

The Vyrnwy Aqueduct Maintenance Programme

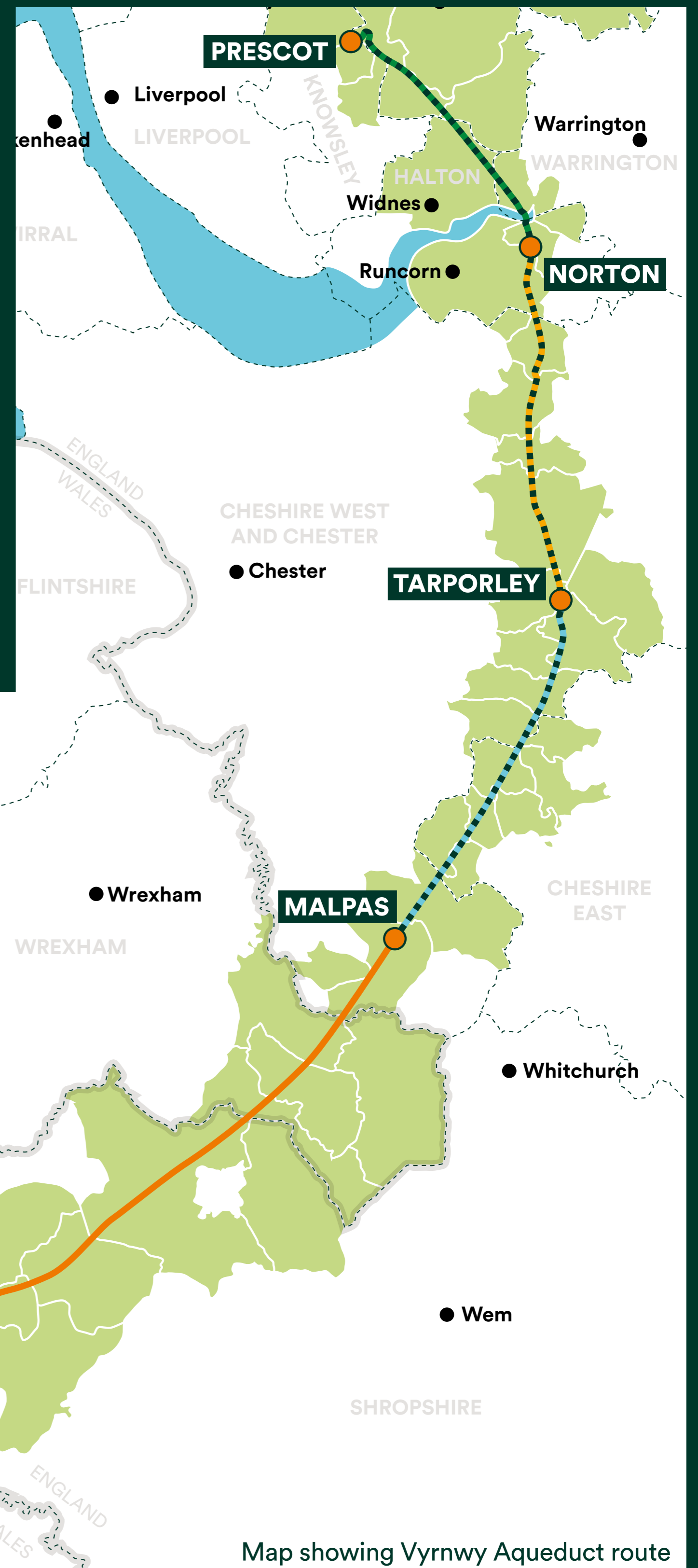
Welcome to our exhibition on the proposals for the Vyrnwy Aqueduct Maintenance Programme

About the Vyrnwy Aqueduct

The Vyrnwy Aqueduct runs from Lake Vyrnwy through to Merseyside. It was completed in 1892 and has helped deliver clean, wholesome drinking water to customers and communities across Cheshire, Merseyside and the wider North West region. The aqueduct system comprises of three parallel pipelines, referred to as Lines 1, 2 and 3. Each line is 42 inches (over 1 metre) in diameter and has a combined distance of 110km in length.

- Line 1 is made of cast iron and was constructed between 1881 and 1892
- Line 2 is made of cast iron and was constructed between 1902 and 1905
- Line 3 is made of steel and was constructed between 1926 and 1938.

We now need to carry out some maintenance work on the three pipelines to ensure the quality of the drinking water for those currently supplied by the Vyrnwy aqueduct.



Construction of the aqueduct in the late 1920s

Why do we need to do this maintenance?

We have a duty to work with our regulators to ensure the drinking water supplies in the North West are the highest quality.

Over time, a build up of natural minerals can occur within the aqueduct pipelines from the water running through them. These minerals don't pose any health risks but can result in discolouration of the water and be detrimental to the internal condition of the pipe.

What have we done so far?

We've already carried out upgrades at our water treatment works and refurbished around 40% of the pipeline which runs south of Malpas. We're now planning work for the remaining sections of the aqueduct.

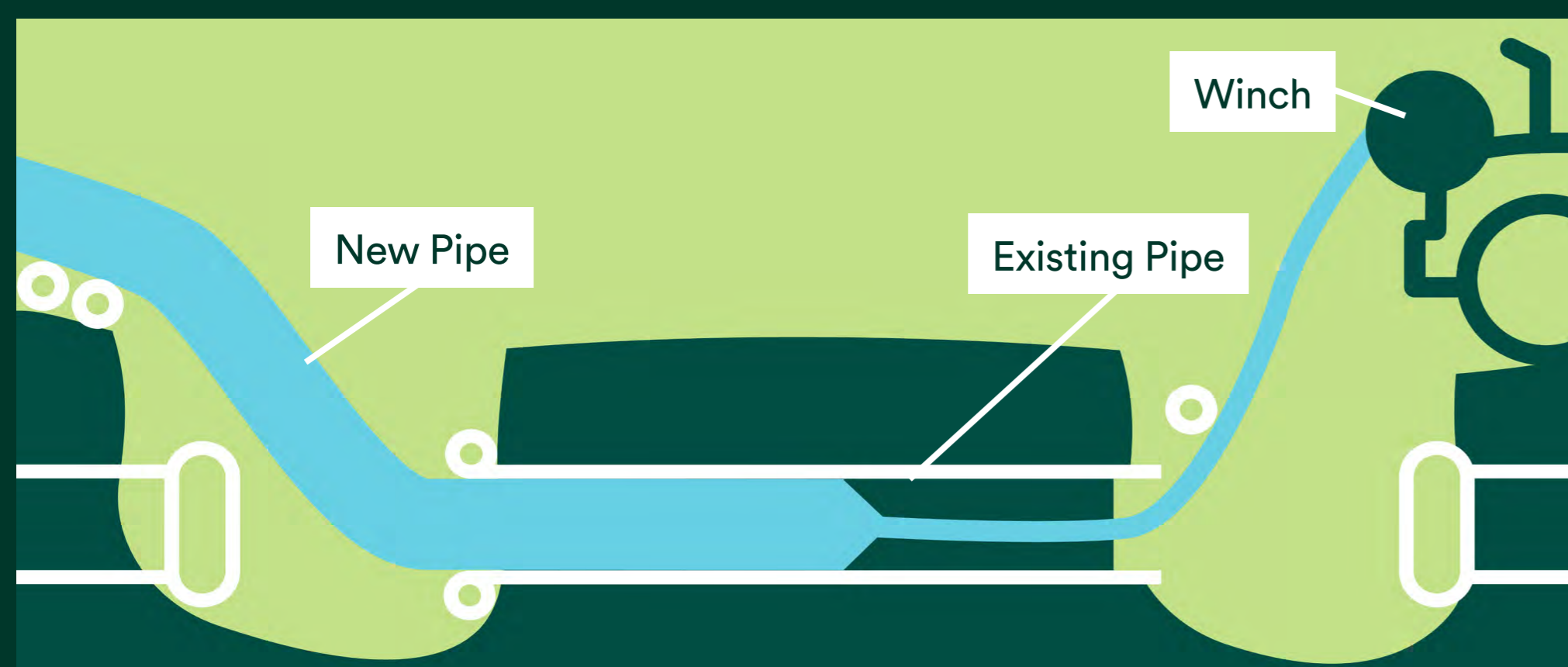
What these proposals mean for the local area

- Securing a long-term, fresh drinking water supply for the North West
- The creation of jobs locally across the North West
- Huge investment into the local and regional economy
- Opportunities to improve your local area and engage local communities

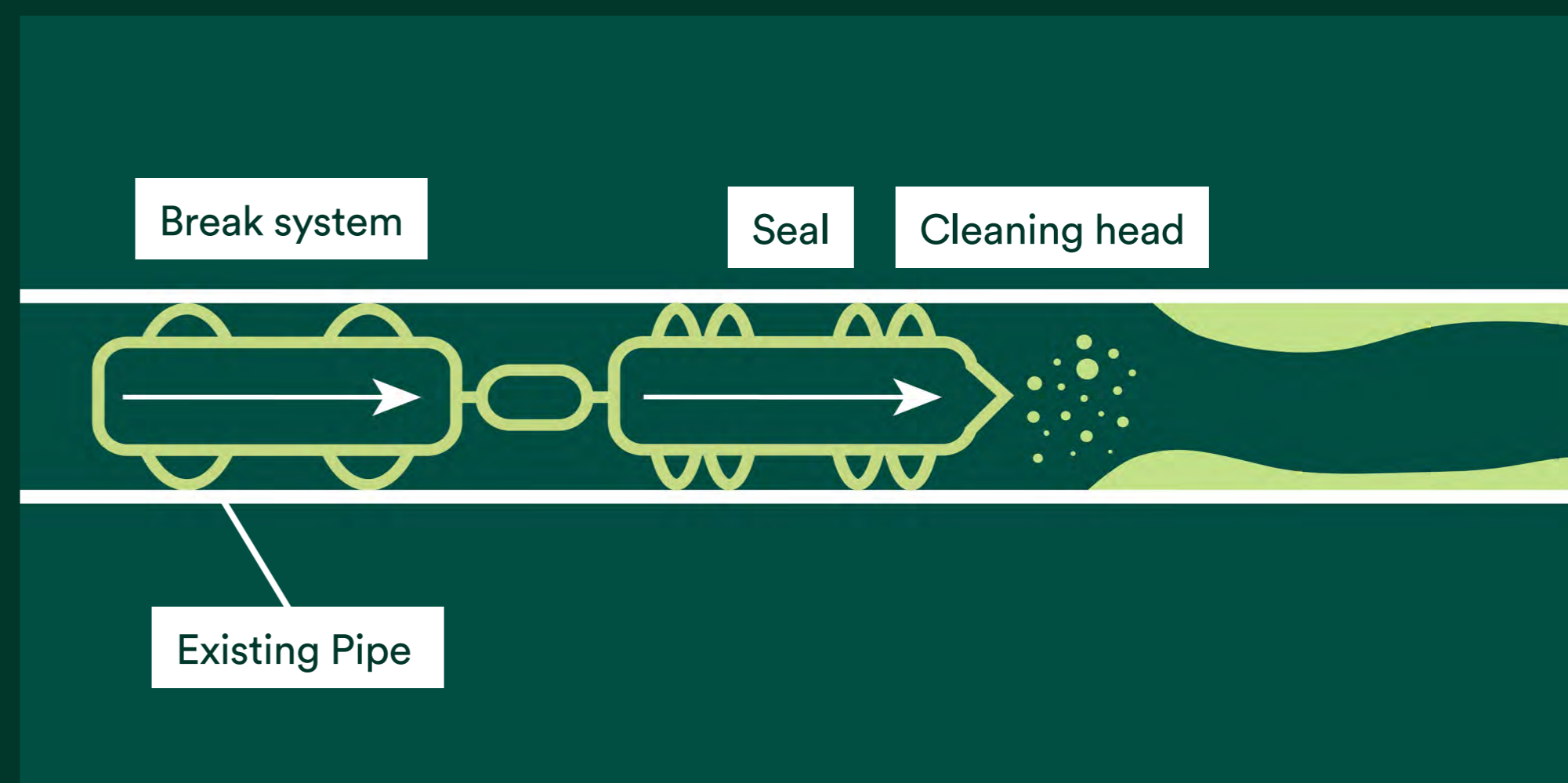
What our maintenance work will involve

As the pipes are constructed of different materials, and some sections are newer than others, we will use two methods of refurbishment; cleaning and lining.

Due to the ages of line 1 and line 2, we will need to reline the pipelines which will require inserting a new, slightly smaller diameter plastic pipe inside the old main, creating a brand new pipe. This will be done using a process called sliplining.



The more modern line 3 which is made of steel will be cleaned to remove the natural minerals that have built up over time.



In order to maintain the water supply to our customers throughout the refurbishment programme we will not work on all three lines of the aqueduct at the same time.

Working areas

The work will be concentrated along the pipeline route and both methods will involve digging holes at specific locations to access the underground pipes. Working areas will be securely fenced off and also accommodate our machinery and equipment.

For pipeline cleaning we will need working areas of around 10 square metres. The sliplining method will require much larger working areas up to 200 metres long and 50 metres wide in some places, to accommodate specialist equipment and construction activity.

Below explains more about the largest working area known as a launch site.

Launch site and working area

These will be our main working areas where the new pipe will be welded together and create a starting point to insert along the existing pipe. The existing pipe is exposed and opened to give a starting point to insert the new inner pipe or lining. New sections of 12 metre pipe are welded together to form lengths of up to 90 metres which are then pushed inside the existing older pipe.

These sites would typically contain:

1. Constructing a large opening to provide access to the old pipe.
2. Topsoil strip and storage
3. 90m Welded 'stringing' of pipe lining sections ready to insert into the old pipe
4. Welding tent to join the new 12 metre pipes together
5. Storage area for new pipe lining sections ready to be welded together
6. Staff welfare areas and parking

The launch site could be used to insert the pipe in two directions making a working area up to 200 metres long similar to the length of two football pitches.





Winch site and working area

A hole is dug to expose the old pipe and create an access point. A winch helps pull the new pipe through each section. The winch sites would need a 50 metre long 25 metre wide working area similar to the size of an Olympic swimming pool.

Intermediate site and working area

Additional sites will be required along the pipeline for valves and connections. The intermediate sites would need a 25 metre long 25 metre wide working area.

Construction Traffic

There will be an increase in construction vehicles travelling on the roads to and between our sites, transporting machinery, material and people whilst we carry out this work. The number and size of vehicles will vary as our maintenance progresses and depending on the type of working area. Information about the typical vehicle sizes and numbers for each type of working area are below.

Sliplining launch site

Typical vehicle movements **15-40 / day**

Light Vehicles

 **85%**

HGV

 **15%**

Winch, intermediate and all cleaning working areas

Typical vehicle movements **10 - 30 / day**

Light Vehicles

 **95%**

HGV

 **5%**

We'll make sure that traffic management plans are in place to minimise disruption for the community and on the local road network.

Site access points

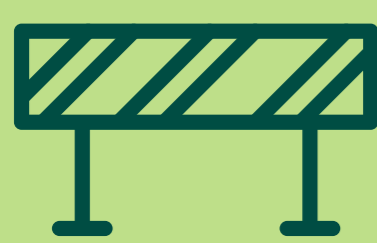
To get into our working areas we will need to install new gates or alter existing ones to make them large enough for construction vehicles. For the launch site working areas these access points will be around 20 metres wide.

You will find more information about the access points in your area on the following boards.

What else can you expect



Tree and hedgerow removal - We'll do everything we can to minimise the impact on trees, hedgerows and the environment while setting up our working areas and access points. As part of our maintenance programme we will aim to enhance the local environment where feasible in line with evolving Biodiversity Net Gain policy.



Road closures and traffic management - When we install the site access points, and in locations where our site is in the road, we would put in place traffic management such as traffic lights, temporary road closures, and speed restrictions.



Visual and noise impact - This is a large construction project so you will notice and hear our teams as the work takes place. We will be considerate to the local communities around our working areas, providing advance notice of any particular disruptive elements of work which would all take place during normal working hours. If there are any problems you can contact us anytime of the day or night, 365 days a year.

Area 01

Our work in this area is located within the Malpas Ward, situated in the Cheshire West and Chester Local Authority within the Eddisbury Constituency.

To carry out the maintenance, we'll need to create a number of working areas along the pipeline route. These working areas are fixed due to the location of the existing pipeline.

New access points will need to be created off the local road network to access our working areas. The requirements for each access will be linked to the size of the working area, vehicles and machinery that will be using the site. This may involve alterations to existing gates or installing new gates. In some locations, hedgerow and trees may need to be removed to create the required access.

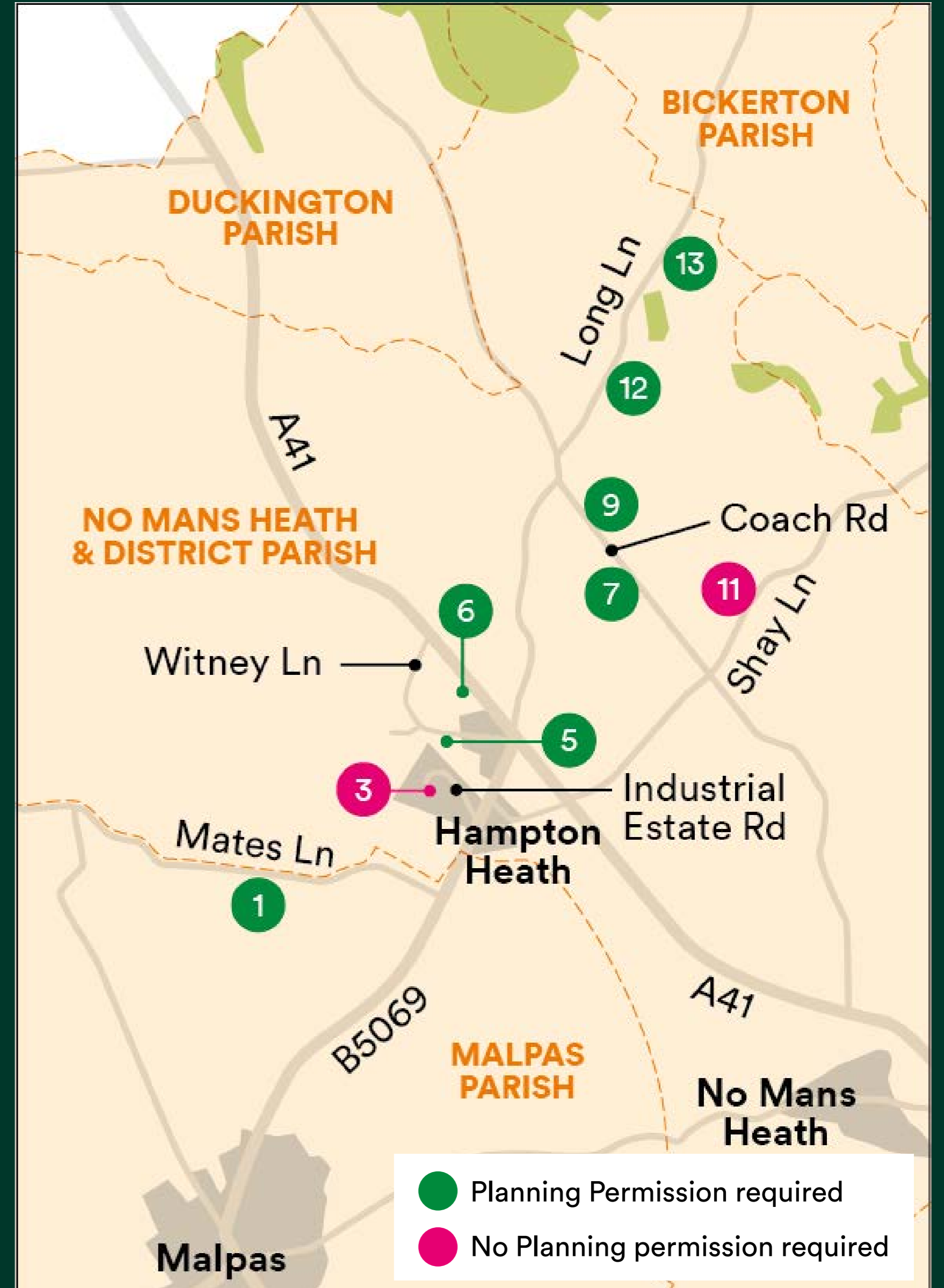
We've been consulting with landowners and stakeholders, including your local planning and highways authorities to carefully consider locations which meet safety requirements and minimise impact on the local community and environment.

Within this area we would require 9 access points, located within 2 Parishes that sit within the Malpas Ward:

- Malpas Parish (1 access point)
- No Mans Heath and District Parish (8 access points)

The temporary working areas and access tracks are necessary to complete the maintenance and do not require a planning application. However, we will need to apply for planning permission for temporary access points located on classified roads. Where possible, we have combined our working areas to reduce the number of access points from the highway and this is reflected in the access point numbering.

The map and table provide information about our proposed access locations and highlight those access points that will require planning permission. The access points shown will be the designated point of entry off the highway to our working areas during construction. We previously indicated two options for AP1006 and will now be progressing the option to create a new access off the A49. We welcome your comments which can be submitted via our [feedback form](#) - it would be appreciated if you can indicate the access point reference in your response.



Launch Site:	Other Sites:
<ul style="list-style-type: none"> • Around 20m wide access points • Between 15 and 40 vehicle movements per day • 85% light vehicles and 15% HGV 	<ul style="list-style-type: none"> • Around 10m wide access points • Between 10 and 30 vehicle movements per day • 95% light vehicles, 5% HGV

Access Point	Map ID	Launch Site?	Ward	Parish	Road	Access Requirements
AP1001	1	Yes	Malpas Ward	Malpas Parish	Mates Lane	Widening existing access off Mates Lane
AP1003	3	No	Malpas Ward	No Mans Heath and District Parish	Industrial Estate Road	Utilise existing access off Industrial Estate Road
AP1005	5	No	Malpas Ward	No Mans Heath and District Parish	Witney Lane	Widening existing access off Witney Lane
AP1006	6	Yes	Malpas Ward	No Mans Heath and District Parish	A41	Creation of new access off A41
AP1007	7	No	Malpas Ward	No Mans Heath and District Parish	Coach Road	Widening existing access off Coach Road
AP1009	9	No	Malpas Ward	No Mans Heath and District Parish	Coach Road	Widening existing access off Coach Road
AP1011	11	Yes	Malpas Ward	No Mans Heath and District Parish	Shay Lane	Utilise existing access off Shay Lane
AP1012	12	No	Malpas Ward	No Mans Heath and District Parish	Long Lane	Widening existing access off Long Lane
AP1013	13	Yes	Malpas Ward	No Mans Heath and District Parish	Long Lane	Widening existing access off Long Lane

Area 02

Our work in this area is located within the Wrenbury Ward, situated in the Cheshire East Local Authority and within the Eddisbury Constituency.

To carry out the maintenance, we'll need to create a number of working areas along the pipeline route. These working areas are fixed due to the location of the existing pipeline.

New access points will need to be created off the local road network to access our working areas. The requirements for each access will be linked to the size of the working area, vehicles and machinery that will be using the site. This may involve alterations to existing gates or installing new gates. In some locations, hedgerow and trees may need to be removed to create the required access.

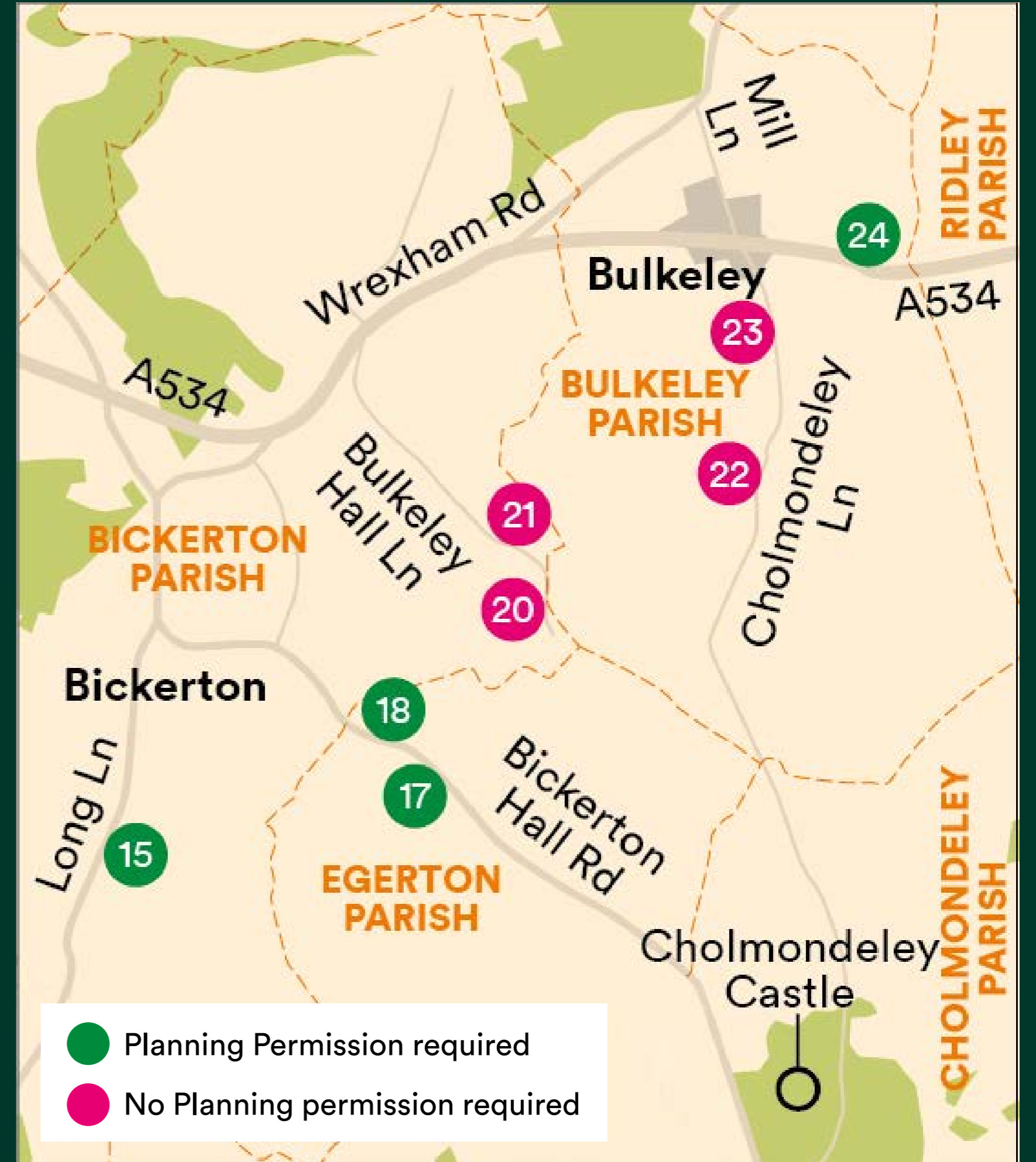
We've been consulting with landowners and stakeholders, including your local planning and highways authorities to carefully consider locations which meet safety requirements and minimise impact on the local community and environment.

Within this area we would require 8 access points, located in 3 Parishes that sit within the Wrenbury Ward:

- Bickerton Parish (3 access points)
- Egerton Parish (2 access points)
- Bulkeley Parish (3 access points)

The temporary working areas and access tracks are necessary to complete the maintenance and do not require a planning application. However, we will need to apply for planning permission for temporary access points located on classified roads. Where possible, we have combined our working areas to reduce the number of access points from the highway and this is reflected in the access point numbering.

The map and table provide information about our proposed access locations and highlight those access points that will require planning permission. The access points shown will be the designated point of entry off the highway to our working areas during construction. We welcome your comments which can be submitted via our [feedback form](#) - it would be appreciated if you can indicate the access point reference in your response.



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Access Point	Map ID	Launch Site?	Ward	Parish	Road	Access Requirements
AP1015	15	Yes	Wrenbury Ward	Bickerton Parish	Long Lane	Widening existing access off Long Lane
AP1017	17	No	Wrenbury Ward	Egerton Parish	Bickerton Hall Road	Widening existing access off Bickerton Hall Road
AP1018	18	No	Wrenbury Ward	Egerton Parish	Bickerton Hall Road	Widening existing access off Bickerton Hall Road
AP1020	20	No	Wrenbury Ward	Bickerton Parish	Bulkeley Hall Lane	Widening existing access off Bulkeley Hall Lane
AP1021	21	Yes	Wrenbury Ward	Bickerton Parish	Bulkeley Hall Lane	Creation of new access off Bulkeley Hall Lane
AP1022	22	Yes	Wrenbury Ward	Bulkeley Parish	Cholmondeley Lane	Widening existing access off Cholmondeley Lane
AP1023	23	Yes	Wrenbury Ward	Bulkeley Parish	Cholmondeley Lane	Creation of new access off Cholmondeley Lane
AP1024	24	No	Wrenbury Ward	Bulkeley Parish	Wrexham Road	Widening existing access off Wrexham Road

Area 03

Our work in this area is located within the Wrenbury and Tattenhall Ward Councils, situated in the Cheshire West and Chester and Cheshire East Local Authorities and within the Eddisbury Constituency.

To carry out the maintenance, we'll need to create a number of working areas along the pipeline route. These working areas are fixed due to the location of the existing pipeline.

New access points will need to be created off the local road network to access our working areas. The requirements for each access will be linked to the size of the working area, vehicles and machinery that will be using the site. This may involve alterations to existing gates or installing new gates. In some locations, hedgerow and trees may need to be removed to create the required access.

We've been consulting with landowners and stakeholders, including your local planning and highways authorities to carefully consider locations which meet safety requirements and minimise impact on the local community and environment.

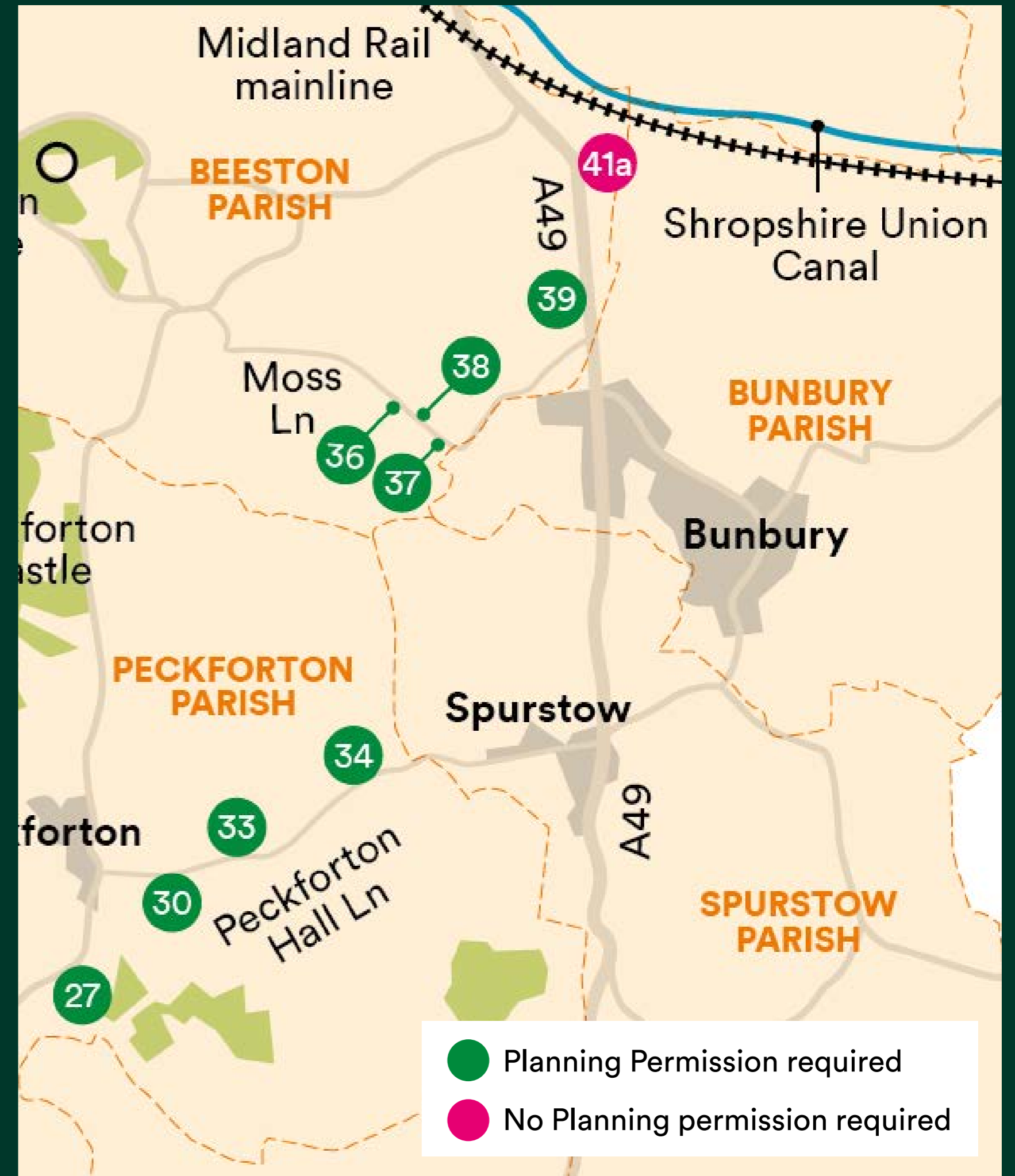
Within this area we would require 9 access points, located within the Wrenbury and Tattenhall Wards:

- Peckforton Parish (Wrenbury Ward): 4 access points
- Beeston Parish (Tattenhall Ward): 5 access points

We will need to work in close proximity to the A49 and areas south of the Shropshire Union Canal. We understand work of this nature can be disruptive and we will continue to work with the local community, impacted groups and stakeholders to ensure the work is carried out considerately.

The temporary working areas and access tracks are necessary to complete the maintenance and do not require a planning application. However, we will need to apply for planning permission for temporary access points located on classified roads. Where possible, we have combined our working areas to reduce the number of access points from the highway and this is reflected in the access point numbering.

The map and table provide information about our proposed access locations and highlight those access points that will require planning permission. The access points shown will be the designated point of entry off the highway to our working areas during construction. We welcome your comments which can be submitted via our [feedback form](#) - it would be appreciated if you can indicate the access point reference in your response.



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Access Point	Map ID	Launch Site?	Ward	Parish	Road	Access Requirements
AP1027	27	Yes	Wrenbury Ward	Peckforton Parish	Stone House Lane	Widening existing access off Stone House Lane
AP1030	30	Yes	Wrenbury Ward	Peckforton Parish	Peckforton Hall Lane	Widening existing access off Peckforton Hall lane
AP1033	33	Yes	Wrenbury Ward	Peckforton Parish	Peckforton Hall Lane	Creation of new access off Peckforton Hall lane
AP1034	34	Yes	Wrenbury Ward	Peckforton Parish	Peckforton Hall Lane	Widening existing access off Peckforton Hall lane
AP1036	36	No	Tattenhall Ward	Beeston Parish	Moss Lane	Widening existing access off Moss Lane
AP1037	37	No	Tattenhall Ward	Beeston Parish	Moss Lane	Widening existing access off Moss Lane
AP1038	38	No	Tattenhall Ward	Beeston Parish	Moss Lane	Widening existing access off Moss Lane
AP1039	39	Yes	Tattenhall Ward	Beeston Parish	A49	Widening existing access off A49
AP1041	41a	No	Tattenhall Ward	Beeston Parish	A49	Utilise existing access off A49

Area 04

Our work in this area is located within the Tattenhall and Tarporley Ward Councils, situated in the Cheshire West and Chester Local Authority and within the Eddisbury Constituency.

To carry out the maintenance, we'll need to create a number of working areas along the pipeline route. These working areas are fixed due to the location of the existing pipeline.

New access points will need to be created off the local road network to access our working areas. The requirements for each access will be linked to the size of the working area, vehicles and machinery that will be using the site. This may involve alterations to existing gates or installing new gates. In some locations, hedgerow and trees may need to be removed to create the required access.

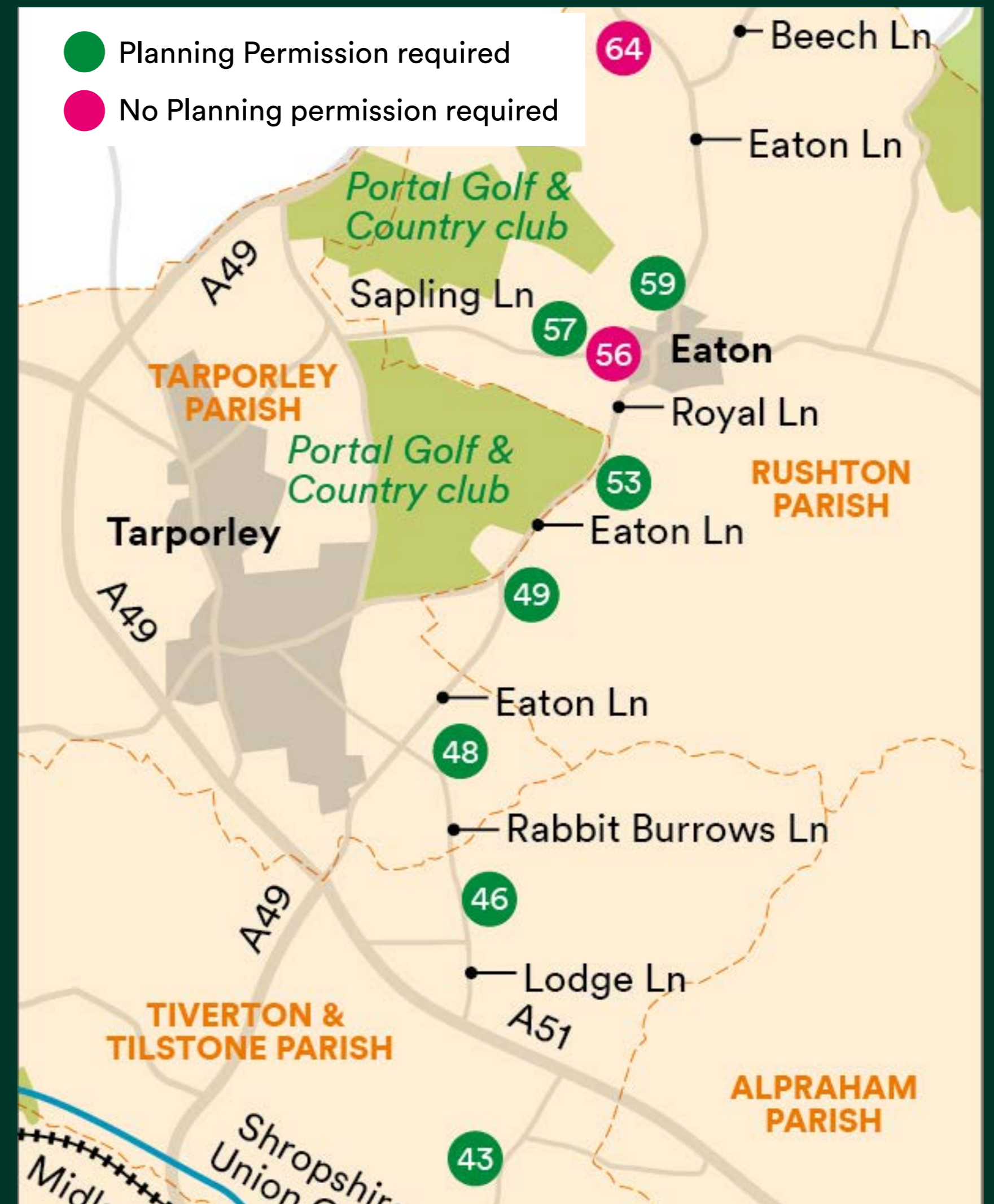
We've been consulting with landowners and stakeholders, including your local planning and highways authorities to carefully consider locations which meet safety requirements and minimise impact on the local community and environment.

Within this area we would require 9 access points, located within the Tattenhall and Tarporley Wards:

- Tiverton and Tilstone Parish (Tattenhall Ward): 2 access points
- Tarporley Parish (Tarporley Ward): 2 access points
- Rushton Parish (Tarporley Ward): 5 access points

The temporary working areas and access tracks are necessary to complete the maintenance and do not require a planning application. However, we will need to apply for planning permission for temporary access points located on classified roads. Where possible, we have combined our working areas to reduce the number of access points from the highway and this is reflected in the access point numbering.

The map and table provide information about our proposed access locations and highlight those access points that will require planning permission. The access points shown will be the designated point of entry off the highway to our working areas during construction. We welcome your comments which can be submitted via our [feedback form](#) - it would be appreciated if you can indicate the access point reference in your response.



Launch Site:

- Around 20m wide access points
- Between 15 and 40 vehicle movements per day
- 85% light vehicles and 15% HGV

Other Sites:

- Around 10m wide access points
- Between 10 and 30 vehicle movements per day
- 95% light vehicles, 5% HGV

Access Point	Map ID	Launch Site?	Ward	Parish	Road	Access Requirements
AP1043	43	Yes	Tattenhall Ward	Tiverton and Tilstone Parish	Tilstone Road	Widening existing double gate access off Tilstone Road
AP1046	46	No	Tattenhall Ward	Tiverton and Tilstone Parish	Lodge Lane	Temporary Traffic Regulation Order in place along Lodge Lane to carry out the necessary maintenance work within the highway and provide a safe working area during construction
AP1048	48	No	Tarporley Ward	Tarporley Parish	Rabbit Burrows Lane	Widening existing access off Rabbit Burrows Lane in close proximity to the Public Right of Way
AP1049	49	Yes	Tarporley Ward	Rushton Parish	Eaton Lane	Widening existing access off Eaton Lane
AP1053	53	Yes	Tarporley Ward	Tarporley Parish	Royal Lane	Widening existing access off Royal Lane. Temporary traffic management in place along Royal Lane to carry out the necessary maintenance work within the highway and provide a safe working area during construction
AP1056	56	No	Tarporley Ward	Rushton Parish	Sapling Lane	Temporary Traffic Regulation Order in place along Sapling Lane to carry out the necessary maintenance work within the highway and provide a safe working area during construction
AP1057	57	No	Tarporley Ward	Rushton Parish	Lightfoot Lane	Potential access required along Lightfoot Lane
AP1059	59	Yes	Tarporley Ward	Rushton Parish	Eaton Lane	Widening existing access off Eaton Lane
AP1064	64	No	Tarporley Ward	Rushton Parish	Eaton Lane	Widening existing access off Eaton Lane

Next steps

To help us to plan and carry out this important maintenance programme we have already started carrying out some initial preparation work.

Stakeholder and customer engagement

Early engagement with our customers and other stakeholders including landowners, highways authorities, planning officers, locally elected councillors and other interested groups and organisations to provide valuable feedback on our plans.

Submitting planning applications

The temporary working areas and access tracks are required for maintenance of our existing pipe and so do not require a planning application, however we will need to apply for planning permission for temporary access points that are located on classified roads.

Utility surveys

To identify and locate existing utility services (such as gas, water and electricity) in the footprint of the working areas.

Ground Investigations

Taking samples from the ground and doing surface investigations in areas we would be working to provide information on the ground conditions.

Ecology surveys

To understand ecological constraints local to our working areas.

Date		Activity
2021	Autumn/Winter	Begin stakeholder engagement
2022	Early	Launch virtual public exhibition
		Apply for planning permission for Malpas to Tarporley section
	Spring/Summer	Begin programme of enabling work
		Continue environmental surveys
	Late	Environmental protection measures in place
		Appoint contractor for Malpas to Tarporley section
2023	Early	Start work on Malpas to Tarporley section
2025		Complete work on Malpas to Tarporley section
		Reinstate working areas on Malpas to Tarporley section

Tell us what you think

Thank you for visiting our virtual exhibition. Please take a moment to complete our feedback form, your feedback is valuable to us as we plan and prepare to carry out this programme of work.

We will keep you updated regularly throughout this work as our programme progresses.