Planning Application Supporting Document – The Need Case for New Railway Sidings at Ditton Junction

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Date: May 2007
Ref: New Sidings Need Case

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1. INTRODUCTION

This document supports Planning Application Ref: PP-00216655. It has been prepared by MDS Transmodal Ltd, a specialist rail freight consultancy, on behalf of Halton Borough Council.

The planning application concerns the construction and installation of new railway reception siding facilities on land currently owned by Halton Borough Council at Ditton Junction. The new sidings are an integral part of the wider Mersey Multi-Modal Gateway development (3MG). This document addresses three specific issues relating to the planning application, namely:

1. The planning application conforms to Halton Borough Council planning policy;
2. It demonstrates that there is a commercial and planning need for the new sidings to facilitate the successful development and completion of 3MG; and
3. The commercial need can only be located at the proposed location and cannot be accommodated on other sites.

A set of plans showing the location and alignment of the existing sidings and the proposed new sidings accompanies this document.

2. THE MERSEY MULTI-MODAL GATEWAY – BACKGROUND AND MASTERPLAN

The Mersey Multi-Modal Gateway (3MG) is a major rail linked logistics park currently under development at Ditton. When fully completed, 3MG will comprise around 200,000 square metres of modern rail served warehousing (distribution centres) and an intermodal rail terminal together with high quality connections to the strategic highway network. Logistics operators based at 3MG will therefore be able to receive/despatch cargo directly in conventional rail wagons, in containers via the intermodal terminal and in full size HGVs. The distribution centres ('high bay' design) will permit the efficient handling and storage of goods alongside other 'added value' activities, such as final assembly and packaging operations.

The 3MG development is centred around two existing rail linked logistics facilities, and when compete will deliver three major benefits to Widnes and the wider Mersey sub-region, namely:

- A significant expansion in the amount of warehouse floor space which is located along side rail terminal facilities. Locating distribution centres along side rail terminals is a pre-requisite for meeting the Government policy of moving a greater proportion of goods by rail freight;
- Create at least 2,500 good quality jobs in an area of 'employment need'; and
- Regenerate sites which are currently derelict and suffer from industrial contamination.

As a result, the project has received strong political and planning policy support from Halton Borough Council. The 3MG 'concept' was tested at the development plan inquiry in 2003, and it received the planning inspector's support (subject to conditions) in his report and recommendations. Consequently, the land forming 3MG is identified and allocated in the authority's Unitary Development Plan for rail linked logistics facilities. A site Masterplan has been produced and a Supplementary Planning Document will provide overall guidance on the delivery of the development. In addition, 3MG has also been designated a 'Strategic Regional Site' by the North West Development Agency (NWDA). It has also been identified at a national level as one of the Strategic Railfreight Interchanges for the North West. Originally designated 'Ditton Strategic Railfreight Park', the 3MG 'brand' was adopted by the project's partners and applied to the overall scheme in June 2006.

The Merseyside Freight Study, completed in 2000, originally identified the opportunity for rail linked logistics facilities at Ditton. The study concluded, from both a commercial and planning policy perspective, that 3MG offers the premier location within the wider Mersey sub-region for rail linked logistics activity. This position derives from its location in relation to road and rail infrastructure, existing rail linked logistics operations and land availability. In particular:

- There are two existing rail linked logistics facilities. There is an operational intermodal terminal already on-site, which is served by trains from the deep sea ports conveying containers for the world's largest shipping lines. There is also an existing rail served distribution centre;
- The site has access to the West Coast Mainline, which is already capable of accommodating the full range of intermodal units (in particular 2.9m/9'6" tall maritime containers);
- The site has direct access to the region's strategic highway network, which will ultimately connect to the new Mersey Crossing;
- There is a significant area of land available for the construction of modern rail served warehousing. Much of this development will re-use previously developed land; and
- The configuration and layout of the site will allow the transfer of container units between the intermodal terminal and all the planned warehousing avoiding use of the wider public highway network in the Widnes area (therefore not contributing towards congestion and reducing supply chain costs);

Unlike other logistics park schemes, where sites are generally controlled of one developer, the land covering the 3MG development is owned by a number of interests in both the private and public sectors. Halton Borough Council are therefore, in addition to its statutory planning and regeneration responsibilities, co-ordinating the development and the plans of the existing landowners in order that the overall 3MG scheme proceeds as a single comprehensive rail linked logistics park. At the same time, the council is also attracting further private sector investment in the project.

The 3MG Masterplan

The 3MG Masterplan was adopted by Halton Borough Council in 2004 (produced jointly by MDS Transmodal and Atkins for Halton). The Masterplan sets out the overall vision for the 3MG development – modern distribution buildings located alongside rail terminal facilities, served by the strategic highway network, which creates new jobs and regenerates derelict land. It also set out the park's envisaged layout/configuration and the enhancements to the road and rail infrastructure which will be required to serve the site. Map 1 in Appendix 1 shows the broad extent of the 3MG development (red boundary) together with the locations of the existing and planned facilities. In planning terms, the 3MG development is divided into three 'sites', namely:

- Site 253;
- Site 255; and
- Site 256.

Site 253

Site 253, which is currently owned by Halton Borough Council, broadly covers land to the south of the railway line and to the west of Hale Road. Site 253 was previously designated Greenbelt. During the development plan inquiry in 2003, Halton Borough Council successfully secured the removal of Site 253 from the Greenbelt, and it is now allocated for rail linked logistics use, subject to a number of conditions (see Section 4).

In the 3MG Masterplan, Site 253 is planned to accommodate:

- The proposed *new Ditton Junction Sidings* – the subject of this planning application. Section 3 of this document provides a full description of the planning proposal, while Sections 4 and 5 demonstrate planning policy support and the operational need for this new facility. These sections will clearly demonstrate that the installation of the new sidings conforms to planning policy and is crucial to the successful development and completion of 3MG; and
- A new rail served distribution centre providing approximately 100,000 square metres of floor space. This will be subject to a further separate planning application in due course.

Site 253 will be linked to Size 255 (see below) by a new road system. This will allow the planned distribution centre to receive/despatch goods in containers via the 3MG intermodal terminal avoiding use of the wider public highway network. Halton Borough Council intends to sell Site 253 to a private sector commercial property developer. The capital raised through the sale will be used to part fund the planned road and rail infrastructure enhancements.

Site 255

Site 255 broadly covers land to the south of the railway, to the east of Ditton Brook and to the north of West Bank Dock industrial estate. Site 255 contains the two existing rail served logistics/distribution operations around which 3MG is being developed, namely:

- The Intermodal terminal (operated by the O'Connor Group); and
- An existing rail connected warehouse (currently operated by AHC Warehousing).

The 3MG *Intermodal Terminal* (blue boundary on Map 1) is owned and operated by the O'Connor Group. The terminal specialises in the loading/unloading of intermodal container trains, the storage of containers together with their initial collection or final delivery by road. The total size of the terminal is approximately 15 Hectares. The terminal currently comprises 4 rail sidings between 300m-450m in length. Effectively, two full length intermodal trains can be handled simultaneously. Adjacent to the sidings is an area of hard standing which is used to store loaded containers in stacks up to 5 high.

The four sidings and hard standing area are served by two rail mounted container gantry cranes, which transfer containers between trains, storage stack and road vehicles (420m of sidings/hard standing underneath the cranes). The gantry cranes are of the latest design, can undertake 30 'container lifts' per hour and even operate during strong winds. Elsewhere in the terminal, two further gantry cranes serve another area of hard standing. This area is predominantly used to store empty containers. The terminal also operates its own fleet of goods vehicles providing final delivery of goods and initial collections of loaded containers from shippers in the North West. The terminal currently handles 4 train services per day (i.e. 4 inward and 4 outbound trains, 3 of which are to/from the Port of Felixstowe with the remaining train being to/from Southampton Container Terminal). Map 5 in Appendix 1 provides a sketch map of the intermodal terminal layout.

The existing *rail connected warehousing* at 3MG is operated by AHC Warehousing Ltd. The facility, providing approximately 15,000m^2 of floor space, handles a wide range of goods for the food retail sector, including canned goods and bottled water. The warehouse is directly rail linked by means of 2 x 450m rail sidings. These sidings handle conventional 'box wagons', with pallets of goods transferred from the rail wagons to directly to storage using forklift trucks. AHC also operates its own fleet of goods vehicles.

Under the 3MG Masterplan, the remainder of Site 255 is to be regenerated and developed with new modern large scale warehousing. Approximately 90,000 square metres of floor space are planned for Site 255. The existing non-adopted highway network on Site 255 permits the transfer of containers between the intermodal terminal and each warehouse avoiding use of the public highway network. In addition, each planned warehouse on Site 255 will be rail served (by means of a dedicated siding alongside), thereby allowing operators to receive/despatch cargo directly in conventional box wagons.

The land occupied by the Intermodal Terminal is owned by the O'Connor Group. The remainder of Site 255 (and AHC Warehousing) is owned by the Westlink Group, a subsidiary of Westbury Property Fund Ltd (commercial property investment fund), who intend to fund the regeneration and development of the planned rail served warehousing. Consent was granted to the site's previous owners, Drawbridge Securities, in 2005 for the new rail served warehousing on Site 255.

Site 256

Site 256 contains the existing Ditton Junction Sidings. Section 3 of this document provides a full description of this site. Site 256 is owned and operated by Network Rail.

3. THE EXISTING DITTON JUNCTION SIDINGS AND PROPOSED NEW SIDINGS

Map 2 in Appendix 1 shows the location of the existing *Ditton Junction Sidings* in relation to the Mersey Multi-Modal Gateway (3MG) development and the wider railway network. The 3MG development is served by the Liverpool Branch of the West Coast Mainline (WCML). The Liverpool Branch departs from the WCML proper at Weaver Junction (13.1km to the south of 3MG), and passes via Runcorn Station before crossing the River Mersey on the *Runcorn Bridge*. Immediately after crossing the Runcorn Bridge the line curves to the west before passing along the northern edge of the 3MG development.

The Widnes-Warrington railway line passes underneath the WCML Liverpool Branch approximately 1.5km to the north of the Runcorn Bridge before connecting with the Liverpool Branch at *Ditton Junction.* The WCML Liverpool Branch and the Widnes-Warrington lines are both double-track railways (i.e. one track per direction). The WCML Liverpool Branch from Ditton Junction westwards towards Liverpool is a four-tracked railway (two 'fast lines' and two 'slow' lines). The existing *Ditton Junction Sidings* are located on the south side of the mainline immediately to the west of *Ditton Junction* and Ditton Station road bridge (the sidings are identified as *Site 256* in the Halton UDP Proposals Map, Supplementary Planning Document and Masterplan).

Rail access to 3MG from the Midlands, the South East (deep sea container ports) and the Channel Tunnel is via the WCML through Crewe, Weaver Junction and Runcorn. Access to Scotland and Trans-Pennine routes is via Warrington (where trains are turned).

A number of 'Plans' have been submitted as part of the planning application documentation. These 'Plans' detail the location and alignment of the existing sidings and the proposed new sidings. Also, the Appendix to this document contains a number of relevant maps. Reference should be made to these 'Plans' and maps during the following descriptions.

3.1 Description of the Existing Ditton Junction Sidings

Plan 1 (accompanying this planning application) shows in detail the location and alignment of the existing Ditton Junction Sidings (Scale 1:2,000). Map 3 in Appendix 1 shows in sketch map form the track layout and connections at Ditton Junction, together with the location of Ditton Junction Sidings in relation to the mainline and the *Goods Branch* line to 3MG's rail served facilities on *Site 255* (the existing/proposed rail connected warehousing and the intermodal terminal).

Access to the existing sidings from the mainline is via a *turnout* from the *Down Slow* line onto a short section of single line track which passes underneath Ditton Station road bridge. This single line track, which is approximately 100m in length, subsequently splits to form the

sidings. Trains from the south (Crewe) initially use the crossovers to move from the *Down Fast* line to the Down Slow line, and then via the single line track into the sidings.

Ditton Junction Sidings itself consists of three parallel through sidings (*Goods Sidings 1, 2 and 3)*, a *Cripple Siding* and a *Headshunt*. The length of the Goods Sidings (i.e. the clear distance between the turnouts at either end of each siding) is as follows:

- Goods Siding 1: 350m
- Goods Siding 2: 310m
- Goods Siding 3: 290m

It is also possible to utilise the *Headshunt* at the Liverpool end of the sidings in combination with *Goods Siding 1* to effectively create a single siding of 560m length. However, *Goods Sidings 2 and 3* are effectively 'out of action' when the *Headshunt* and *Goods Siding 1* are utilised under such circumstances, as the occupying train stands foul of the turnouts at the Liverpool end of *Goods Sidings 2 and 3*.

3MG's rail served facilities on *Site 255* (the intermodal terminal and the existing and proposed rail connected warehousing) are all served from the *Goods Branch* line. This is a single track line which runs eastwards from Ditton Junction Sidings, parallel to the south side of the Liverpool Branch and Widnes-Warrington lines. The Goods Branch subsequently splits into separate tracks to serve the rail connected warehousing (existing and planned) and the intermodal terminal.

Ditton Junction Sidings and the Goods Branch are owned by Network Rail. They therefore form part of the regulated national railway network The sidings are 'track circuited' and controlled from Ditton Junction Signal Box, which is located to the south side of the mainline and to the west of the road bridge ('track circuits' form part of some signalling systems and they allow a remote location, such as a signal box, to detect whether a section of track is occupied by a train). Network Rail are consequently responsible for the safe day-to-day operation of the sidings and the Goods Branch together with their long term maintenance. The existing rail facilities on *Site 255* are privately owned and operated (connected to Network Rail infrastructure through private sidings agreements).

All trains arriving or departing from the 3MG rail facilities on *Site 255* **must do so via Ditton Junction Sidings**. An arriving train is directed off the mainline (as described above) and into a suitable vacant siding by the 'signaller' in Ditton Junction Signal box. At this point, however, the mainline locomotive is facing towards Liverpool whereas 3MG's rail served facilities are located in the opposite direction along the Goods Branch (i.e. the locomotive is at the 'wrong end' of the train). Normal practice in such situations would be for the locomotive to 'run around' the train using an empty parallel siding and re-position at the other end of the train (i.e. facing in the right direction towards the rail facilities).

However, trains serving 3MG are generally longer than 350m (the length of the longest siding), meaning use of the *Headshunt* and *Goods Siding 1* in combination is required. Under such circumstances, the mainline locomotive is 'trapped' in the Headshunt and unable to 'run around'. It is therefore currently normal practice for the mainline locomotive to propel the wagons backwards (i.e. with the locomotive at the rear) from the sidings and along the Goods Branch to the rail connected warehousing or intermodal terminal. This requires an additional train operating company employee to walk at the rear of the train to check the line is clear (in contact with the train driver via two-way radio).

Operational Requirement for Ditton Junction Sidings

In terms of the safe and efficient operation of 3MG, there are three main requirements for Ditton Junction Sidings.

1. Trains obviously need to depart from the mainline in order to enter 3MG's rail served facilities. However, the height and alignment of the mainlines in relation to the facilities means that connections directly into them are not possible where the mainlines pass the facilities. Immediately after crossing Runcorn Bridge, the WCML Liverpool Branch is elevated above ground level. Once clear of the river the line, initially on brick railway arches and then on an embankment, progressively drops towards ground level on a 1-in-114 gradient. However, the line only reaches ground level immediately to the east of Ditton Junction. Conversely, the Widnes-Warrington line approaches 3MG slightly below ground level in order to 'dive' under the Liverpool Branch, after which it begins to rise and only reaches ground level at Ditton Junction. Ditton Junction is therefore the earliest opportunity at which a trains can leave both mainlines. However, at this point 3MG's rail served facilities are located to the rear of any arriving train from the Runcorn or Warrington directions. A location is therefore required where trains can stop and 'reverse' into 3MG's rail served facilities. Ditton Junction Sidings performs such a role.

2. Due to pathing and timetabling constraints on the mainline, trains may need to arrive at 3MG well before they are scheduled to be unloaded. In such circumstances, trains require somewhere to 'park' while they await their turn in the intermodal terminal or rail connected warehousing. Ditton Junction Sidings performs such a role.

3. Similarly, once a train has been loaded/unloaded and is ready for departure, timetabling constraints may mean that a departing train needs to wait for an available 'path' on the mainline. Again, in such circumstances trains require somewhere to 'park' while they await a free path. Ditton Junction Sidings performs such a role.

In addition, the existing sidings are also utilised for the following purposes:

- Trains en-route to distribution facilities in the wider Liverpool area (e.g. the Ford trade car distribution depot at Garston) are 'held' at Ditton Junction Sidings while awaiting an available freight path; and

- Network Rail engineering trains (e.g. ballast and track laying trains) are stabled at Ditton Junction during maintenance/renewal works on the Liverpool Branch line.

3.2 Description of the Proposed New Sidings at Ditton Junction

Plan 2 (accompanying this planning application) shows in detail the location and alignment of the proposed new sidings at Ditton Junction i.e. the subject of this planning application (Scale 1:2,000). Map 4 in Appendix 1 shows in sketch map form the track layout of the proposed new sidings in relation to the mainline, the existing sidings and the *Goods Branch* line to 3MG's rail served facilities.

Plan 2 shows that the proposed new sidings (shown in red) will be located along the northern edge of *Site 253*, broadly following and running parallel to the WCML Liverpool Branch. Access to the proposed new sidings will be via a new turnout from Goods Siding 1 of the existing Ditton Junction Sidings (access from the mainline as described above). Except for the installation of the turnout, the existing sidings will remain intact, operational and under the control of Network Rail.

The new sidings will consists of:

- 3 x 550m length wagon sidings;
- 1 x 50m length Headshunt; and
- 1 x 550m length locomotive release line.

The sidings will therefore occupy a corridor measuring approximately 15m x 600m (0.9ha). It should be noted that planning consent is sought only for those parts of the proposed new sidings which will occupy land currently owned by Halton Borough Council (Site 253). The turnout and associated new track which is located within operational railway land can be installed under Network Rail's permitted development rights.

The proposed new sidings will be an integral part of the 3MG development, and they will be used solely by operators located at 3MG for the transport of goods by rail freight. The sidings will be owned and managed by a 3MG management company. The sidings will therefore not form part of the national 'Network Rail' track infrastructure, but will be managed in conjunction with Network Rail through their normal private siding arrangements.

The management company will be owned jointly by Halton BC, O'Connor Group (intermodal terminal operator) and the owners/operators of 3MG's rail served warehousing. The management company will be responsible for the day-to-day operation and on-going

maintenance of the sidings. These responsibilities will be funded by the rail connected operators at 3MG, who will be charged for use of the sidings on a equitable basis (i.e. in proportion to rail throughput). The management company is likely to contract an outside organisation to operate the facility on a day-to-day basis.

All future arriving and departing trains from 3MG's rail served facilities will do so via the new sidings. As happens currently, an arriving train will be directed off the mainline and into the existing Goods Siding 1 by the signaller in Ditton Signal Box. The train will then leave the existing sidings via the new turnout and enter the new sidings. The sidings operator will, shortly before the train's arrival, 'set the points' so as to direct the arriving train into a vacant siding. The locomotive release line will be kept vacant at all times so as to allow traction equipment to 'run around' trains in the sidings.

When an arriving train comes to a halt in the new sidings, as happens currently the mainline locomotive will be facing towards Liverpool (i.e. the locomotive will be at the 'wrong end' of the train). However, the layout of the new sidings has been designed with flexible and efficient operations in mind. The following options will therefore be available:

- The mainline locomotive could, as happens currently, propel the wagons backwards via Goods Siding 1 and the Goods Branch into one of 3MG's rail served facilities on *Site 255*; or
- The mainline locomotive could detach from the train and, using the Headshunt and locomotive release line, 'run around' the train and re-position at the other end (i.e. facing towards the rail facilities). The wagons could then be shunted forward directly into 3MG's rail served facilities on *Site 255* via Goods Siding 1 and the Goods Branch; or
- The mainline locomotive could detach from the train (i.e. leave the loaded wagons the locomotive arrived with in the siding) and, using the Headshunt and locomotive release line, 'run around' and re-position at the Ditton Junction end of another set of wagons waiting in a parallel siding. This new train formation could then depart from the site. The newly arrived wagons could then be shunted into one of 3MG's rail served facilities on *Site 255* at a later time (the waiting wagons would have previously been shunted from a rail connected facility into the parallel siding); or
- Similar to the above option, the mainline locomotive could detach from the train and, using the Headshunt and locomotive release line, 'run around' but then depart from the site light (i.e. without any wagons);

The third and fourth options, however, would be reliant on the sidings operator having use of a shunting locomotive which was permitted to run over Network Rail infrastructure. This is likely to be the case, particularly if the contracted sidings operator is an existing rail freight terminal operator, as they are likely to have the required 'safety case'.

Section 5 of this document sets out the 'need case' for the proposed new sidings. In brief, the short to medium term 'need' is for extra sidings so that 3MG can handle additional trains (the current Ditton Junction Sidings layout restricts 3MG to receiving/despatching a maximum of 6 daily trains). Over the longer term, however, there will be a need for 3MG to handle longer trains. Network Rail's long term aspiration is to increase the maximum trailing length of freight trains from the current limit, approximately 520m, to around 630m trailing length (the equivalent of 30 intermodal wagons currently operated by Freightliner). This will generate additional freight capacity without the need to provide for additional freight paths in the timetable.

Consequently, the proposed new sidings as described above can be considered as 'Phase 1'. Plans have been designed which will permit the proposed new sidings to be extended to around 650m so that the longer term need can be met, in effect 'Phase 2'. From here onwards, therefore, the proposed new sidings are termed the *'New Sidings Phase 1'*. A separate planning application will be brought forward for Phase 2 when the requirement for longer trains has been reached.

4. PLANNING POLICY SUPPORT FOR NEW SIDINGS PHASE 1

Planning policy support for the *New Sidings Phase 1*, as set out in this planning application and accompanying plans, is provided specifically by two key planning policy documents, namely:

- Halton Borough Council Unitary Development Plan; and
- Ditton Strategic Rail Freight Park Supplementary Planning Document.

4.1 Halton Borough Council Unitary Development Plan (UDP)

The Halton UDP was adopted in April 2005. The adopted UDP allocated 3MG under policy E7, as follows.

Policy E7: Ditton Strategic Rail Freight Park

1. *A phased strategic inter-modal rail freight park will be developed on land at Ditton, Widnes, in accordance with an overall masterplan to be approved as Supplementary Planning Document. Within the defined park Sites 253, 255 and 256 are allocated for development. Development will be permitted provided that it complies with all of the following (and in the case of 253 subject also to compliance with paragraph 2 below):-*

   i) It is for use by businesses that would utilise the railway for the transportation of freight, and uses offering support services to them;
   ii) It would be of a quality suitable for occupation by companies of regional or national distribution importance, which would give rise to additional new employment opportunities for residents of Halton and surrounding local authority areas;
   iii) It would not have a significantly adverse impact on the environment and on the amenity of local residents, particularly in the Halebank area, and would contribute to urban regeneration;
   iv) It would not prejudice the improvement of the passenger rail network or improvements to it identified in the UDP; and
   v) It is demonstrated through a detailed Transport Assessment and Travel Plan that it would not have a significant adverse impact on the local transport networks and trunk road network.

2. *Development will not be permitted on site referenced 253 on the proposals map and known as land north of Hale Bank Road, unless all of the following also apply:-*

   i) It is part of a comprehensive proposal for a strategic rail freight park at Ditton in accordance with an agreed phased plan;
   ii) Development of the strategic inter-modal rail freight park on the previously developed sites 255 and 256 identified on the proposals map and policy S20 has

already commenced in accordance with an agreed phasing plan set out in a Supplementary Planning Document;

iii) Unless already implemented as advance structural landscaping, landscaped buffer zones provided on the land shown as Proposed Greenspace on the Proposals Map to the south, east and west of site 253; and

iv) *A warehouse development proposal comes forward of larger than 25,000 square metres floorspace and of sufficient size or character*

From the description of the proposed sidings provided in the previous section and as detailed in Plan 2, it is clear that for the planning application conforms fully with Policy E7 and the conditions set out in that policy, namely:

- The sidings are located within the defined park on Site 253;
- The sidings be used solely by operators located at 3MG for the transport of goods by rail freight;
- They will not have a significantly adverse impact on the environment and on the amenity of local residents;
- It would not prejudice the improvement of passenger rail services or prevent the development of a new passenger railway station at Ditton Junction – the new sidings are located away from any likely location of a new station;
- The proposed new sidings will be an integral part of the 3MG development in accordance with the Masterplan;
- Development has commenced on Site 255;
- Structural landscaping is being implemented (subject of a previous planning application for which consent has been given; and
- It will facilitate the development of a rail served warehouse larger than 25,000 square metres.

4.2 The Supplementary Planning Document (SPD)

The SPD was adopted by Halton in 2006. It essentially transposes the contents of the Masterplan into council planning policy, taking into account the policies contained within the UDP. The proposed New Sidings Phase 1 conforms to the SPD in that Site 253 is identified as the location for additional railway reception siding infrastructure to facilitate the wider 3MG development.

5. THE NEED FOR NEW SIDINGS PHASE 1

In summary, the 'need' for the New Sidings Phase 1 results from the following factors:

- All trains arriving or departing from 3MG rail facilities must do so via the existing Ditton Junction Sidings. The standard 'maximum length' freight train formation which can currently operate on the national network is between 520-540m long (i.e. combined length of the wagons plus the locomotive). On this basis, there is only **one** siding within the existing Ditton Junction sidings which can accommodate standard maximum length freight trains (Goods Siding 1 in combination with the Headshunt). Consequently, there is only one siding currently available to serve 3MG.
- When Goods Siding 1 and Headshunt in combination is occupied by a train, it is neither possible to receive nor despatch other full length freight trains from 3MG. Therefore, following the arrival of a train, the sidings have to be vacated (by means of shunting the train into the intermodal terminal or rail connected warehousing) before another train can arrive or depart. This severely restricts the daily freight train capacity at 3MG. Analysis by MDS Transmodal, taking into account the number of freight paths available to serve 3MG and the time it takes to unload a train, demonstrates that 3MG can only handle a maximum of **six maximum length trains per 24 hour period** under the current track layout at Ditton Junction sidings.
- The medium term requirement at 3MG is the ability to handle **16 maximum length freight train services per day**. The commercial, planning and environmental case for 3MG is predicated on a forecast of 16 daily train services to/from 3MG.
- The existing Ditton Junction sidings are consequently 'not fit for purpose' and cannot serve 3MG adequately over the medium term. The number of daily trains forecast to be handled at 3MG cannot be accommodated by the existing Ditton Junction sidings. As a result, a new facility is required. Clearly, New Sidings Phase 1 are crucial to the successful development and completion of 3MG.

5.1 Standard Freight Train Length

The standard 'maximum length' freight train formation which can currently operate on the national network is between 520-540m long, as follows:

Freightliner intermodal wagons (TOPS Code: FSA/FTA)

24 x 21m length wagons = 504m
+ 1 x Class 66 locomotive at 21.4m
Total length = 525.4m

Megafret twin intermodal wagons (TOPS Code: IKA)

14 x 37m length wagons = 518m
+ 1 x Class 66 locomotive at 21.4m
Total length = 539.4m

Conventional 'Cargo Wagons' (e.g. Ferrywagon, TOPS Code: IWA)

20 x 25m length wagons = 500m
+ 1 x Class 66 locomotive at 21.4m
Total length = 521.4m

Section 3.1 showed that the length of the existing Ditton Junction sidings is as follows:

- Goods Siding 1: 350m
- Goods Siding 2: 310m
- Goods Siding 3: 290m
- Goods Siding 1 & Headshunt: 550m

This means that *Goods Siding 1*, when used in combination with the *Headshunt*, is the only siding at Ditton Junction currently able to accommodate a current standard maximum length freight train. Effectively only one siding is currently available to receive or despatch trains.

5.2 Existing Sidings – 3MG Daily Capacity

Given that only *Goods Siding 1*, when used in combination with the *Headshunt*, can accommodate standard maximum length freight trains, this consequently leads to the following current operating restrictions at 3MG:

- Following the arrival of a train, *Goods Siding 1 & Headshunt* has to be vacated, by means of shunting the train into the intermodal terminal or rail connected warehousing, before another train can arrive at 3MG or depart from 3MG. Effectively nothing can move in, out or internally within 3MG when *Goods Siding 1 and Headshunt* are occupied.
- When all four tracks at the intermodal terminal are occupied (i.e. 2 trains), at least one train has to depart from 3MG before another intermodal train can arrive at the sidings. If all the tracks are occupied and a further train arrives in *Goods Siding 1 and Headshunt*, then effectively the trains in the intermodal terminal are 'trapped' until the *Goods Siding 1 and Headshunt* is vacated. As we shall demonstrate below, this leads to an inefficient use of the available freight path capacity on the WCML and the gantry crane equipment at the intermodal terminal.
- Conversely, at least two sidings have to be vacant at the intermodal terminal in order for an intermodal train to arrive at 3MG Similarly, the sidings at the rail connected warehousing have to be vacant in order for a conventional box wagon train to arrive at 3MG

This severely restricts the daily freight train capacity at 3MG.

In order to demonstrate fully the need for the New Sidings Phase 1, we have assessed and quantified the current daily capacity at 3MG under the existing Ditton Sidings track layout.

The starting point was an analysis of the number of freight paths which are currently available or likely to be available on the WCML between Crewe and Ditton via Weaver Junction. Analysing the Working Timetable (contains all passenger and freight train timings), we have identified the existing freight paths which serve 3MG. Following this, additional trains were 'pathed' between Crewe and Ditton Junction where this was feasible, taking into account the number of tracks available and Network Rail's operating and signalling restrictions (the 'Rules of the Plan'). The table below shows the results of this analysis.

Table: Freight Paths to/from Ditton Junction

	Arrival Time Ditton Junction	Path Status		Departure Time Ditton Junction	Path Status
1	00:06	Existing scheduled freight path	1	00:29	Potential new freight path
2	00:24	Potential new freight path	2	01:00	Existing scheduled freight path
3	00:52	Potential new freight path	3	01:22	Potential new freight path
4	01:46	Potential new freight path	4	02:04	Potential new freight path
5	02:25	Potential new freight path	5	02:47	Potential new freight path
6	03:01	Potential new freight path	6	03:17	Potential new freight path
7	03:30	Potential new freight path	7	03:33	Potential new freight path
8	04:10	Potential new freight path	8	03:53	Potential new freight path
9	04:40	Potential new freight path	9	04:33	Potential new freight path
10	05:04	Existing scheduled freight path	10	05:09	Potential new freight path
11	05:24	Potential new freight path	11	05:31	Potential new freight path
12	06:35	Potential new freight path	12	06:07	Potential new freight path
13	06:57	Existing scheduled freight path	13	06:30	Existing scheduled freight path
14	07:03	Potential new freight path	14	06:55	Existing scheduled freight path
15	07:40	Potential new freight path	15	08:08	Potential new freight path
16	08:00	Potential new freight path	16	09:14	Existing scheduled freight path
17	08:40	Existing scheduled freight path	17	10:38	Potential new freight path
18	09:07	Potential new freight path	18	11:45	Existing scheduled freight path
19	10:24	Existing scheduled freight path	19	12:35	Potential new freight path
20	11:04	Existing scheduled freight path	20	13:10	Existing scheduled freight path
21	11:43	Potential new freight path	21	13:43	Potential new freight path
22	12:03	Existing scheduled freight path	22	14:02	Potential new freight path
23	12:42	Potential new freight path	23	14:35	Existing scheduled freight path
24	13:20	Potential new freight path	24	14:45	Existing scheduled freight path
25	13:39	Existing scheduled freight path	25	15:11	Existing scheduled freight path
26	14:16	Potential new freight path	26	15:57	Potential new freight path
27	14:39	Existing scheduled freight path	27	16:34	Potential new freight path
28	15:18	Potential new freight path	28	17:09	Potential new freight path
29	16:08	Potential new freight path	29	17:43	Potential new freight path
30	16:42	Existing scheduled freight path	30	18:10	Potential new freight path
31	17:24	Potential new freight path	31	18:42	Potential new freight path
32	18:06	Potential new freight path	32	19:38	Existing scheduled freight path
33	18:25	Existing scheduled freight path	33	20:18	Potential new freight path
34	19:03	Potential new freight path	34	21:16	Potential new freight path
35	19:44	Existing scheduled freight path	35	21:30	Potential new freight path
36	20:10	Potential new freight path	36	22:10	Potential new freight path
37	21:12	Existing scheduled freight path	37	22:36	Potential new freight path
38	22:12	Potential new freight path	38	23:01	Potential new freight path
39	23:27	Existing scheduled freight path	39	23:44	Potential new freight path
40	23:42	Potential new freight path			

Source: WTT and MDST Analysis

On this basis, there are currently 39 freight paths potentially available to and from 3MG, of which 8 are already included in the Working Timetable (though 3MG currently handles 4 trains per day). Potentially, there are 31 additional timetable paths available to serve 3MG.

Having identified the total number of paths to/from 3MG and the actual arrival and departure times, the next stage of the analysis involved linking these timings to the operating procedures/restrictions of the existing sidings an intermodal terminal. These include:

- The time taken for a train to fully depart from the mainline and come to a halt in the headshunt is 5 minutes;
- A minimum 10 minutes turnaround time is required before a train can be propelled backwards into the Goods Branch;
- A full length intermodal train occupies 2 tracks under the cranes at the intermodal terminal. Trains are currently propelled backwards down the Goods Branch, as previously described. They are then 'sectioned' at the entrance to the terminal, with each part train then shunted into the two tracks beneath the cranes. The time taken to shunt a train from the existing sidings to under the cranes is 30 minutes. On departure this operation is performed in reverse (also takes 30 minutes);
- The train turnaround time at the intermodal terminal is 3 hours;
- At least 20 minutes is required to prepare the train for departure in the existing Ditton Junction sidings (locomotive coupling, brake testing etc.); and
- At least 30 minutes 'gap' is required between a departing train and the next arrival (this is to accommodate potential delays – otherwise an arriving train could be 'stranded' on the mainline in the event of a late departure).

Based on these operating restrictions/procedures and arrival/departure paths, **a maximum of 6 trains per day** can be handled at 3MG under the current track layout at Ditton Junction sidings. This is shown in the table below. Chart 1 in Appendix 3 illustrates this is diagrammatic form, showing the siding and track occupancy together with internal train movements. This diagram clearly shows the operating restrictions which limit capacity.

Table: Operating Pattern and 3MG Maximum Daily Capacity via Existing Ditton Junction Sidings

		Arrival Time Window		Reception sidings occupied		Shunt from sidings to cranes		Under Cranes Unload/Load		Shunt from cranes to sidings		Reception sidings occupied	
		From	To	From	To	From	To	From	To	From	To	From	To*
*	Intermodal Train No 1	05:04	05:09	05:09	05:19	05:19	05:49	05:49	08:49	08:49	09:19	09:19	10:38
	Intermodal Train No 2	07:40	07:45	07:45	07:55	07:55	08:25	08:25	11:25	11:50	12:20	12:20	13:43
*	Intermodal Train No 3	11:04	11:09	11:09	11:19	11:19	11:49	11:49	14:49	15:30	16:00	16:00	16:58
*	Intermodal Train No 4	14:39	14:44	14:44	14:54	14:54	15:24	15:24	18:24	18:24	18:54	18:54	19:38
	Intermodal Train No 5	17:24	17:29	17:29	17:39	17:39	18:09	18:09	21:09	21:58	22:28	22:28	23:01
*	Intermodal Train No 6	21:12	21:17	21:17	21:27	21:27	21:57	21:57	00:57	05:50	06:20	06:20	06:55

Assumptions

Time to enter sidings - 5 mins

Arrival turnaround time in reception sidings - 10 mins

Shunt time between sidings and cranes - 30 mins

Turn-around time under cranes - 3 hours

Departure - min 20 mins for loco coupling etc.

Min 30 mins between departure and next arrival

Arrival and departure times from WTT (Dec 05) and MDST Pathing analysis

** Existing intermodal train at 3MG*

** Departure to Mainline, WTT*

5.3 Traffic Forecasts for 3MG and Need for New Sidings Phase 1

The medium term 'need' at 3MG is the ability to handle 16 daily maximum length freight train services (i.e. the current maximum operating length of up to 540m). The commercial, planning and environmental case for 3MG is predicated on a forecast of 16 trains per day arriving and departing. These forecast train numbers comprise:

- 12 intermodal trains per day arriving and departing the intermodal terminal; and
- 4 conventional box wagon trains per day to the rail served warehousing.

The assumptions and rationale which underpin these forecasts have been detailed in previous documents supporting 3MG, notably the 'Proof of Evidence' used to support the land allocation in the authority's UDP. They have not therefore been repeated in this document, however they are consistent with recent forecasts produced for the freight industry by MDS Transmodal (subsequently used to inform DfT rail policy and Network Rail's Freight Route Utilisation Strategy). The large forecast growth in train volumes in general and for 3MG in particular is being driven by, among other factors, the following:

- Growing volumes of containerised imports (5% growth pa);
- Rising diesel prices; and
- Driver shortages and working time restrictions.

The analysis above, though, demonstrates that these traffic forecasts cannot be achieved at 3MG under the current track layout at Ditton Junction sidings. There is consequently a need for additional reception siding facilities at Ditton Junction to serve 3MG in order to meet the forecast traffics; as follows:

- Forecast 16 trains per day;
- Current capacity is 6 trains per day;
- **Deficit of 10 trains per day.**

The commercial success of 3MG is therefore dependent on the proposed New Sidings Phase 1. Planning consent is therefore crucial to the successful development and completion of 3MG.

5.4 New Sidings Phase 1 – Daily Capacity

We have therefore 're-run' the above capacity analysis in order to establish the number of tracks the New Sidings Phase 1 will need to contain so that the medium term requirement to handle 16 daily maximum length train services can be met. The same operating procedures were applied, apart from the requirement for a 30 minute 'gap' between departures and arrivals (on the basis that the new sidings will contain at least one vacant track at all times,

meaning that arriving trains will not be stranded on the mainline in the event of a late departure). The results are shown in the table below.

The table shows that 16 daily maximum length train services will require 4 tracks to be contained within the New Sidings Phase 1 (i.e. three tracks for 'parking' trains before and after cargo handling plus a locomotive release line). Chart 2 in Appendix 3 illustrates this in diagrammatic form, showing siding and track occupancy together with internal train movements.

Given the above, the design and layout for the New Sidings Phase 1 consequently reflects the need to handle 16 daily trains up to 540m in length; namely:

- 3 x 550m length wagon sidings;
- 1 x 50m length Headshunt; and
- 1 x 550m length locomotive release line.

Table: Operating Pattern and 3MG Maximum Daily Capacity via Proposed New Ditton Junction Sidings

Over the longer term, there will be a need for 3MG to handle longer trains. Network Rail's long term aspiration is to increase the maximum length of freight trains to around 630m trailing length (the equivalent of 30 intermodal wagons currently operated by Freightliner). This will generate additional freight capacity without the need to provide for additional freight paths in the timetable.

Phase 2 plans have been designed which will permit the New Sidings Phase 1 to be extended to around 650m so that the longer term need can be met. A separate planning application will be brought forward for Phase 2 when the requirement for longer trains has been reached.

5. LOCATION

Site 253 is the only practical and feasible location for the proposed new sidings for the following reasons:

1. The new reception sidings cannot be located north of the WCML Liverpool Branch:

- There is insufficient space for the sidings north of the railway line;
- Locating the sidings in such a location would involve shunting 550m length trains, at walking pace, across the Up Fast and Down Fast lines. There is not sufficient capacity on the mainline to undertake such movements, and Network Rail would not sanction this solution from both a capacity and safety perspective.

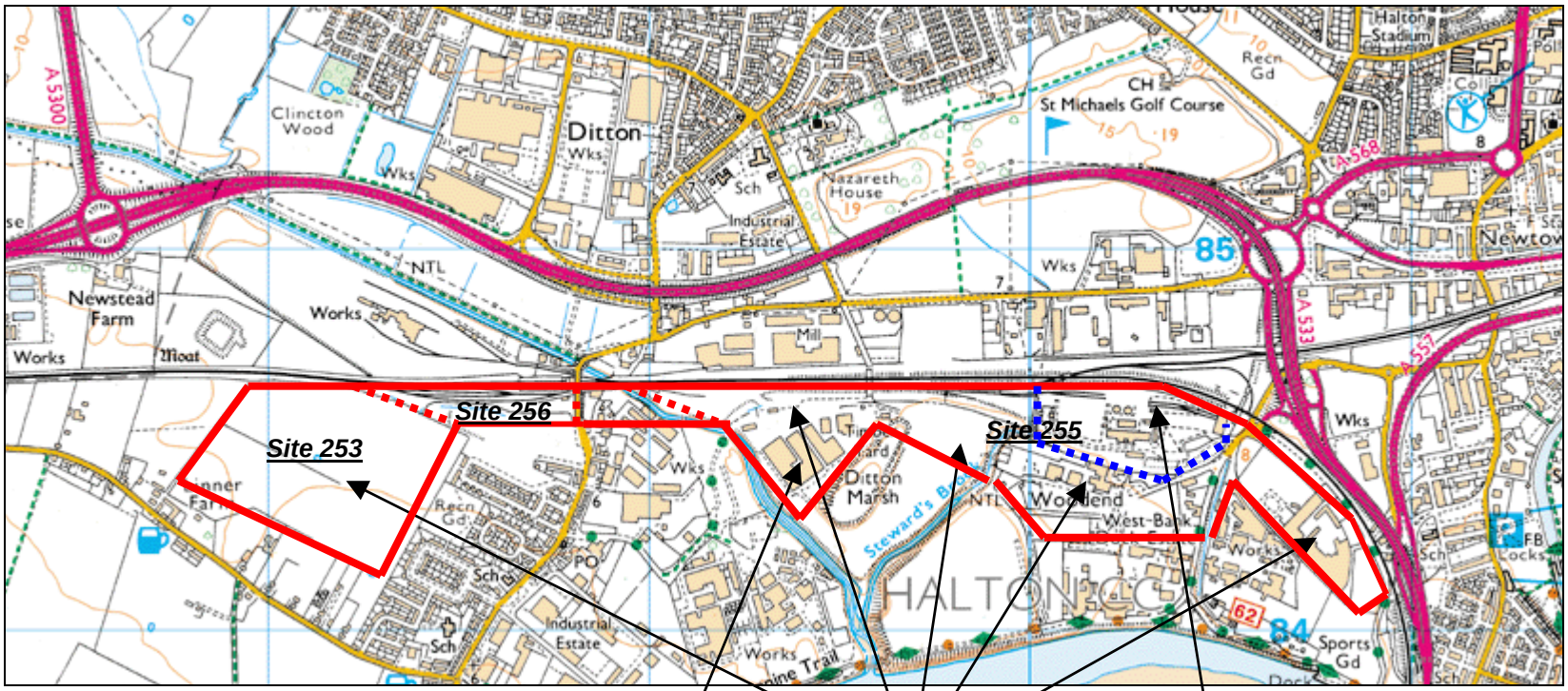
2. They cannot be located on Site 255. The height and alignment of the mainlines in relation to Site 255 means that connections directly into it is not possible where the mainlines passes Site 255. Immediately after crossing Runcorn Bridge, the WCML Liverpool Branch is elevated above ground level. Once clear of the river the line, initially on brick railway arches and then on an embankment, progressively drops towards ground level on a 1-in-114 gradient. However, the line only reaches ground level immediately to the east of Ditton Junction. Conversely, the Widnes-Warrington line approaches 3MG slightly below ground level in order to 'dive' under the Liverpool Branch, after which it begins to rise and only reaches ground level at Ditton Junction. Ditton Junction is therefore the earliest opportunity at which a siding facility can be connected to the mainline.

3. They cannot be located west of site 253.

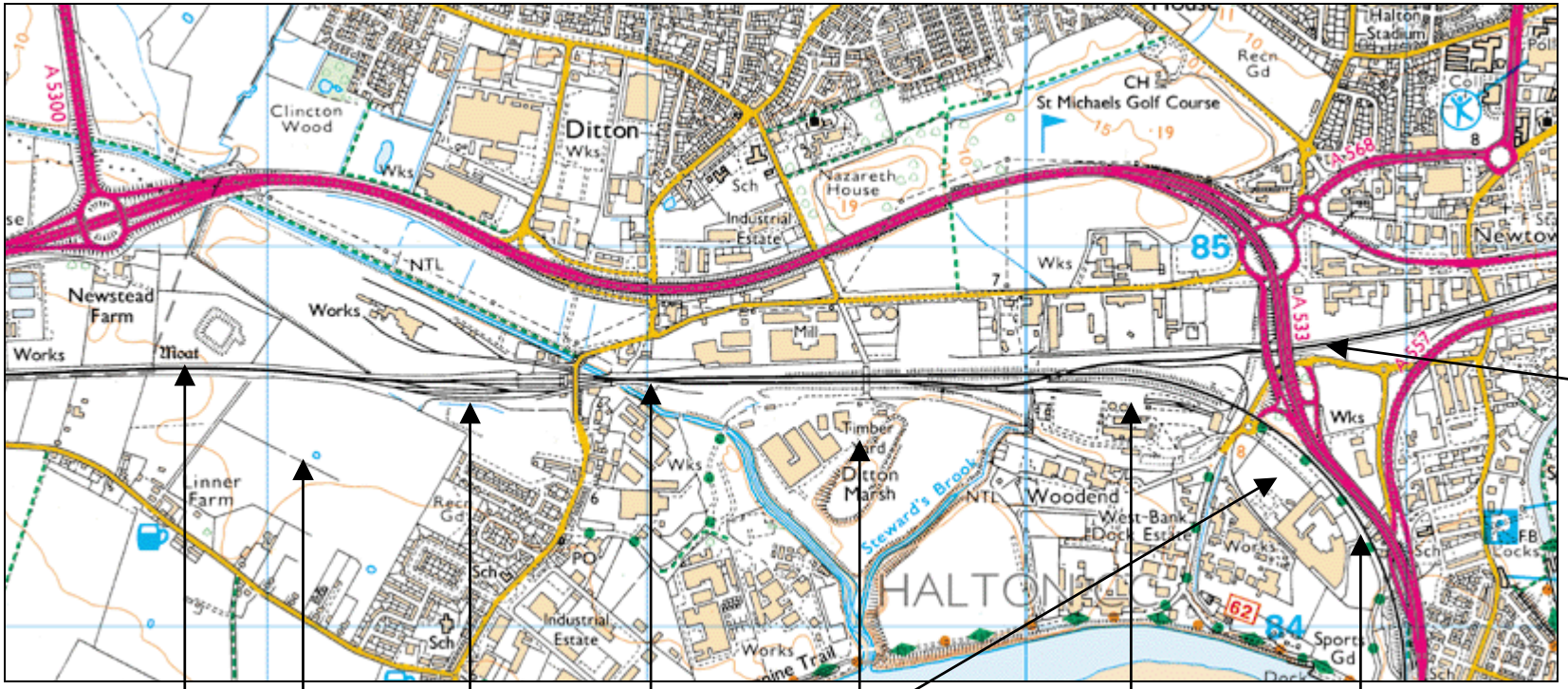
APPENDIX 1

PLANS AND MAPS

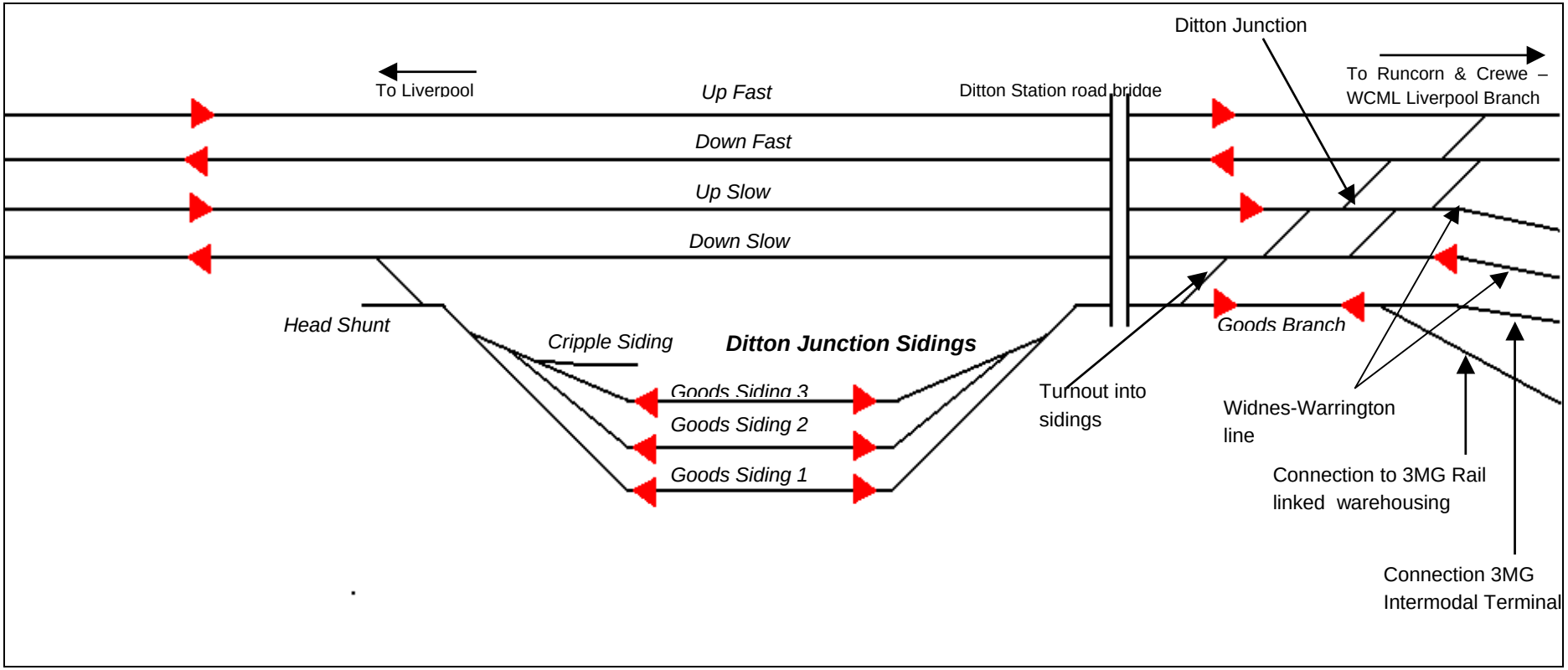
Map 1: Location and Broad Extent (Red Boundary line) of the Mersey Multi-Modal Gateway (3MG)



Map 2: Location of Ditton Junction Sidings in relation to 3MG and WCML Liverpool Branch

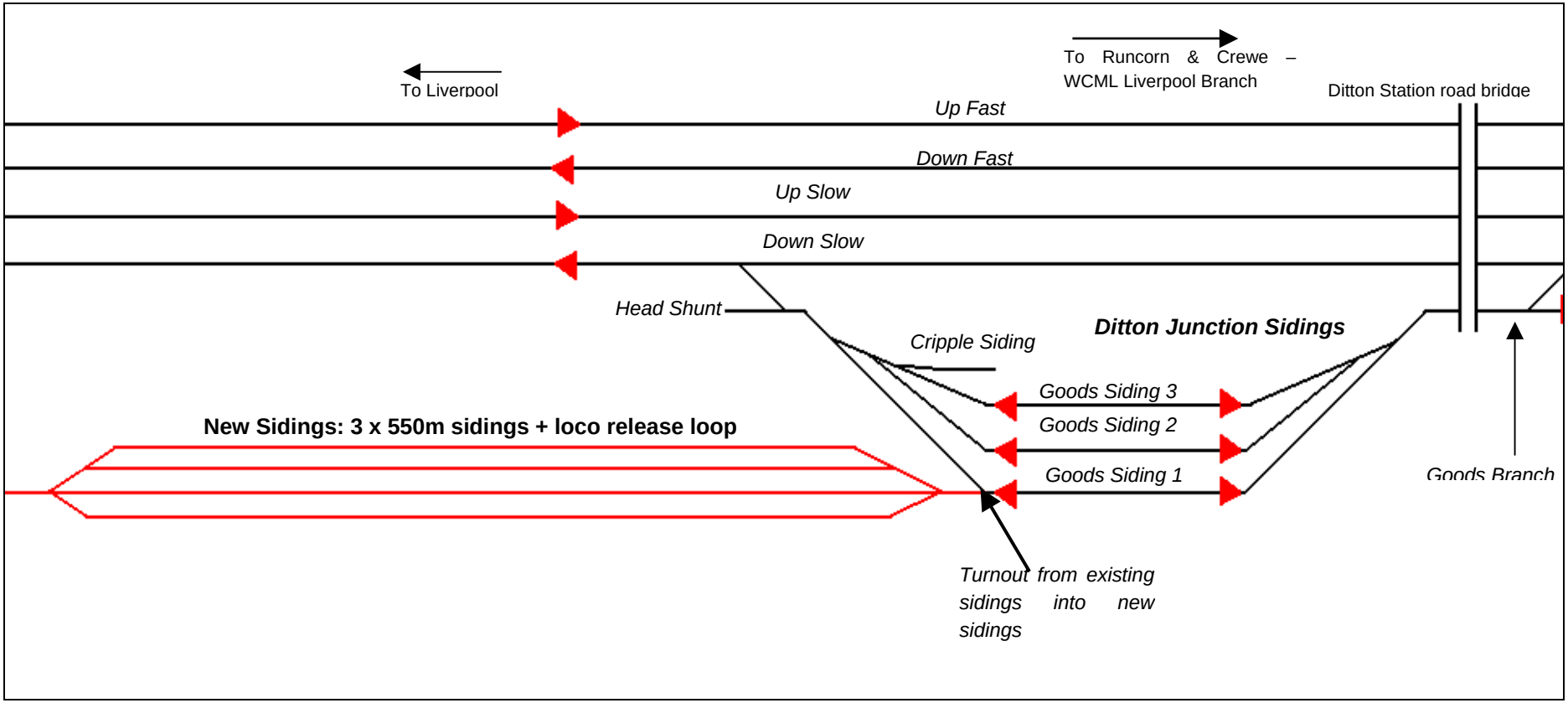


Map 3: Sketch Map of Existing Railway Track Layout at Ditton Junction



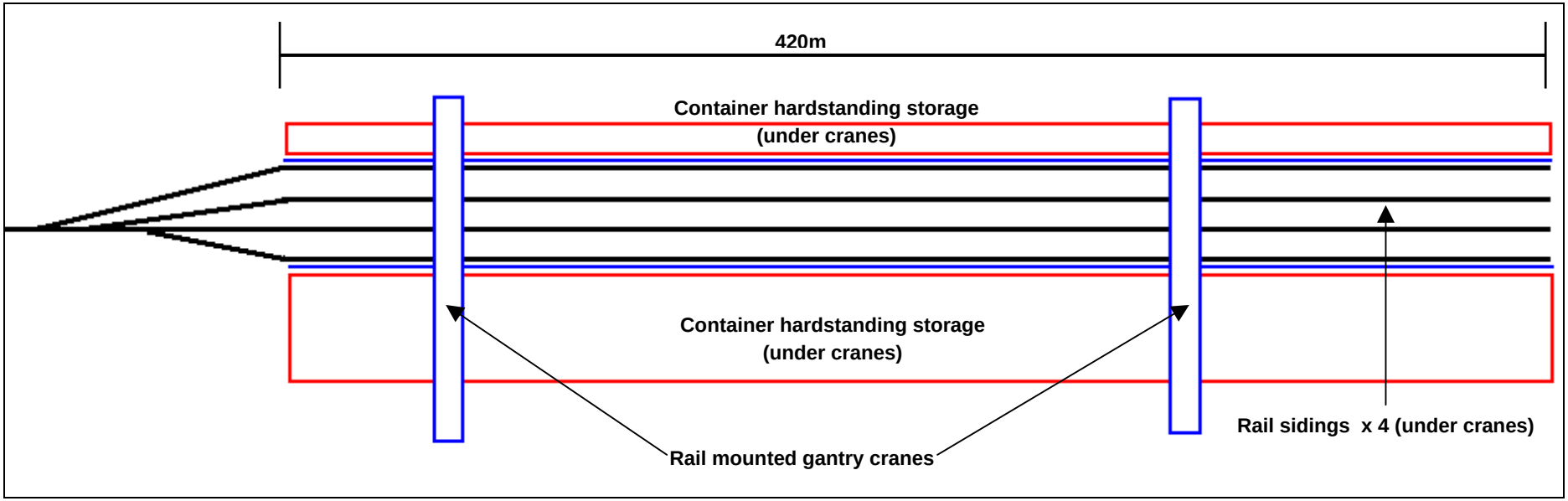
Not to Scale. The red arrows indicate direction of signalling on each line. Arrows pointing in opposite directions on a line indicates bi-directional signalling.

Map 4: Sketch Map of Railway Track Layout with Proposed New Reception Sidings (Subject of Planning Application)



Not to Scale. The red arrows indicate the direction of signalling on each line. Arrows pointing in opposite directions on a line indicates bi-directional signalling.

Map 5: Sketch Map of Intermodal Terminal Layout



APPENDIX 2

APPENDIX 3