Railway because of the aforementioned problems.

During the course of the last week, a camera inspection has been made of the culvert beneath the crossing. Although a detailed report is not yet available, early indications are that there are no obstructions or defects which would be the cause of flooding upstream.

Local flooding events appear to be happening more frequently and with greater severity. Apart from the homes being flooded, many acres of good farmland are taken out of production on both side of the Railway line. There is recent evidence of the newly laid Football pitch being flooded (pic9), which is located much closer to Burscough Village and if this situation is not resolved in the near future, the risk is likely to spread towards the more populated areas of Burscough.

It is hoped that some of the following could be considered in helping to resolve flooding issues here if discussions can be opened with the Lead Local Flood Authority and others.

1. A thorough inspection/ survey to locate and clear all culverts and drains in the local area. In particular, those at locations 8 and 9, plus considering location 7 and any other areas where information indicates drains may be located.

2. Consideration to be given to increasing the size of the existing Culverts, in particular the one located at 5, the Village Railway Culvert.

3. Consideration be given to creating new auxiliary pipes beneath the Railway to relieve the flood water and to reduce the height of "Tailwater" at location 6.

4. To forward alternative methods to reduce flooding as recommended by Network Rail.

I look forward to hearing from you in the near future.

Cllr Adrian Owens

Email from Rick Hellings to Cllr Owens Friday 18 September 2020

Dear Councillor Owens,

Thanks very much for your email and extremely detailed and useful account of the issues.

We are undertaking drainage investigations into the area, and this information will help that investigation.

I am going on a meeting with Lancashire County Council this coming Monday to discuss this and other local issues regarding flooding.

My colleague, Ben Fitzpatrick will endeavour to keep you informed of further developments.

Rick Hellings

BEng (HONS), IEng MICE

Senior Asset Engineer Drainage & Off Track – NW&C Region (North)