Land at Rushgreen Road, Lymm
Technical Appendix

Peel Holdings (Management) Ltd

September 2017

Turley

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
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RANDALL THORP
CHARTERED LANDSCAPE ARCHITECTS

Land off Rush Green Road, Lymm

Landscape Sensitivity Assessment of Lymm and Landscape Appraisal of Proposed Development on Land off Rush Green Road

September 2017

Prepared for:

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Contents

1. Introduction

1.1. Randall Thorp LLP has been commissioned by Peel Holdings to produce an assessment of the landscape sensitivity of Lymm; a landscape appraisal for a site, Land off Rush Green Road; and provide advice in relation to the development potential of the site.

1.2. This report has been prepared in response to the Warrington Borough Council Local Plan Settlement Profiles – Outlying Settlement document, published in July 2017, which states that sustainable settlement extension to Lymm "*could have an impact on the overall Green Belt and settlement character objectives.*"

1.3. The settlement of Lymm is located within the eastern part of the Borough, close to the junction of the M6 and M56. The site is located on the eastern fringes of Lymm, enclosed on three sides by residential development. The strategic location of Lymm within the Warrington Borough and the site location are shown on **Figure 1, Appendix A**.

2. Methodology

Guidance

2.1. This Landscape Sensitivity Assessment has been prepared in accordance with "Guidelines for Landscape and Visual Impact Assessment" (GLVIA3), Third Edition. Chapter 5 of GLVIA sets out the methodology for the assessment of landscape effects.

Study Area

2.2. For the purposes of the report a landscape Study Area, which encompasses the wider landscape context of Lymm has been adopted. **Figure 2, Appendix A** illustrates the Study Area.

Approach

2.3. The principle objectives of the assessment are:

Firstly

- To describe and evaluate the existing landscape character of the Study Area;
- To assess the value and sensitivity of the Study Area;

Secondly

- To describe and evaluate the existing landscape character of the Land off Rush Green Road;
- To assess the value and sensitivity of the site; and
- To advise on the development potential of the site taking into account the landscape assessment set out above.

Baseline Studies

2.4. The baseline study identifies the landscape character and components of Lymm and of the site within the Study Area shown in **Figure 2, Appendix A**.

2.5. Analysis has been carried out to gain a first-hand understanding of the landscape surrounding the settlement of Lymm; and to establish the contribution this landscape currently makes in terms of landscape quality, character, value, green infrastructure functions and accessibility.

2.6. The following documents have been reviewed as part of the desk study:

- Warrington Landscape Character Assessment – Prepared 2007
- Warrington Local Plan Core Strategy – Adopted July 2014
- Warrington Borough Council Local Plan – Settlement Profiles July 2017

Methodology for appraising the sensitivity of the Study Area

2.7. The guidance in GLVIA3 underpins the complete process of landscape and visual impact assessment. '**Landscape value**' and '**susceptibility to change**' are taken into account when establishing the overall **sensitivity** of a landscape prior to making an assessment of the landscape effects. In broad terms landscape 'sensitivity' is defined as a considered combination of the value of the landscape with its susceptibility to change.

2.8. GLVIA3 suggests two approaches to determining landscape value, the first applies to areas where there are existing landscape characterisation studies and where there are landscape designations in place, and the second which applies when there is no existing evidence base. It goes on, however to suggest (para 5.29) that in practice a combination of these approaches is most effective.

2.9. In the case of this settlement there is a published assessment, Warrington: A Landscape Character Assessment (LCA) (Prepared in 2007), which sets out the key landscape characters in the Warrington Borough. This LCA does not attach any values to any particular landscape type or landscape area. It is an objective assessment of the 2007 landscapes within Warrington Borough.

2.10. In addition Box 5.1 on page 84 of GLVIA lists a range of factors that are generally agreed to help in valuing landscapes.

Box 5.1

Range of factors that can help in the identification of valued landscapes

- **Landscape quality (condition)**: A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
- **Scenic quality**: The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses).
- **Rarity:** The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.
- **Representativeness**: Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
- **Conservation interests**: The presence of features of wildlife, earth science or archaeological or historical and cultural interest can add to the value of the landscape as well as having value in their own right.
- **Recreation value**: Evidence that the landscape is valued for recreational activity where experience of the landscape is important.
- **Perceptual aspects**: A landscape may be valued for its perceptual qualities, notably wildness and/or tranquillity.
- **Associations**: Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area.

Based on Swanwick and Land Use Consultants (2002)

2.11. The value of the landscape is assessed in this report using a combination of the considerations set out in Box 5.1 of GLVIA3 and the key characteristics identified in the Warrington Landscape Character Assessment.

2.12. 'Susceptibility to change' is defined at paragraph 5.40 of GLVIA3 which states:

> *"This means the means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of planning policies and strategies".*

2.13. The level of susceptibility to change of any landscape will depend on both its existing characteristics and on the characteristics of the development being proposed. A landscape may have a high susceptibility to change if the elements are proposed which are completely new/ alien in the context of the landscape, or where new elements would be highly visible in an open view. Likewise a landscape would have a low susceptibility to change if the site is not widely visible and the new elements proposed are already found in the existing environment.

2.14. In summary, when undertaking a landscape assessment, landscape sensitivity is the starting point, and this is determined by considering value and susceptibility together. The assessment of the effects on the landscape as the result of a particular scheme is then conducted by considering the magnitude of change to the baseline alongside the sensitivity of the landscape to reach a considered conclusion.

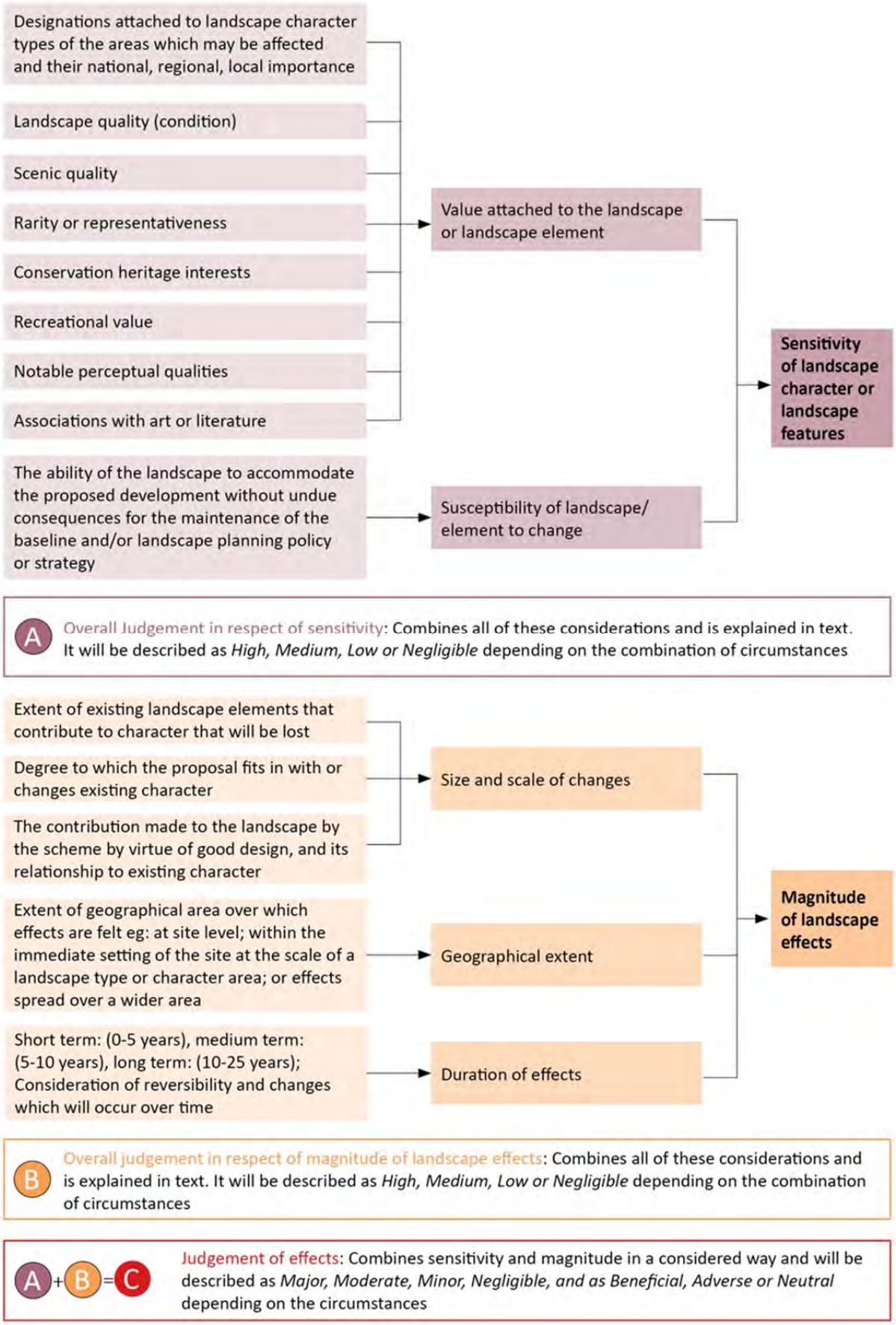
Methodology for the Site Specific Landscape Appraisal

2.15. The second part of the assessment is based on the findings of the sensitivity appraisal of the Study Area to determine the sensitivity of the site, as well as the magnitude of change to the baseline as a result of a proposed development within the site.

2.16. In line with GLVIA 3, the site assessment is based on the consideration of the sensitivity of landscape character, landscape features, and views/viewers to the type of development being proposed, (i.e. – residential development) and on the magnitude of change likely to occur. The sensitivity and magnitude are then considered together, and conclusions drawn on the likely effects on the landscape character.

2.17. The considerations contributing to establishing the significance of landscape effects are indicated in **Diagram 1**.

Diagram 1: Considerations contributing to establishing the significance of landscape effects.



3. Planning Policy and Baseline Landscape Character Assessment

Planning Policy

3.1. The Warrington Local Plan Core Strategy was adopted by Warrington Borough Council (WBC) on 21st July 2014 and replaced the previously Adopted Unitary Development Plan as the reference document for planning applications.

3.2. The majority of the landscape that surrounds the settlement of Lymm and the Land off Rush Green Road is indicated as Green Belt, which is set out within Policy CS 5 – Overall Spatial Strategy – Green Belt. This policy is not a landscape policy but a strategic planning policy. Green Belt designation on a site cannot be considered to add landscape value in GLVIA terms.

3.3. In addition to this Warrington Borough Council recognises the need for Green Belt release in order to accommodate the Borough's housing and economic requirements.

3.4. Lymm Conservation area is located centrally to the Lymm Settlement, there are a number of Listed Building within the conservation Area and Study Area; these features are identified in Policy QE8 – Historic Environment. The Local Plan recognises the value of the heritage assets to the Borough and sets out the policy to appropriately protect and enhance these areas.

3.5. Within the Study Area surrounding the Lymm settlement, to the north, is the nationally designated SSSI Woolston. This SSSI sits within the River Mersey and Bollin River flood plains; the area of floodplains are designated within the Local Plan under Policy CS6 - Strategic Green Link. This policy sets out the need to care and manage important natural environments in the Borough. In addition to the above there are a number of Local Nature Reserves that are designated under Policy QE5.

Landscape Character Assessment

3.6. **Figure 2, Appendix A** shows the extent of the character areas that surround the settlement of Lymm within the Study Area in which the sensitivity assessment is based on.

3.7. Warrington Borough Council Landscape Character Assessment sets out and describes, on an area by area basis, the Borough's distinctive landscape, its cultural history, landscape sensitivity and landscape change, together with Recommended Management and Landscape Objectives. The Borough is divided into broad Landscape Character Types; these are then divided into more detailed Landscape Character Areas.

3.8. The settlement of Lymm and its southern extent fall within Landscape Character Area 3.C - Lymm. Lymm and the areas to the west of Lymm fall within Landscape Character Area 3.B Massey. These character areas are both Landscape Character Type3, Red Sandstone

Escarpment. The areas to the north of Lymm area classed as Landscape Character Type 5 Floodplain and comprises the Linear Landscape Character Area 5.A River Mersey Basin.

3.9. The study area covers an expanse of land that comprises the settlement of Lymm on a red sandstone escarpment and associated agricultural land; and the Mersey River/ River Bollin floodplains at their confluence with the Manchester Ship Canal.

3.10. The settlement of Lymm is located centrally in the Study Area, and is characterised by the valley on which it sits. To the south of the village is Lymm Dam a large recreational water body. To the east of Lymm is Oughtrington, a satellite village. To the north west of Lymm is Statham which has been absorbed into the development of Lymm.

3.11. Two canals dissect the Study Area on an east – west axis. To the north of the Study Area is the Manchester Ship Canal which is closely associated with the River Mersey and the Bollin River. Central to the study running through the northern portion of Lymm is the Bridgewater Canal originally built to transport coal from Worsley to Liverpool; this canal now forms an important recreational route, the Cheshire Ring Canal Walk.

3.12. The development of Lymm settlement has spread along two A roads that pass through the centre of the village, the A56 and the A6144. These strategic routes connect to both Warrington to the east and Greater Manchester to the west. The B5158 travels south out of Lymm village and also provides a link from the village to Junction 20 of the M6, which connects to the M56.

3.13. **Appendix B** includes extracts of the relevant Landscape Character Area descriptions from the Warrington Landscape Character Assessment.

Landscape Character Area 3B – Massey Brook

3.14. The relevant key characteristic from LCA 3B:

- *Open views internally and to the north and east*
- *Domination of the M6 motorway*
- *Gapped hedgerows with few hedgerow trees*
- *Mainly arable landscape*
- *Distinctive 'valley basin' land form*
- *Lack of exposed red sandstone*

3.15. Landscape character Area 3B is described in the Warrington Landscape Character Assessment as:

> *"The catchment area of Massey Brook forms a sheltered landscape valley basin cut into the Red Sandstone Escarpment. The area is bisected and visually dominated by the M6 motorway running north/south between the Thelwall Viaduct and the M6 Stretton interchange at Junction 9.*

The landscape has a broad open views both internally and to the north and east. The area appears more exposed then the adjoining Area 3A and 3C with fewer hedgerows trees present. Agriculture is mainly with gapped hedgerows. A narrow linear band of deciduous woodland is associated with Massey Brook."

Landscape Character Area 3C – Lymm

3.16. The relevant key characteristics from LCA 3C:

- *Small scale, more intimate rural landscape*
- *Luxuriant hedgerows trees with diverse range of species*
- *Rolling landscape*
- *Restricted views*
- *Strong feeling of high landscape quality*

3.17. Landscape Character Area 3C is described in the Warrington Landscape Character Assessment as:

"The boundaries of the area are formed by the Massey Brook basin to the west; the Warrington Borough boundary to the south and east and the Bridgewater Canal to the north. The land again falls generally to the north but is of a more rolling and undulating nature occasionally with back falls to the south. The agriculture is a balance of both pastoral and arable farming.

The area's topography creates an intimate landscape, often self-enclosed by woodlands and hedgerow trees. Views from the area are therefore less extensive with few internal views of note. Lymm water tower and St Peter's Church, Outrington are exceptions, forming local landmarks. To the east of Lymm, around Oughtrington, the landscape is more open and land less dissected by streams.

Vegetation in the area generally is notably vigorous and healthy, particularly when compared with the rest of Warrington Borough. Hedgerows and hedgerow trees appear more luxuriant, larger and more well-formed and include a more diverse range of species, including chestnut, lime, beech, and willow, to accompany the ore universally found common oak."

Landscape Character Area 5A – River Mersey/ Bollin

3.18. The relevant key characteristics from LCA 5A:

- *The River Mersey and River Bollin*
- *The Manchester Ship Canal*
- *Mounded landfill sites*
- *Slurry and dredging lagoons*
- *Importance for nature conservation*
- *Dominance of floodplain crossings (Road and rail bridges)*
- *Residual floodplain meadows*

- *Widespread residential and industrial development on the floodplain*
- *Artificial levee and channel constraints to the river*
- *Lack of visual importance of the river (normally screened from views)*
- *The Mersey Way recreational footpath*

3.19. Landscape character Area 3B is described in the Warrington Landscape Character Assessment as:

> *"The River Mersey and its broad floodplain forms a major landscape character, dividing the Borough into roughly two halves on an east/west axis. The River Bollin flood plain merges with the Mersey floodplain from the east. The Mersey displays the typical characteristics of a lowland mature river, winding across a broad floodplain with large meander loops. Much of the river has been prevented from naturally flooding onto the its floodplain by the creation of artificial levee embankments, whilst its channel has also been occasional straightened or restricted by sheet piling, walls or other hard structures.*
>
> *Within the Borough boundary, only small areas of original flood meadows still survive. These are located to the south of the river in the Penketh area, to the north of the river within a meander loop at Paddington Meadows and at the confluence with the River Bollin between Warburton and Lymm. The remainder of the Mersey flood Plain has heavily developed for residential and industrial uses, particularly in the areas of martin Croft, Woolston, Padgate, Orford, Westy, Latchford, Wilderspool and Sankey Bridges."*

4. The Landscape Sensitivity of the Study Area

4.1. The value of the landscape surrounding the settlement of Lymm is considered below using the guidelines set out in GLVIA Box 5.1.

Landscape Value

- **Landscape Quality (Condition):** The landscape to the southern and eastern extents of the Study Area are predominantly agricultural. To the west the "*agricultural changes towards arable farming have led to the progressive decline in landscape features such as hedgerows and hedgerow trees*". The landscape to the south is described as having "*a strong feeling of a high landscape quality*". Landscape features are described as "*luxuriant hedgerow trees*" and "*well formed*", "*often self-enclosed by woodlands*". However, this "creates a less sensitive environment in which to absorb small scale development". To the north "*The flood plains have been extensively developed without consideration to its landscape sensitivity*".
- **Scenic Quality:** The scenic quality of the Study Area is varied; in some locations, due to the lack of vegetation there are open views into the landscape although these are considered "*visually dominated by the M6 motorway*". To the south of Lymm the topography and well vegetated nature of this land creates a more intimate and enclosed landscape which is described as having "*restricted views*".
- **Rarity:** Woolston SSSI is a valuable feature within the Study Area and a "*rich haven for bird life*"; this rare landscape is located to the north of the Manchester ship canal and is no closely related to the settlement of Lymm. The remaining landscape within the Study Area is common of the Landscape Character Areas and are not considered to be rare.
- **Representativeness:** The majority of the landscape within the Study Area is typical of the Landscape Character Area in which they sit. However the landscape does not contain elements which are considered particularly important examples.
- **Conservation Interests:** There are a number of listed buildings within the Study Area. The undeveloped floodplains are described as having "*conservation importance*" and include Woolston Eyes SSSI, however these areas of importance are focused to the west of the River Mersey and the north of the Manchester Ship Canal, away from the settlement of Lymm. In addition to the above there are a number of Local Nature Reserves within the Study Area none of which are located within or directly adjacent to the site. The Village of Lymm Conservation Area is located centrally to Lymm settlement area. The buildings within the conservation area are surrounded by existing properties that have been developed as part of the expansion of Lymm Village.
- **Recreation Value:** The trackbed from former railway lines have been reformed into the Mersey Way and the Trans Pennine Trail; the Mersey Valley Trail; and the Cheshire Ring Canal Walk which follows the Bridgewater canal, are important recreational links through the Study Area.
- **Perceptual Aspects:** The construction of the M6 motorway, the expansion of Lymm village, and continued development of building on the flood plain has altered this

agricultural landscape and mean that it can not be perceived as wilderness or tranquil.

- **Associations:** There are no known associations of the wider Study Area or site with any published art, literature or folklore which would add to its landscape value.

4.2. The landscape value is considered to be ***Medium - Low***.

Susceptibility to Change

4.3. The existing topography and vegetation within the southern areas of Lymm "*creates a less sensitive environment in which to absorb small scale development*". The landscape that surrounds Lymm is predominantly agricultural land; in locations adjacent to the settlement is considered to be urban fringe in its nature as it is viewed in the context of residential development. To the north of Lymm the landscape has some features that are considered to be vulnerable but these are located beyond the canals and are not associated with the settlement of Lymm.

4.4. The susceptibility to change is therefore considered to be ***Medium - Low***.

Conclusion in respects of the Landscape Sensitivity

4.5. As can be ascertained from the descriptions there is nothing to indicate that there is anything about the wider landscape surrounding the settlement of Lymm which should be considered remarkable or out of the ordinary with the exception of the SSSI Woolston which is located to the north of the Study Area beyond the Manchester ship canal. Some features of value are identified that are site specific and would be subject to further assessment or mitigation measures.

4.6. The landscape sensitivity of the landscape results from the consideration of landscape value and its susceptibility to change. As the ***landscape value has been assessed as Medium - Low*** and ***the susceptibility to change has been assessed as Medium - Low***; the landscape sensitivity is therefore considered to be ***Medium - Low***.

4.7. The Warrington Borough Council Local Plan: Settlement Profiles – Outlying Settlements Document (July 2017) states that the Sustainable Settlement Extension "*could impact on the overall Green Belt and settlement character objectives*".

4.8. For the reasons set out above the landscape surrounding Lymm is considered to have ***Medium - Low*** sensitivity, and able to accommodate change. The landscape to the north and east of Lymm is considered to be more important in Green Belt terms as this open area of land provides a physical and visual gap between Warrington Town and Lymm Village.

4.9. Overall the settlement of Lymm has the capacity to accommodate development without a significant adverse impact on the landscape character, in particular the southern extents of the settlement area.

5. Site Description and Landscape Sensitivity of the Site

Site Description

5.1. **Figure 3, Appendix A** shows the site in relation to Lymm and its landscape features and context.

5.2. The site is located immediately adjacent to the settlement of Lymm. The site comprises agricultural land, including a number of paddocks and a Garden Centre/ Nursery. The site is well related to the settlement of Lymm and is enclosed on three sides by the existing residential properties. The Bridgewater Canal forms the southern boundary of the site.

5.3. The site is bordered to the north by properties off Rush Green Road; to the east by properties off Sandy Lane and Oughtrington Lane; and to the west by the residential development at Mardale Crescent. Oughtrington Community Primary school borders the site to the north east.

5.4. Field boundaries are marked by gappy hedgerows. There are some areas of woodland within the site and mature trees within the hedgerows focused at the site boundary. The site is generally flat with a gentle slope to the north. There are a number of drains and small water course that traverse the site in a north south alignment; and a pond is located to the south of Lymm Garden Nursery which currently occupies part of the site.

5.5. There is a Public Right of Way which enters the site on the eastern boundary and travels in a north western direction along the northern site boundary. This route provides a connection from Oughtrington towards Lymm Village to the west and the Trans Pennine Trail to the north. The Cheshire Ring Canal Walk follows directly adjacent to the southern boundary of the site. There are occasional views from within the eastern part of the site towards St Peter's Church, this church is a local landmark.

Landscape Sensitivity

5.6. The sensitivity of the land surrounding the settlement of Lymm is appraised in Chapter 4.0 of this assessment. The site is representative of the Study Area therefore the sensitivity of the Site is considered to be ***Medium - Low***.

Magnitude of Change

5.7. A proposed illustrative masterplan for the development of the site is appended to this assessment (**Appendix C**). This Illustrative masterplan has been used to establish the potential magnitude of change to the site baseline as a result of a proposed sustainable settlement extension.

Size and scale:

5.8. Existing hedgerows, trees and water bodies should be retained and enhanced as part of any

development proposal, other than the loss of open land there are few existing features that would need to be lost in order to develop the site. There are no landscape features within the site that are considered to be rare or valued. The site is surrounded on three sides by existing housing and to the south by the canal. Overall any proposal to develop the site would fit in with the adjacent character.

5.9. The landscape masterplan demonstrates that the proposals for developing the site could make a contribution to the landscape. The existing landscape structure of the site could be preserved, and enhanced with new woodland areas to create green corridors and providing screening to the surrounding properties. New ponds and ditches could be linked to existing water courses to create a sustainable and attractive drainage network and improve biodiversity. The existing public right of way could be retained through a green corridor and a network of new footpaths and cycle routes could be incorporated into the design improving connectivity to the surrounding landscape and existing recreational routes including the Trans Pennine Way and the Cheshire Ring Canal Walk.

Geographical Extent:

5.10. There would be an obvious change in the character at site level, however the site forms a small portion of the overall Study Area and the site does not define the surrounding landscape in which it sits. Through a well-designed masterplan the proposed landscape design could achieve some aspects of the relevant Recommended Management and Landscape Objectives set out in the Warrington Landscape Character Assessment.

Duration and Reversibility:

5.11. The construction effects of the proposed development would be temporary; and upon completion the effects of the development would be permanent. Proposed landscape mitigation and tree planting would reduce these permanent effects as they mature.

5.12. The magnitude of change at the completion of developing the site is assessed as being ***Medium – Low***.

Landscape Effects of development

5.13. The masterplan demonstrates that the site could be developed and with good design contribute to the landscape and its existing character. The relevant Recommended Management and Landscape Objectives within the Landscape Character Assessment are:

- *Monitor existing hedgerows and hedgerow trees*
- *Encourage a rolling programme of new hedgerow tree planting*
- *Investigate the opportunities for extended footpath systems associated with*

5.14. There is no reason why a well-designed development that preserves and enhances the existing landscape features and Public Rights of Way within a green infrastructure network, would have any significant effects, on the site, the character of Lymm, or the character of the wider landscape of the Study Area.

6. Conclusion

6.1. The assessment of the Study Area and the land surrounding the settlement of the Lymm demonstrates ***Medium - Low*** landscape sensitivity.

6.2. The assessment concludes that the Land off Rush Green Road is representative of the character of the landscape within the Study Area and has a strong association with the existing settlement of Lymm.

6.3. The sensitivity of the site is assessed as ***Medium - Low***, and development of the site is considered to result in a ***Medium -Low*** magnitude of change. With appropriate good design and well-thought-out landscape mitigation measures the overall effects of development on the landscapes are not considered to be significant.

6.4. For the reasons outlined above, this report considers the Land off Rush Green Road to be a sustainable and achievable location to be allocated for new housing development within the new Warrington Borough Local Plan without having significant effects on the overall Green Belt and settlement character objectives.

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Appendices

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and Landscape Appraisal of Proposed Development
on Land off Rush Green Road

Appendix A:
Figures 1 - 3

September 2017

Prepared for:

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To Preston
To Wigan
LEIGH
To Manchester
GOLBOURNE
GLAZEBURY
HAYDOCK
A580
Manchester to Liverpool Railway Line
NEWTON-LE-WILLOWS
CULCHETH
To Manchester & Leeds
ST HELENS
IRLAM
CROFT
M62
BURTONWOOD
WINWICK
BIRCHWOOD BUSINESS PARK
To Liverpool
Manchester to Warrington Railway Line
WINWICK QUAY RETAIL PARK
GEMINI RETAIL PARK
HOLLINS GREEN
PARTINGTON
OMEGA BUSINESS PARK
WARRINGTON
WOOLSTON GRANGE BUSINESS PARK
M6
To Liverpool
TOWN CENTRE
Manchester Ship Canal
LYMM
To Liverpool
WIDNES
To Manchester
HIGH LEGH
RUNCORN
M56
To Crewe
To Chester
To Chester
To Birmingham
North

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KEY:

- Urban area
- Primary employment areas
- Warrington town centre
- Manchester Ship Canal
- Warrington Borough boundary
- Motorway
- A580 East Lancashire Road
- Key A and B road connection
- Railway line
- Potential trategic housing sites (green belt release)

PEEL

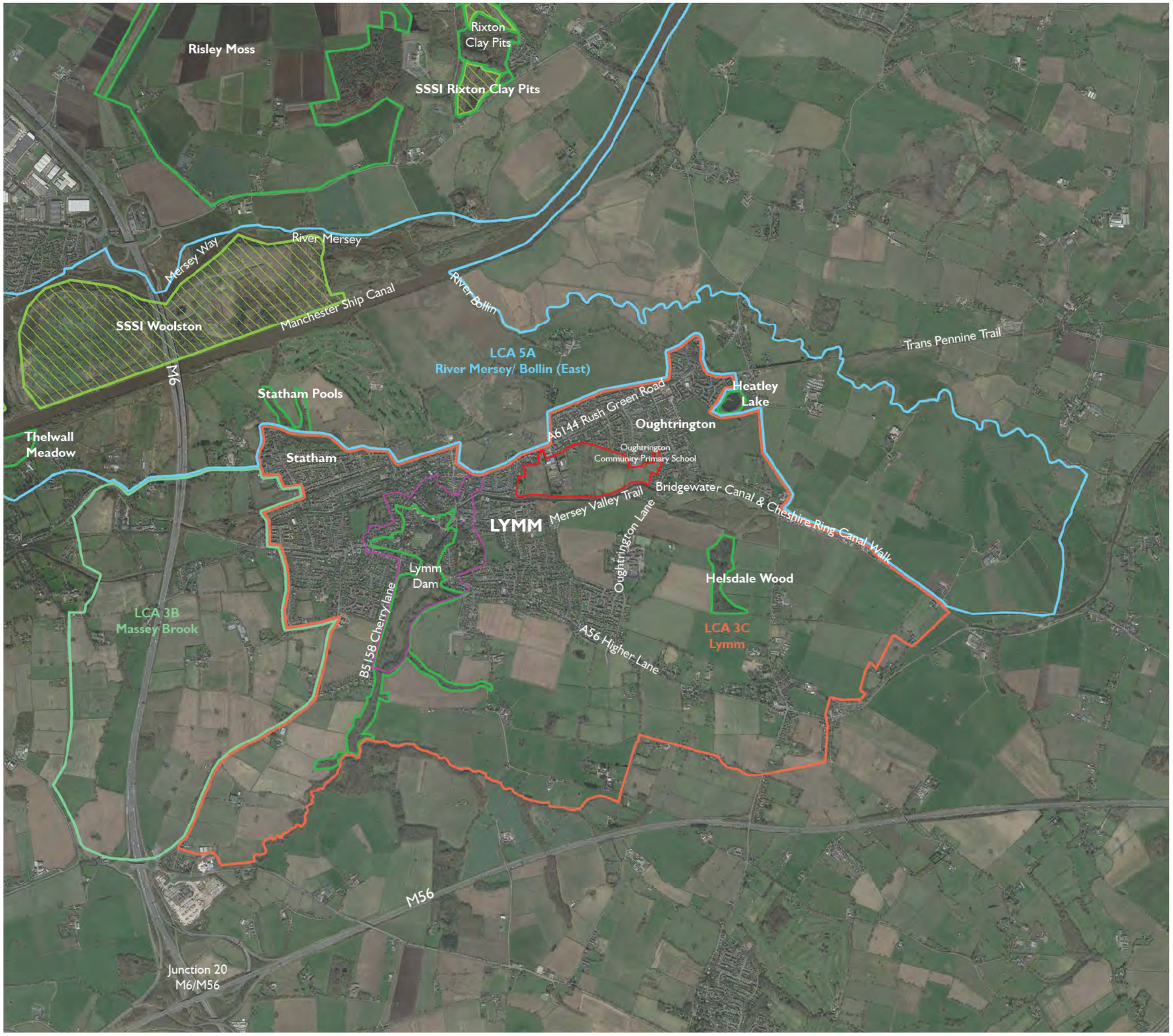
Warrington Local Plan Sites

Land off Rush G een Road, Lymm

Appendix A: Figure 1
Warrington Context

Drwg No: 630CD-05A
Drawn by: SB
Rev by: MF
QM Status: Unchecked
Scale: NTS @ A3

Date: 13.09.17
Checker: CAW
Rev checker:SR
Product Status: For Issue



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KEY:

- Site boundary
- Lymm Village, New Road & Eagle Brow Conservation A ea
- SSSI
- Local Wildlife Site/ Nature reserve

Landscape Character Type 3:
Red Sandstone Escarpment

- Landscape Character Area 3B: Massey Brook
- Landscape Character Area 3C: Lymm

Landscape Character Type 5:
Floodplain

- Landscape Character Area 5A: River Mersey/Bollin (East)

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Warrington Local Plan Sites

Land off Rush G een Road, Lymm

Appendix A: Figure 2
Landscape Character of the Study Area

Drwg No: 630CD-02A
Drawn by: MF
Rev by:
QM Status: unchecked
Scale: 1:25,000 @ A3

Date: 31.08.17
Checker: SR
Rev checker:
Product Status:
Confide tial eview

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KEY:

- Site boundary
- Existing ater bodies/ watercourses
- Manchester Ship Canal
- Public Right of Way
- Trans Pennine Trail
- Cheshire Ring Canal Walk
- Mersey Valley Trail

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Warrington Local Plan Sites

Land off Rushg een Road, Lymm

Appendix A: Figure 3
Site Features Plan

Drwg No: 630CD-03
Drawn by: MF
Rev by:
QM Status: unchecked
Scale: 1:5000 @ A3

Date: 01.09.17
Checker: CW
Rev checker:
Product Status: Confide tial eview

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Land off Rush Green Road, Lymm

Landscape Sensitivity Assessment of Lymm and Landscape Appraisal of Proposed Development on Land off Rush Green Road

Appendix B: Extract from the Warrington Landscape Character Assessment

September 2017

Prepared for:

PEEL

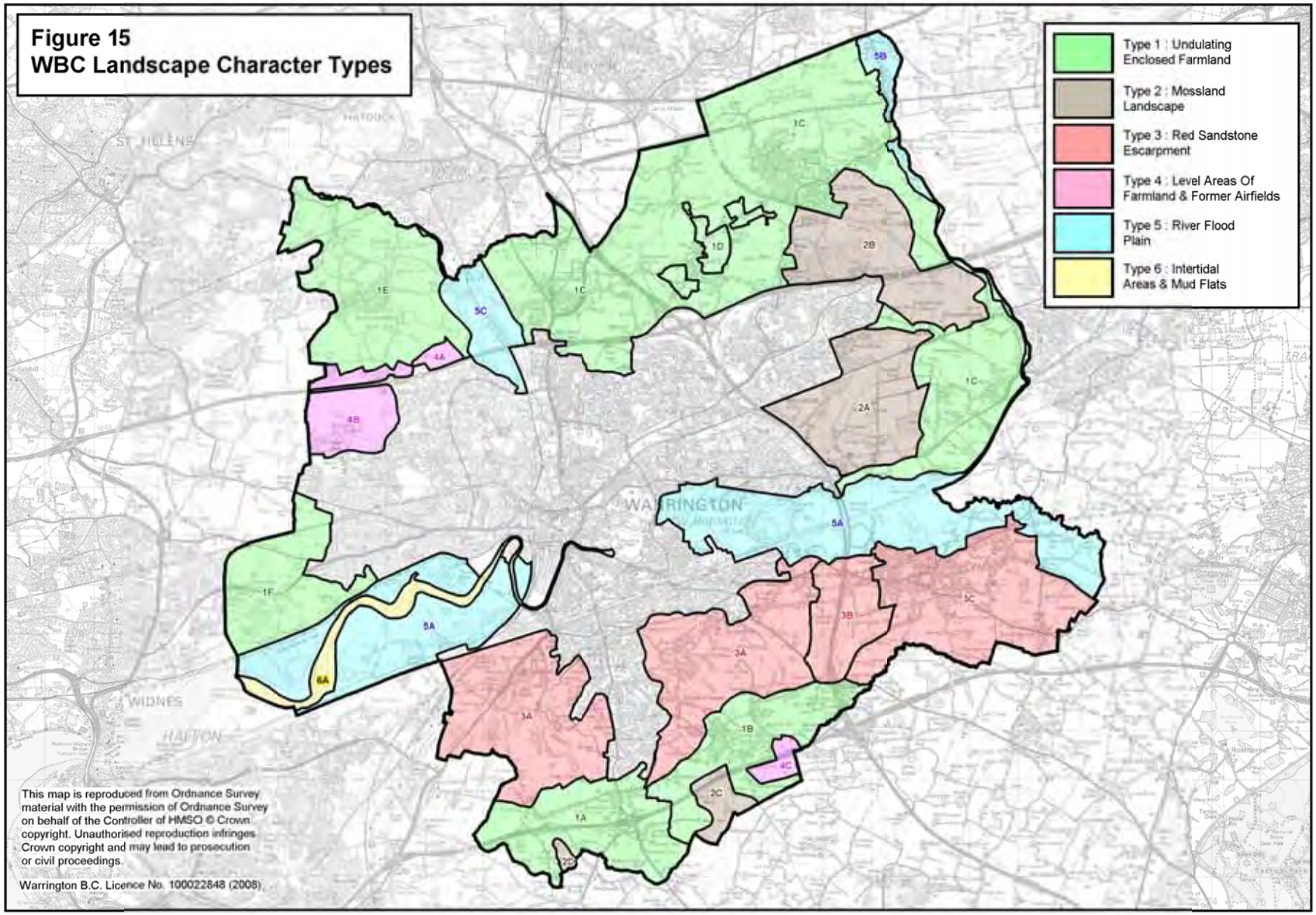
Figure 15
WBC Landscape Character Types
Type 1 : Undulating Enclosed Farmland
Type 2 : Mossland Landscape
Type 3 : Red Sandstone Escarpment
Type 4 : Level Areas Of Farmland & Former Airfields
Type 5 : River Flood Plain
Type 6 : Intertidal Areas & Mud Flats
ST HELENS
WARRINGTON
WIDNES
HALTON
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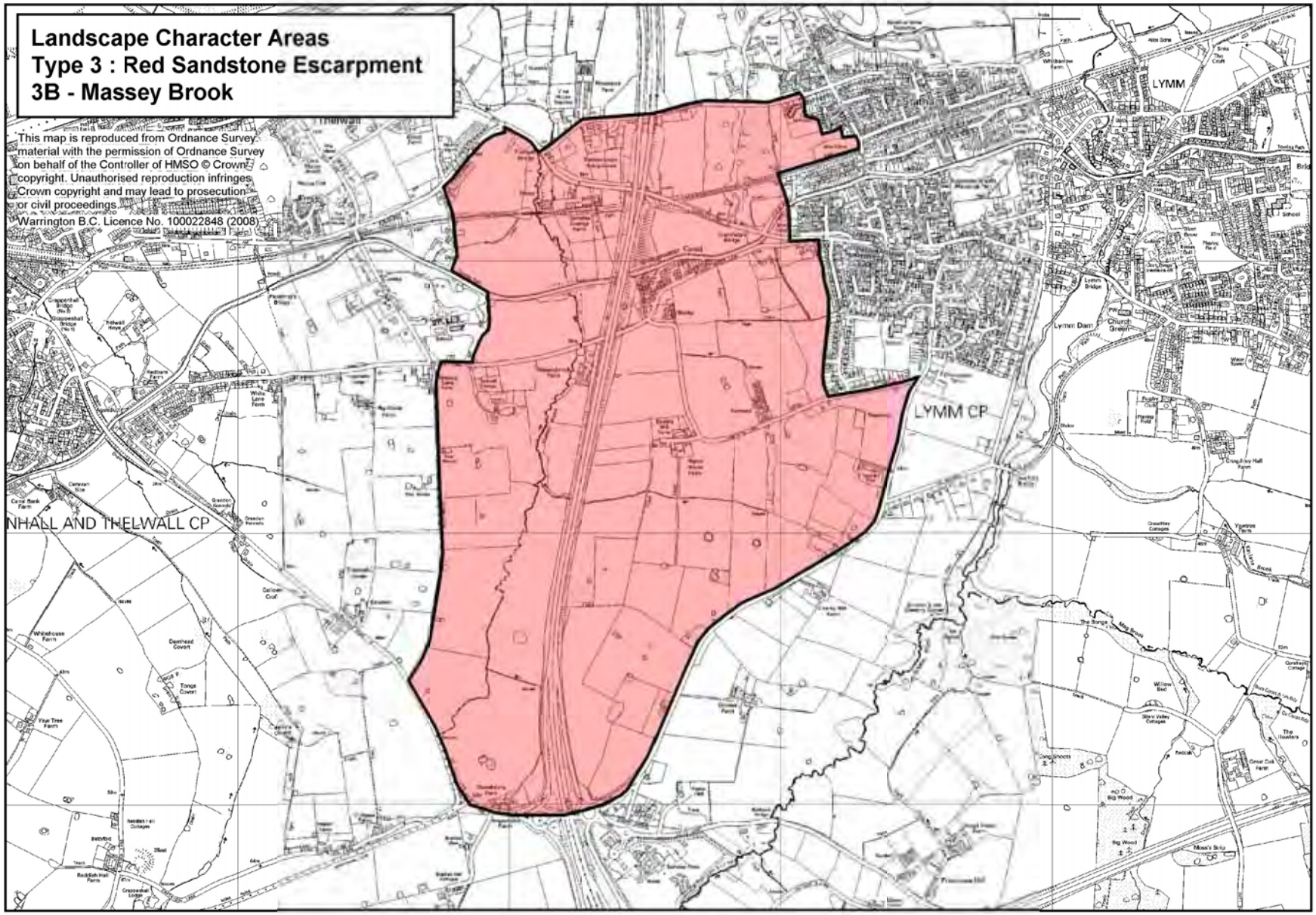
Landscape Character Areas
Type 3 : Red Sandstone Escarpment
3B - Massey Brook
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LYMM
LYMM CP
NHALL AND THELWALL CP

TYPE 3 RED STANDSTONE ESCARPMENT

AREA 3.B MASSEY BROOK

Description

The catchment area of Massey Brook forms a sheltered landscape valley basin cut into the Red Sandstone Escarpment. The area is bisected and visually dominated by the M6 motorway running north/south between the Thelwall Viaduct and the M6 Stretton interchange at Junction 9.

The landscape has broad open views both internally and to the north and east. The area appears more exposed than the adjoining Areas 3.A and 3.C with fewer hedgerow trees present. Agriculture is mainly arable with gapped hedgerows. A narrow linear band of deciduous woodland is associated with Massey Brook.

Key Characteristics:

- Open views internally and to the north and east
- Domination of M6 motorway
- Gapped hedgerows with few hedgerow trees
- Mainly arable landscape
- Distinctive 'valley basin' land form
- Lack of exposed red sandstone

Cultural History

The Massey Brook forms the parish boundary between Lymm and the parish of Thelwall and Grappenhall. Much of the history of the area is therefore similar to the two adjoining escarpment areas. In 1821, the Warrington and Stockport Turnpike Trust was formed to construct a new road, now the A56, between the two towns. The A56 (Stockport Road in Thelwall and Camsley Lane in Lymm) crosses the area at the north (lower) end of the valley via a small bridge, close to which is the junction of Warrington Road leading to Statham. In 1853 the London & North Western Railway opened a line running east/west through the

northern end of this area. The trackbed has now been converted to a footpath and forms part of the Trans Pennine Trail. Massey Brook has been subject to some short term but intense flooding as a result of storms and flows down a relatively small stream from a substantial catchment area.

Buildings of note in the area include the farm complex of Home Farm, Stockport Road, where the threshing barn, cart shed and stables are Listed Grade II. The farm complexes of Howshoots Farm, Boothshill Farm and Higherhouse Farm are also visually interesting.

Thelwall Grange is a substantial building in the landscape and dominates an area to the west of Massey Brook.

To the immediate east of Massey Brook the gigantic pillars of the Thelwall viaduct dominate the area as the viaduct crosses Warrington Road and Camsley Lane. The viaduct was opened in 1963 and a second parallel viaduct in July 1995.

Key cultural elements in the landscape:

- The M6 motorway
- Thelwall Grange
- The A56 formerly the Warrington and Stockport Turnpike Road c 1824
- The Bridgewater Canal and its bridges and aqueducts
- The former London and North Western Railway – now the Trans Pennine Trail

Landfill and Mineral Extraction

There are no landfill operations within this area, but ADS Waste Transfer and Recycling Facility is located off Camsley Lane, close to Thelwall Bridge. This produces transitory mounds of recycled material which vary in height of up to 8m but which are well-screened.

There are no mineral extraction operations in the area.

Agricultural Land Quality

The bulk of the Massey Brook basin area is of Grade 3 agricultural land. To the west of the basin, in the Parishes of Grappenhall and Thelwall is an area of Grade 2 agricultural land.

Landscape Sensitivity

The area's landform and lack of woodland on higher ground reinforces the open views into the basin area. Any structure or development would therefore be exposed to views. The boundaries of the area are formed by ridgeline roads or tracks – Cherry Lane to the east and Cinder Lane to the west. The northern section of the eastern boundary is also formed by the edge of the village of Lymm. The village, however, is not seen from within the Massey Brook basin and does not contribute to its character.

Only a small number of properties are located within the area and these are mainly on Booths Lane. A single footpath accesses the land from north to south to the east of the M6 motorway.

The landscape of the Massey Brook basin is therefore essentially visually exposed, rural and agricultural, with few buildings in the landscape. It is also, however, visually dominated by the M6 motorway.

Key elements of landscape sensitivity:

- Visually sensitive to any form of building development within the basin or, in particular, on the ridgelines to the east and west
- Currently sensitive to the presence of the M6 motorway, both visually and audibly

Landscape Change

The most imposing change to the area's landscape has been the construction of the M6 motorway, effectively cutting the area into two halves and radically altering what would originally have been a peaceful agricultural landscape.

Agricultural changes towards arable farming have led to the progressive decline in hedgerow trees and gapped hedgerows. The expansion of the village of Lymm to the west has currently stopped just before if affects the area. Only the development of a few properties along Booths Lane have marginally affected the landscape.

Landscape change is summarised as follows:

- Past construction of M6 motorway
- Slow decline in hedgerows and more notably hedgerow trees

Recommended Management and Landscape Objectives

The main landscape objective should be to soften the harsh imposition of the M6 motorway wherever possible by associated native woodland planting. This may be achieved in part by reinforcing the narrow linear belt of trees associated with Massey Brook, running close to the western side of the motorway. A reduction in the visual and audible impact of the motorway would assist in returning the area back to its original and strongly agricultural character. It is also important that the current lack of construction, in what is a visually exposed area, should continue - particularly to the exposed ridge lines.

The restoration of the quality of the agricultural landscape should also be encouraged through hedgerow management and replanting to gapped sections. The new planting of hedgerow trees would similarly restore the area's visual amenity and wildlife value.

Management of the Landscape

- Restrict building within the area, particularly on or immediately below the ridge lines
- Encourage hedgerow restoration
- Encourage the replacement of new hedgerow trees
- Consider feasibility for native linear woodland planting to soften the impact of the M6 motorway, including planting to Massey Brook

Settlement

The Massey Brook area is sparsely settled. A small number of farm complexes however are noteworthy, together with Thelwall Grange.

Photo 128a. View from Cinder Lane, Thelwall south towards Howshoots Farm on the escarpment crest.

Landscape Character Areas
Type 3 : Red Sandstone Escarpment
3C - Lymm
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AGDEN CP
LYMM
LYMM CP

TYPE 3 RED SANDSTONE ESCARPMENT

AREA 3.C LYMM

Description

The boundaries of the area are formed by the Massey Brook basin to the west; the Warrington Borough boundary to the south and east and by the Bridgewater Canal to the north. The land again falls generally to the north but is of a more rolling and undulating nature occasionally with back falls to the south. The agriculture is a balance of both pastoral and arable farming.

The streams passing through the area are more branched than in the adjoining areas, with tributaries running parallel to the ridge line. Stream valleys are generally shallow with only Bradley Brook forming a steep sided valley passing through Lymm and in the vicinity of Lymm Dam.

The area's topography creates an intimate landscape, often self-enclosed by woodlands and hedgerow trees. Views from the area are therefore less extensive with few internal views of note. Lymm water tower and St Peter's Church, Oughtrington are exceptions, forming local landmarks. To the east of Lymm, around Oughtrington, the landscape is more open and land less dissected by streams.

The main red sandstone ridge identified in Areas 3.A and 3.B runs outside and to the south of the Warrington Borough boundary towards the village of High Legh. There is a secondary, lower, ridgeline to the north at a lower elevation, running from east to west at 60-55m O.D. between the hamlet of Broomedge and the village of Lymm.

Vegetation in the area generally is notably vigorous and healthy, particularly when compared with the rest of Warrington Borough. Hedgerows and hedgerow trees appear more luxuriant, larger and more well-formed and include a more diverse range of species, including chestnut, lime, beech and willow, to accompany the more universally found common oak.

Key Characteristics:

- Smaller scale, more intimate rural landscape
- Luxuriant hedgerow trees with diverse range of species
- Rolling landscape
- Restricted views
- Strong feeling of high landscape quality

Cultural History

Lymm village probably existed in Roman and possibly in pre-Roman times. The core of the village was based a on waterfall where a small stream cut back into the Red Sandstone Escarpment, producing a cliff.

Red sandstone was quarried here throughout historic times and the stone was used extensively in the local area. Pepper Street in Lymm is probably on the line of the original Roman Road, which ran through Oughtrington towards Heatley and probably crossed the River Bollin at or near the present crossing of the A6144.

Photo 104: View of Lymm Cross – sited on an outcrop of Red Sandstone.

In the centre of the village is The Cross, a distinctive feature marking the site of a market. It possibly dates back to the C14th, but has had several alterations over many years. It stands on top of a remnant pyramid of red sandstone, the sides of which have been sculpted into steps, much worn through use. It is Listed Grade I. Adjacent to The Cross are some restored stocks (Listed Grade II). The Moat House , the bridge over the moat, the moat walls and the cottage at Lymm Hall are Listed Grade II, Lymm Hall, the site of the original manor house of Lymm is Listed Grade II*. Much of the area of the centre of Lymm is designated as a conservation area.

There are a number of remaining fustian cutters cottages in Lymm, the most intact being nos. 13 – 19, Church Lane, Listed Grade II. These are three storey buildings, the third storey being used communally as a workshop by the individual cottage owners. A slitting mill was operating in the Lower Dam area on Slitten Brook in the 1750s, using the power generated via a water wheel.

The Bridgewater Canal was constructed through Lymm in the 1770s, originally to transport coal from Worsley to Liverpool for transhipment elsewhere. Along the canal are a number of listed buildings and structures. Near the junction of Stage Lane and Burford Lane is the Burford Lane canal warehouse, (Listed Grade II) now rare example of one of the earliest canal buildings. The bridges of Grantham's Bridge (near Stage Lane), Lloyd Bridge (Sandy Lane) and Lymm Bridge (The Cross) are very characteristic of the Bridgewater Canal, as are the aqueducts at Burford Lane, Bridgewater Street and Barsbank (all Listed Grade II).

Adjacent to Lloyd Bridge is a converted sawmill, used during WWI to manufacture ammunition boxes from the plantations around Oughtrington Hall, which were almost entirely felled. In front of the sawmill is a ruin of the office reputedly used by James Brindley during the construction of the canal. Near the market place in Lymm, a dry tunnel is located south of the Bridgewater Canal, projecting some 25 metres into the sandstone (Listed Grade II). It was probably constructed as part of aborted works associated with the nearby Bridgewater Street aqueduct.

In 1821, the Warrington and Stockport Turnpike Trust was formed, to construct a new road, now the A56 between the two towns. In 1824, the Turnpike Trust built a dam over the Dingle valley to carry the new road, creating a substantial water body.

In 1853 the London and North Western Railway opened a line running east-west through Lymm. This was much used as a passenger line, but reverted to goods traffic only in the 1960s before being closed in 1989. The track bed has now been converted to a footpath and forms part of the Trans Pennine Trail. The influence of the railway was dramatic. To the east of Lymm, Heatley saltworks had its own sidings from the line. Many small orchards in Lymm, Oughtrington and Heatley supplied fruit to the markets in Manchester throughout the late Victorian and Edwardian eras. Few, if any, of these orchards are now left, although a small orchard was planted for the Oughtrington Primary School, now the Oughtrington Community Centre. Many of the now familiar local building materials, such as Welsh slate roof tiles, Accrington brick etc were brought in by rail.

In 1894, the Manchester Ship Canal was opened. Its route is to the north of Lymm, above the general level of the Mersey flood plain and cuts into the base of the Red Sandstone Escarpment.

The most characteristic feature of Lymm village is the valley in which it stands. To the south of the village Lymm Dam has created a large recreational water body with a spillway into a steep-sided section of the valley known as The Dingle. The bridge over the spillway on Church Road is Listed Grade II. In the centre of the village is the lower dam, from which the stream falls steeply into Slitten Brook. In all these features red sandstone is exposed, perhaps most dramatically near the lower dam where a cliff approximately 10m high stands behind adjacent cottages. Lymm Dam is a Site of Biological Interest (SBI) as well as containing a Regionally Important Geological Site (RIGS). The dam is fed by Mag Brook and

Bradley Brook via a well-wooded valley. The woodland associated with Bradley Brook has been designated as ancient woodland and is also scheduled as a Site of Biological Interest. The bridge over the brook and the dell at the head of Lymm Dam are Listed Grade II. The core of Lymm village and the envelope around Lymm Dam are protected as a Conservation Area.

The present Lymm centre is mainly of Victorian construction and complements the development built alongside the Bridgewater Canal in Georgian times, for example the fine houses at 1A and 3, Lymm Bridge, Listed Grade II. The Victorians also built a number of large houses along Higher Lane – the main Warrington to Altrincham road, running along the edge of the sandstone escarpment. Lymm remained a small village until recent times, when expansion was rapid.

North-west of Lymm is Statham, once a small independent village based on a secondary road into Lymm from Thelwall. This is now connected to and largely absorbed by Lymm. Statham contains the Statham Lodge Hotel, a fine Georgian building (Listed Grade II) with landscaped views to the south up the Red Sandstone Escarpment.

To the east of Lymm is Oughtrington, a satellite village which retains a distinctively different identity. It appears to have originally been sited at the junction between Sandy Lane and Rushgreen Road, but on construction of the Bridgewater Canal extended back up Sandy Lane to its crossing of the canal via Lloyd (Dog) bridge. At the same time, a canal staging station (now demolished) was built off Stage Lane for changing draught horses pulling barges along the canal. At the junction of Stage Lane and Oughtrington Crescent is the Oughtrington Community Centre, formerly Oughtrington Primary School, an attractive late Victorian building. At the upper end of Sandy Lane is Lymm (formerly Oughtrington) High School, occupying the site of Oughtrington Hall, Listed Grade II, a large Georgian building with a lodge (Listed Grade II) guarding the access off Sandy Lane. The visually dominant St Peter's Church (Listed Grade II) was consecrated in 1872, the gift of local landowner Charles Dewhurst. Just south of the church are two pairs of attractive Arts and Crafts period semi-detached cottages.

East of Oughtrington is Heatley Flash, a former brine pumping site, now flooded and a Site of Biological Interest (SBI). To the north of Heatley Flash new housing occupies the site once occupied by the saltworks. South-east of Oughtrington is Newhay's Plantation, planted as part of the Oughtrington Hall estate around the old quarries which were the source of stone for the nearby St Peter's Church. This woodland is also a Site of Biological Interest (SBI) and has recently been added to by a new community woodland known as 'Spud Wood'.

East of Oughtrington is the satellite village of Heatley. This a small village which appears to have been originally built at the junction of Birchbrook Road and Mill Lane, close to the crossing of the River Bollin. Heatley Manor stands very close to the road junction and is a Listed Grade II Georgian building. When the railway was built, a small station was located off Mill Lane and this led to the construction of The Railway public house, a rare example of an unspoilt country pub and a local landmark immediately north of the railway. South of the railway, several Victorian semi-detached houses were built, having the locally rare feature of 'side aspect' rather than the conventional front and rear aspect.

East of Lymm and based on the junction of Higher Lane with Burford Lane / High Legh Road is the hamlet of Broomedge.

In the more open country around Lymm are a number of outstanding buildings, including Burford Lane Farmhouse, a barn, granary, shippon, stable and cartshed building, all Listed Grade II. Wildersmoor Hall Farmhouse, associated barn, icehouse and well to the rear are all Listed Grade II. Lymm Water Tower, a distinctive feature on the summit of the lower red sandstone ridge is Listed Grade II.

Key cultural elements in the landscape:

- Lymm Cross
- The Bridgewater Canal and its bridges, aqueducts, warehouses etc.
- The former London and North Western Railway – now the Trans Pennine Trail
- Lymm Dam
- The Dingle, Lower Dam and Slitten Brook
- Lymm Hall
- Lymm village centre (Conservation Area)
- Large Victorian villas / houses around Lymm
- St Mary's Church, Lymm
- St Peter's Church, Oughtrington
- Heatley Flash
- Oughtrington Community Centre

Landfill and Mineral Extraction

There are no landfill operations within this area, but there are negative visual impacts from adjacent landfill sites, notably the Butchersfield site. This has a very prominent and artificial domed landform, partially mitigated by recent planting.

Mineral extraction was confined to quarrying red sandstone, but active quarries have long since closed. A group of small quarry pits are located in Helsdale Wood, Oughtrington (from

which St Peter's Church was reputedly built). Quarrying also took place in Lymm, possibly around the lower dam, but certainly around Slitten Brook.

Agricultural Land Quality

The bulk of the Lymm area is of Grade 3 agricultural land. To the east of Oughtrington and running out to the south-east, parallel to the River Bollin is an area of Grade 2 agricultural land.

Landscape Sensitivity

The nature of the landscape, with its luxuriance of hedgerows and hedgerow trees and more intimate landform, creates a less sensitive environment in which to absorb small scale development. The recent housing expansion of Lymm however into greenfield sites has fundamentally altered and reduced the rural character of the area for which it is renowned.

Although the Lymm area can be described as having a high quality landscape, it is nonetheless sensitive to changes in agricultural practices and development. Passive recreational uses within the landscape are more easily absorbed due to the screening offered by both landform and the well-vegetated nature of the area.

Key elements of landscape sensitivity:

- Prone to development expansion of Lymm village
- Vulnerable to changes in agricultural practices

Photo 105s. View north from near Burford Lane Farm, showing the listed Burford Lane Canal warehouse on the Bridgewater Canal at Agden in the foreground and the long views over northern and eastern Warrington.

Landscape Change

Main areas of landscape change have been through the expansion of Lymm village, which has now absorbed many of the smaller outlying settlements. In consequence large areas of the rural landscape have now been lost. Previous changes have also included the construction of the Bridgewater Canal and Lymm Dam reservoir to the south of the village.

Further changes have seen the alteration from commercial to leisure uses on the Bridgewater Canal entailing pleasure craft and fishing. Fishing has also become exceptionally popular at Lymm Dam.

Apart from the loss of landscape to building development, the remaining areas of agricultural land have changed little since the Enclosures. This is, in part, due to the retention of the hedgerows as a barrier to stock.

Landscape change to the area is summarised as follows:

- Loss of agricultural land to the expansion of Lymm village
- Construction of Lymm Dam
- Construction of the Bridgewater Canal
- Increase in pleasure boats and fishing

Recommended Management and Landscape Objectives

Although the Lymm agricultural landscape is arguably one of the best in the Borough in terms of quality and condition, this position could easily change with alterations to the farming economy. It is therefore important to monitor future change with a view to safeguarding the areas of hedgerows and hedgerow trees in particular. The hedgerow trees are virtually all at a mature stage in life and will require a programme of progressive new planting to ensure continuance of the present landscape character.

The area is well-endowed with woodlands, mainly in linear form, in association with Bradley, Mag and Kaylone Brooks. The existing landscape character would be strengthened and visually improved if gaps and missing woodland sections were planted to create continuous

linear woodland links leading back to Lymm Dam. The expansion of the existing footpath system to follow the woodlands should also be considered.

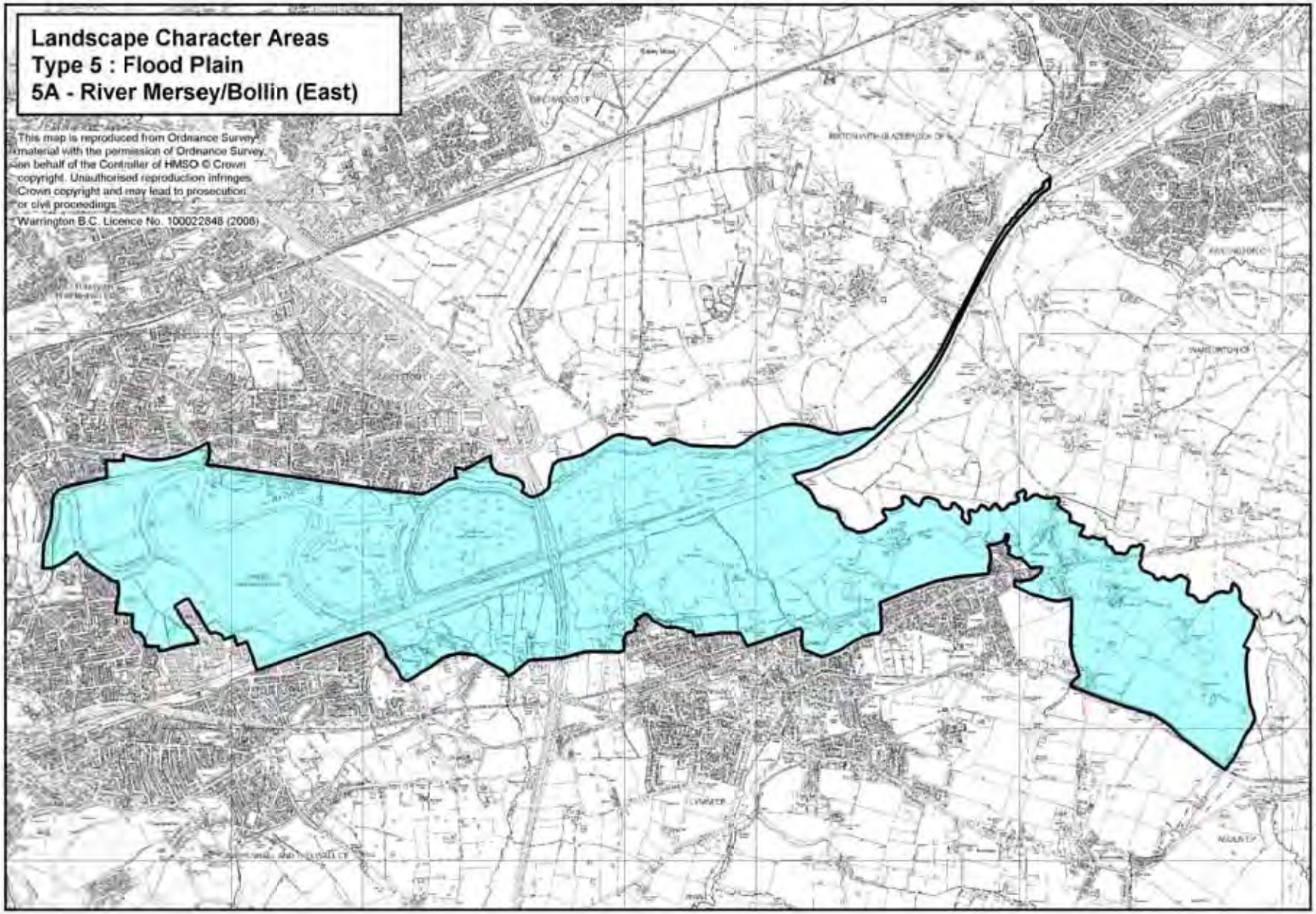
Management of the Landscape

- Monitor existing hedgerows and hedgerow trees
- Encourage a rolling programme of new hedgerow tree planting
- Investigate and encourage the creation of new native woodland planting to provide continuous woodland links along Bradley Brook, Mag Brook and Kaylone Brook
- Encourage traditional management of ancient woodland
- Investigate the opportunities for extended footpath systems associated with the brooks and linear woodland

Settlement

Lymm village is built on the northern slope of the sandstone escarpment, with the oldest part of the village centred on the small but steep-sided valley known as the Dingle. It has expanded along the secondary ridgeline (Higher Lane – Church Road) as well as to the south of the ridgeline, along Cherry Lane. It has also expanded to the north-west, to Statham and to the east towards Oughtrington.

Oughtrington is also built on the northern slope of the sandstone escarpment, but unlike Lymm, it is not centred on a valley, but on a road, Sandy Lane. Heatley is similar to Oughtrington based at the junction of Mill Lane with Birchbrook Road. The settlement of Broomedge is sited again around a road junction, at Higher Lane/ Burford Lane (which becomes Mill Lane north of the Bridgewater Canal).


Landscape Character Areas
Type 5 : Flood Plain
5A - River Mersey/Bollin (East)
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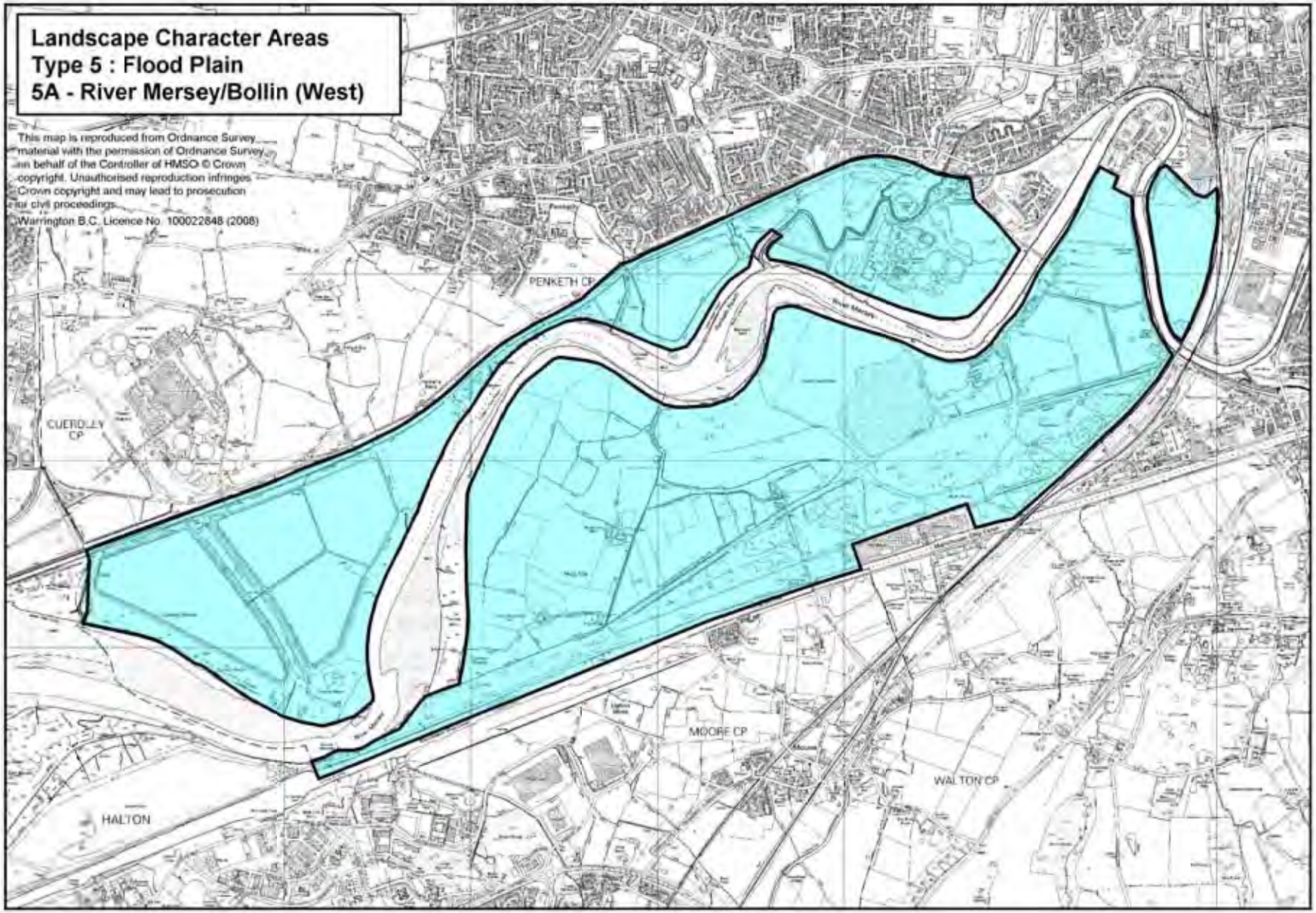
Landscape Character Areas
Type 5 : Flood Plain
5A - River Mersey/Bollin (West)
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PENKETH CP
CUERDLEY CP
MOORE CP
WALTON CP
HALTON

TYPE 5. FLOOD PLAIN

AREA 5.A RIVER MERSEY/BOLLIN

Description

The River Mersey and its broad floodplain forms a major landscape character, dividing the Borough into roughly two halves on an east/west axis. The River Bollin flood plain merges with the Mersey floodplain from the east. The Mersey displays the typical characteristics of a lowland mature river, winding across a broad floodplain with large meander loops. Much of the river has been prevented from naturally flooding onto its floodplain by the creation of artificial levee embankments, whilst its channel has also been occasionally straightened or restricted by sheet piling, walls or other hard structures. A section of the river upstream from Butchers Field, Rixton has also been canalised to form part of the Manchester Ship Canal.

Within the Borough boundary, only small areas of original flood meadows still survive. These are located to the south of the river in the Penketh area, to the north of the river within a meander loop at Paddington Meadows and at the confluence with the River Bollin between Warburton and Lymm. The remainder of the Mersey flood plain has been heavily developed for residential and industrial uses, particularly in the areas of Martinscroft, Woolston, Padgate, Orford, Westy, Latchford, Wilderspool and Sankey Bridges. All of the above areas are highlighted by the Environment Agency as Areas of High Risk of Flooding. Development has, in many areas taken place to the very edge of the River Mersey, although mainly 'turning its back' physically and visually to the river itself.

Other major uses of the Mersey floodplain are for major landfill, notably at Arpley and Sankey Bridges and at Rixton, adjacent to the Manchester Ship Canal. The resulting high mounds, some now treated with woodland planting, create an alien landform overlaid on the original flat flood meadows.

Undeveloped floodplain land is a rich haven for bird life, notably where access is limited. The slurry and dredging lagoons at Woolston and Martinscroft are particularly valuable together with the quiet areas of meadowland at Moss Side and Arpley, where nature reserves have been established restoring wild flower meadows and introducing and managing wetlands and native woodland.

Other key elements in the Mersey floodplain are its communications links and bridge crossings. Notable features include the Acton Grange Viaduct and the road bridges at Bridgefoot and Latchford. Also of particular note are the swing bridges over the Manchester Ship Canal at Wilderspool, Stockton Heath and Latchford and the high level bridges at Latchford and Warburton.

The Manchester Ship Canal forms a major feature in the landscape and runs in close association with the River Mersey, downstream from the confluence of the River Bollin. The Ship Canal is constructed at the boundary between the Red Sandstone Escarpment and the Mersey Flood Plain and at numerous points can be seen to cut directly through the sandstone, creating vertical cliffs rarely found elsewhere.

A number of smaller canals also run through the floodplain, often in close association with the River Mersey. These include the restored St Helens Canal to the north of the river, together with the disused Woolston New Cut and the Runcorn and Latchford Canal.

The Thelwall M6 viaduct is also a major visual element, creating a focal point in the landscape due to its scale and elevation. The Mersey Way long distance footpath is an important recreational route, closely following the river and floodplain.

The River Mersey/Bollin floodplain landscape is extremely diverse, particularly in comparison with the other landscape areas identified within the Borough.

Key Characteristics:

- The River Mersey and River Bollin
- The Manchester Ship Canal
- Mounded landfill sites
- Slurry and dredging lagoons
- Importance for nature conservation
- Dominance of floodplain crossings (road and rail bridges)
- Residual floodplain meadows
- Widespread residential and industrial development on the floodplain
- Artificial levee and channel constraints to the river
- Lack of visual importance of the river (normally screened from views)
- The Mersey Way recreational footpath.

Cultural History

The most strategically important feature of this area is the bridge at Bridgefoot, which has been for centuries the lowest bridging point on the River Mersey. The Mersey has a particularly large tidal range and historically this, associated with flooding generated

upstream, made the Mersey floodplain a particularly hazardous area. It is almost certain that the first bridge on the Mersey was a Roman structure, accessed via Wilderspool Causeway.

The river was the frontier between the Saxon Kingdoms of Mercia, to the south, and Northumbria, to the north, and was probably a frontier between the Celtic kingdoms before the Roman conquest. As well as being a frontier, the river was the major transport route for the north-west of England and was probably used as such in ancient times. The Mersey was navigable as far as Manchester, but the braided nature of the river course would have severely reduced the available draught for ships. The lowest ford on the Mersey was at Warburton, above the tidal point of the river. Ships cannot have ever had a draught deeper than wading depth.

In Roman times, the River Mersey was probably used for the transport of goods up to the fort at Manchester. In 1770, some Roman finds were made in the Lumb Brook area, during the cutting of the Bridgewater Canal, but in 1787, more extensive finds were made. Excavations in 1930-35, 1966-67 and in 1974 at Wilderspool Causeway revealed a substantial Roman industrial site, making pottery. This would have been shipped along the River Mersey. A number of Viking raids were made along the Mersey, at least one directed at Manchester, which, if by longship, must have passed Warrington on its way upriver.

Photo 116: The ferryman's cottage at Thelwall, landing stage to the right.

One of the key features of the Mersey flood plain is the 'eyes', a word derived from the early Saxon word 'ēg' (West Saxon 'iēg') meaning 'island', but more commonly used to denote an area of raised ground in wet country. The Eyes are therefore the land within the loops of the River Mersey. A substantial area of the Mersey floodplain belonged to the township of Thelwall of which, during medieval times, one third was owned by the Clayton family and remainder belonged to Norton Priory. The Eyes appear to have been used as water meadows and the Claytons are regularly referred to as 'of Shepecroft', implying sheep grazing in the area.

Norton Priory owned the fishing rights for the south side of the River Mersey, which may have been fairly lucrative. In May 1749, catches of 19lb and 23lb salmon were made - substantial fish. Salmon were common in the River Mersey, as evidenced by the C16th salmon fishery smoke house on Ferry Lane near Thelwall Old Hall.

Gunpowder mills with associated workers cottages were built on one of the Eyes in 1755, a suitably isolated location for a hazardous manufacturing facility. In 1855 the gunpowder mills were destroyed by an explosion and the location was left vacant.

At various times efforts were made to improve the navigability of the River Mersey. In 1677, Thomas Patten, a merchant, wrote that it would be an advantage if the Rivers Mersey and Irwell were made navigable around Manchester. By 1697 the Mersey had been made navigable from Liverpool to Warrington. In 1712, Thomas Steers, an engineer, proposed eight locks on the Mersey and a cut at Butchersfield to cut off a loop near Lymm. After a late start, the improvement works to the river were fully open in 1736, although possibly only five vessels were used in the first years. A cut was made at Latchford to cut off a hairpin loop in the Mersey, known as Hell Hole and Howley Lock was built in the channel; below this lock the Mersey remained tidal.

More loops in the course of the Mersey were cut off following this work. Woolston Old Cut, half a mile long, was constructed at Thelwall thus shortening the Mersey by two miles. The lock at its lower end, Powder Mill Lock, was built in 1755 and named after the gunpowder mills at Thelwall. The cuts made in the Mersey within the Warrington area were as follows:-

- Howley c. 1720, a hairpin bend in the Mersey was cut off and a lock constructed in the cut.
- Runcorn and Latchford Canal, completed 1803, which by-passed the Mersey between Runcorn Gap and Warrington, negating the effects of neap tides.
- Woolston Old Cut, c. 1755
- Woolston New Cut, opened 14th February 1821, replaced Woolston Old Cut and by-passed several more loops in the Mersey. Paddington Lock was constructed at the lower end and Woolston Lock at the upper end.
- Butchersfield, which had two cuts dug, the first in 1760 had a single lock in it, Old Lock. The second, in 1829, had a double lock at its lower end and was known as the Butchersfield Canal.

In 1759 the Bridgewater Canal was constructed, creating a rivalry between it and the Mersey navigation. Passengers could sail from the Cathedral steps in Manchester down to Liverpool and there were races between boats on the Bridgewater Canal and those on the River Mersey. Despite the lengthier course of the Mersey, there was no speed restriction and a 'flat' under full sail could move at far greater speed than the horse drawn barges on the Bridgewater Canal.

In 1816, packet steamers were introduced, speeding up services, although the opening of the Liverpool - Manchester railway line in 1830 meant that these were rapidly made redundant. However bulk cargo was still carried in other boats. In 1872, the Mersey and Irwell Navigation and the Bridgewater Canal were bought out by a railway syndicate. In 1882, the Ship Canal Company was formed and the following year applied to construct a Ship Canal. This failed, as did a second application in 1884. In 1885 a third application succeeded and in 1887 the Ship Canal Company took over the Mersey and Irwell Navigation and the Bridgewater Canal, beginning the cutting of the Ship Canal in the same year. On 1st January 1894, Queen Victoria opened the Manchester Ship Canal.

After the opening of the Manchester Ship Canal, two functioning sections of the Mersey and Irwell Navigation continued to be run by the Ship Canal Company. These were as follows:-

- The Navigation from Rixton Junction to Bank Key via the river Mersey, Butchersfield Canal and Woolston New Cut.
- The section of the Runcorn and Latchford Canal from Latchford Lock to the Wilderspool (Stockton Heath) junction with the Ship Canal.

In addition, there was a new branch from the River Mersey at Arpley, through Walton Lock to the Ship Canal.

A ferry crossed the Ship Canal at Thelwall, landing passengers at the Canal side of The Eyes on the north bank. The ferryman's hut is of historic interest and can still be seen.

Shipbuilding has been practiced at various places along the north bank of the River Mersey. At Sankey Bridges the firm of Clare and Ridgway built boats for over 120 years. Mersey Flats, a type of freight barge, were built by this firm and their 'Eustace Carey' jigger flat was still being used up until 1965, when it beached off Spike Island. The Mersey Flat had been slowly evolving in the area from around 1700, centred on the Port of Liverpool. These were sailing barges, but when halted through adverse winds, they were hauled by 'bankhauliers' in the earlier years and later by horses. Initially the flats could carry 30 to 35 tons, with a draught of 3 ft, later the flats were carrying up to 80 tons with a correspondingly greater draught.

In 1850 the famous Vulcan foundry in Wargrave was connected by rail to Warrington and the Bank Quay Foundry Company was set up. This company designed and built the large iron sailing ship '*Tayleur*' (named after Vulcan Foundry's owner) which was launched in 1854. The ship was carefully sailed down the Mersey using the tide to clear the shallow river channel. She was handed over to her new owners, The White Star Line, in Liverpool and sank with heavy loss of life, on her maiden voyage to Australia, hitting the rocks of Lambay

Island. This appears to have been the only shipbuilding of note from Bank Quay, since the yard closed in 1860.

During the First World War, shortages of timber, steel plate and especially skilled labour in the UK's shipbuilding industry reached crisis point. Concrete vessels were built at two areas in the UK, one on the Ribble in Preston and the other at Fiddler's Ferry, Warrington. The Concrete Seacraft Company was based at Fiddlers Ferry and after the war continued to build pre-fabricated houses.

During WWII, the River Mersey appears to have been used for navigation by the Luftwaffe as part of the air campaign against the UK. Liverpool or Manchester could easily be found by following the Mersey, as could Warrington itself. As a result a number of defensive belts were set up to prevent the Luftwaffe traversing the area. These included anti-aircraft batteries and barrage balloon belts. Within the floodplain area only one balloon station site remains, in the fields near Moss Side Farm, Moore.

Flooding occurred at various times on the Mersey, especially prior to the construction of the Ship Canal. The rapid industrialisation of Manchester and Salford and the construction of factories and dwellings close to the rivers resulted in constriction of the channels of the Irwell and Mersey with occasionally disastrous consequences. The last serious flood was in 1946. The Ship Canal acts as a flood relief channel, but the tributary streams to the River Mersey still cause problems locally.

The British Hydrological Society has records confirming that significant floods occurred in 1881, 1911, 1928 and 1933. In 1990 tidal flooding affected Warrington, when the flood defences were overtopped and seventeen residential properties and 8,000m² of commercial

floor area and a school were flooded. The Environment Agency has identified that 1,700 residential properties and over 100,000m of commercial space are at risk from tidal flooding within Flood Zone 3 (Warrington). See Figure 13 (page 45).

Photo 190 The Mersey at Fiddlers Ferry Reach, near the lock connection to the St Helens Canal.

The Eyes and Thelwall Eye have been designated as sites of Special Scientific Interest (SSSI) and have a very rich diversity of flora and fauna. Land to the west of Moor Lane Bridge between the Runcorn and Latchford Canal and the Manchester Ship Canal is designated as a Site of Biological Interest (SBI), as is part of the St Helens Canal and a

remnant of Cuerdley Marsh adjacent to the Fiddlers Ferry pulverised fuel ash lagoons. The whole of the Mersey Valley floodplain and the River Bollin floodplain are designated as wildlife corridors in ‘The Nature Conservation Strategy for Warrington’ 1995.

The River Bollin is not suitable for navigation and this has greatly reduced human pressure on the river and its flood plain. The Bollin flood plain is broad, flat and relatively unspoilt. The Warrington boundary runs along the centre of the river from its junction with the River Mersey at Bollin Point / Rixton Junction up to the confluence with Agden Brook. This area and the area on the Trafford side of the river have been used as river meadows for many hundreds of years. Some of the land on the Trafford side belonged to Dunham Massey, but on the Warrington side the land appears to have been farmed by a small number of large farm complexes. These include Wetgate Farm, Wetgate Lane Farm, Heatley Heath Farm, Platt Farm and Reddish Hall.

Photo 91b. The view west from Warburton Toll bridge of the Mersey Ship Canal. The former river course rejoined the canal to the left of the picture some distance behind the electricity pylon

The flood plain has been subjected to ‘wild’ brine pumping, where a small drilling rig would be brought in, a shaft sunk and the brine pumped out until exhausted. The rig would then be moved on to another site. The sites of this pumping are unknown, but there have been a number of cases of subsidence in the area and there are a number of small ponds probably formed as a result of these operations.

There was a large Georgian / early Victorian water-powered mill at Warburton Bridge until the 1980s when operations ceased and the site was sold. After a period standing empty, the mill was demolished and a ‘replica’ mill built, containing apartments, while the mill outbuildings were replaced by conventional houses. The area of rock on which the mill stands was probably the only outcrop in the lower Bollin valley and made a strong foundation for the mill and contained the mill race which ran under the building past the wheel. The mill wheel was powered by river water held back by a weir.

The same rock outcrop was a suitable base for the Warburton Bridge carrying the A6144 between Lymm and Trafford. This attractive stone-built bridge, with a load limit of a mere 7.5 tons is regularly crossed by far heavier vehicles. West of the road bridge are a number of flood channels running under the road, which allow for the River Bollin to flood on either side of Warburton Mill.

North of Warburton Bridge, the Bollin river meadows have been cultivated in recent times, following the construction of low levees during WWI.

Sewage works are sited at a number of points along the Mersey flood plain. Lymm sewage works is located near Reddish Lane, Lymm. The main Warrington sewage works is at Gateworth.

Lymm Golf Course, founded 1907, is one of a large number of golf courses within the wider area of the Mersey flood plain. Recent weather patterns have meant heavier rainfall, causing serious problems of waterlogging, which has been addressed by the club.

Angling is very popular throughout the floodplain area. Angling facilities exist at Grey Mist, Woolston, at Meadow View Fisheries, Statham, on the St Helens Canal and all along the River Bollin and the original course of the River Mersey.

Key cultural elements in the landscape:

- Historic sites on either side of the flood plain
- Historic quays and loading areas - associated in many cases with manufacturing facilities
- The use of the area for navigational improvements, including locks
- Historic ferries and fords
- Historic crossing points over the River Mersey
- Historic ship building
- Use of the area for manufacturing, including using water power
- The use of the flood plain for water meadows
- Use of the area as a fishery
- The presence of Sites of Special Scientific Interest (SSSIs) and RAMSAR site
- The presence of sewage works in the valley
- The use of the area for landfill sites
- The use of the area for settlement lagoons
- Use of the Bollin Valley for brine pumping

Landfill and Mineral Extraction

Deposition of dredgings within the Mersey flood plain appears to have commenced with the establishment of a lagoon area during the 1920s at Butchersfield for the dumping of silt dredged from the Manchester Ship Canal. Subsequently, more such silt lagoons were

established at Thelwall Eyes and then at The Eyes, south of Woolston. Farming on the Eyes stopped as the deposition progressed. The last farm ceased operations during the 1950s.

The old course of the River Mersey between the two major Eyes is being infilled, cutting it off from the present river course through the construction of a dam.

Other landfill developments include Butchersfield, near Rixton, (now completed and restored), at Arpley Meadows (still active) and at Gatewarth Tip. Butchersfield, although 'naturalised' with the planting of trees and supporting a well-established grass sward, is far from natural in form. The irregular rounded landform is exceptionally alien to the surrounding landscape and is a highly prominent feature.

Photo 183b: Arpley landfill site viewed from Gatewarth landfill site.

Arpley Landfill is an extremely large active landfill site, currently approximately 1km by 2km, and covering 130 hectares. Landfill gas from the site is extracted and used to generate power.

It is intended that on completion the landfill site will revert to Public Open Space, commensurate with adequate safety for the public.

Gatewarth Tip is completed and capped. Currently the summit of the site is fenced off from public access, but in general it has been planted and seeded.

An elevated path around the shoulder of the site affords good views over the River Mersey, particularly over the adjacent Richmond Bank, a sandbank on the Mersey.

To the south of Fiddlers Ferry Power Station, the extensive pulverised fuel ash settlement lagoons project out into the Mersey flood plain on the site of Cuerdley Marsh. This is a by-product of power production at the nearby power station. Proposals exist to use this material as secondary aggregates, no reduction in the size of this area has occurred as this report was prepared.

Agricultural Land Quality

The bulk of the Bollin flood plain is Grade 3 agricultural land with areas of Grade 5 at the western edge of the plain. There is a small area of Grade 4 agricultural land immediately adjacent to the River Bollin to the extreme east of the Borough. Where agricultural land is available to farm in the River Mersey flood plain it is uniformly Grade 3.

Landscape Sensitivity

The flood plain in general has been extensively developed and altered without consideration to its landscape sensitivity. Much of its character is now heavily influenced by industry and

communication links. A small number of residual flood meadows, however, remain at Moss Side, opposite Fiddlers Ferry, Paddington Meadows and along the River Bollin floodplain between Heatley and Warburton.

The Moss Side and Paddington Meadows sites have been recognised for their wildlife and habitat importance and now form nature reserves. The Moss Side site is a quiet, little advertised, area of farmland now managed in particular for bird life and in association with the adjoining intertidal areas of the River Mersey. Wildflower meadows have also been introduced. The area would be sensitive to wildlife disturbance if visitor numbers substantially increased or if more active recreational pursuits were introduced. At Paddington Meadows, the nature reserve faces more immediate pressures of use, disturbance and vandalism from the adjoining housing estates at Bruche, Fairfield and Paddington.

The River Bollin floodplain retains a more traditional agricultural landscape of cropped fields and hedgerows and, in terms of the landscape sensitivity, is more akin to those elements described in the adjoining Lymm area (Area 3.C).

Areas of more recently created landscape, such as the slurry and dredging deposition lagoons, have now naturalised to form attractive and valuable landscapes in their own right.

Although they form artificially raised areas over 15m above the surrounding floodplain they are flat-topped and in some respects therefore echo the more level horizon of the floodplain. Vegetation has been allowed to colonise the embankment, often creating an envelope of mature woodland to the marsh and open water areas they contain. These features have

matured to form a rich habitat for birdlife and have benefited from the restricted/prohibited public access due to safety.

Parts of the lagoon areas have become a nature reserve. Public access is allowed to limited areas by a footbridge at Woolston Weir and the elevated footpath around the edges of the lagoons. This forms a quiet, attractive route with rewarding views, although the area is also close to the housing areas of Woolston and Martinscroft and is sensitive to disturbance and anti-social behaviour.

Landfill sites are particularly prone to creating a visual intrusion of the flat floodplain landscape, even following restoration planting on completed areas. This is particularly the case to the north and south of the Mersey at Arpley and further east at the Rixton landfill site.

Key elements of landscape sensitivity:

- Important areas of wildlife and habitat are sensitive to disturbance and vandalism
- Low, flat floodplain sensitive to high mounded landform
- Continued development of building in the flood plain

Landscape Change

The landscape of the Mersey floodplain has altered substantially throughout its history. The area would originally have been allowed to flood naturally over flood meadows and the river would have followed an ever-changing and unrestricted course. The landscape would have had a tranquil nature dominated by pasture land and grazing stock.

The development of the town of Warrington irrevocably altered this scene and natural river flooding was largely prevented by raising river banks and levees, channel straightening and artificial walling. Many of the old flood plain areas were then developed for residential and industrial uses and, more recently, large tracts of flood plain have been allocated as landfill sites. Small areas of residual agricultural land remain under pressure from the urban areas and have either succumbed to housing development or are now managed as nature reserves. Only areas associated with the River Bollin floodplain have retained their agricultural use.

Landscape change to the area is summarised as follows:

- Development of Warrington across the natural floodplain
- Flood prevention and the loss of natural flood meadows
- Prevention of natural river channel movement
- Development of industrial uses over the flood plain
- Allocation of land landfill sites on the floodplain

- Management of former agricultural and urban/industrial land for nature reserves.

Recommended Management and Landscape Objectives

A great deal of the remaining Mersey floodplain landscapes have been badly damaged or altered and require either careful management or, in many cases, substantial mitigation works. Areas of important habitat or wildlife value have already been recognised and are receiving appropriate management. Many other areas of former industrial land remain in an unmanaged and derelict state, whilst the various landfill sites unfortunately continue to build higher and with a domed profile alien to the floodplain landscape.

Management of the landscape:

- Discourage visually intrusive landfill operations in the floodplain
- Encourage more appropriate landform and restoration to existing landfill sites.
- Support existing nature reserve management
- Encourage long-term wildlife habitat and conservation management for active lagoon/slurry deposition areas
- Promote integrated and sensitive landscape reclamation schemes for derelict land

Settlement

Settlement within the flood plain area is, for obvious reasons, limited and mainly represented by farms. These include Moss Side Farm and a small number of farms close to Thelwall, Statham and Lymm, including Laskey House and Woodacre Farm, Thelwall, Pool Farm and Whitbarrow Farm, Statham and Reddish House and Hall, Lymm.

A small industrial estate is located on the south side of Woolston New Cut, east of Grey Mist.

Much of the core urban area of Warrington is built within the floodplain of the Mersey.

RANDALL THORP

CHARTERED LANDSCAPE ARCHITECTS

Land off Rush Green Road, Lymm

Landscape Sensitivity Assessment of Lymm
and Landscape Appraisal of Proposed Development
on Land off Rush Green Road

Appendix C:
Illustrative Masterplan

September 2017

Prepared for:

PEEL

Area 1:	3.29 ha	Area 4:	8.95 ha
Developable Area:	1.98 ha	Developable Area:	3.61 ha
Spine Road:	0.01 ha	Spine Road:	0.40 ha
Green Infrastructure:	1.30 ha	Green Infrastructure:	4.94 ha
Area 2:	9.02 ha	**Total Site Area:**	**24.0 ha**
Developable Area:	4.56 ha	**(Areas 1, 2, 3 and 4)**	
Spine Road:	0.66 ha	Total Developable Area:	11.74 ha
School Extension:	0.60 ha	School Extension:	0.60 ha
Green Infrastructure:	3.20 ha	Spine Roads:	1.15 ha
		Green Infrastructure:	10.51 ha
Area 3:	2.74 ha		
Developable Area:	1.59 ha	**Potential Yield:**	
Spine Road:	0.08 ha	@30 dph:	352 units
Green Infrastructure:	1.07 ha	@35 dph:	411 units

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

RANDALL THORP

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KEY:

- Site Boundary
- Water body
- Existing woodland/trees
- Proposed woodland/trees
- Proposed open space
- Proposed development cells
- Proposed 0.6ha school extension
- Proposed primary access
- Proposed secondary access
- Potential Emergency Access
- Proposed main road
- Exsiting Public Right of Way
- Proposed footpath network

PEEL

Land off Rushg een Road Lymm, Warrington

Illustrati e Masterplan - Area 4

Drwg No: 630CD-13
Drawn by: AH
Rev by:
QM Status: Checked
Scale: NTS @ A3

Date: 19.09.17
Checker: CAW
Rev checker:
Product Status: Issue

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

RANDALL THORP

CHARTERED LANDSCAPE ARCHITECTS

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Consulting Engineers

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LAND AT RUSH GREEN ROAD
WARRINGTON

FLOOD RISK AND UTILITIES APPRAISAL

Shepherd Gilmour Infrastructure Ltd.

40 Peter Street

Manchester

M2 5GP

C1283/NM/DOR/EAJ/2017117

Shepherd Gilmour
Consulting Engineers

Report Title: *Land at Rush Green Road, Warrington*
Flood Risk and Utilities Appraisal

Client: *Peel Investments (North) Ltd*

Report Status: *Version Rev – V1*

Date of First Issue: *15th September 2017*

Date of Last Issue: *28th September 2017*

Prepared by: [redacted]

Checked & Approved:

Version	Date	Initials	Comments
-	15.09.2017	NM	First Issue
V1	28.09.2017	NM	Updated as per amended site masterplan

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Limitations

All findings, recommendations and conclusions contained in this report are based on information provided to us during investigations. Shepherd Gilmour Infrastructure Ltd. has created the report based on the assumption that all the information is accurate and accepts no liability should additional information exist or become available.

Unless otherwise requested by the client, Shepherd Gilmour Infrastructure Ltd. is not obliged to and disclaims any obligation to update the report for events taking place after the date noted on the report.

Shepherd Gilmour Infrastructure Ltd. makes no representation whatsoever concerning the legal significance of its findings or the legal matters referred to in the report. The information presented and conclusions drawn are based on statistical data and are for guidance purposes only. The study provides no guarantee against the flooding of the study site or elsewhere, nor of the absolute accuracy of water levels, flow rates, and associated probabilities.

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

Colchester House, 40 Peter Street, Manchester M2 5GP
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LIST OF APPENDICES

Colchester House, 40 Peter Street, Manchester M2 5GP
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SECTION 1 INTRODUCTION

1.1. Shepherd Gilmour Infrastructure Ltd (SGi) has been engaged by Peel Investments (North) Limited (hereafter "the Applicant") to provide a Flood Risk and Utilities Appraisal in support of development known as Land at Rush Green Road in Lymm for the forthcoming representations to the Warrington Local Plan.

SITE LOCATION

1.2. The proposed site is located in the village of Lymm in Warrington. The site is approximately 24 ha in total and consists of agricultural fields, paddocks and pockets of woodland.

- Nearest Postcode: WA13 9RH
- OS Coordinates: 369212E, 387551N
- OS Grid Reference: SJ 692875

Figure 1.1 Red Line Boundary

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TOPOGRAPHY

1.3. Based on the Ordnance Survey maps, the site ranges in level between 15-25m AOD. The site appears to generally fall in level from the Bridgewater Canal (south boundary) to the A6144 Rush Green Road (just beyond the northern boundary).

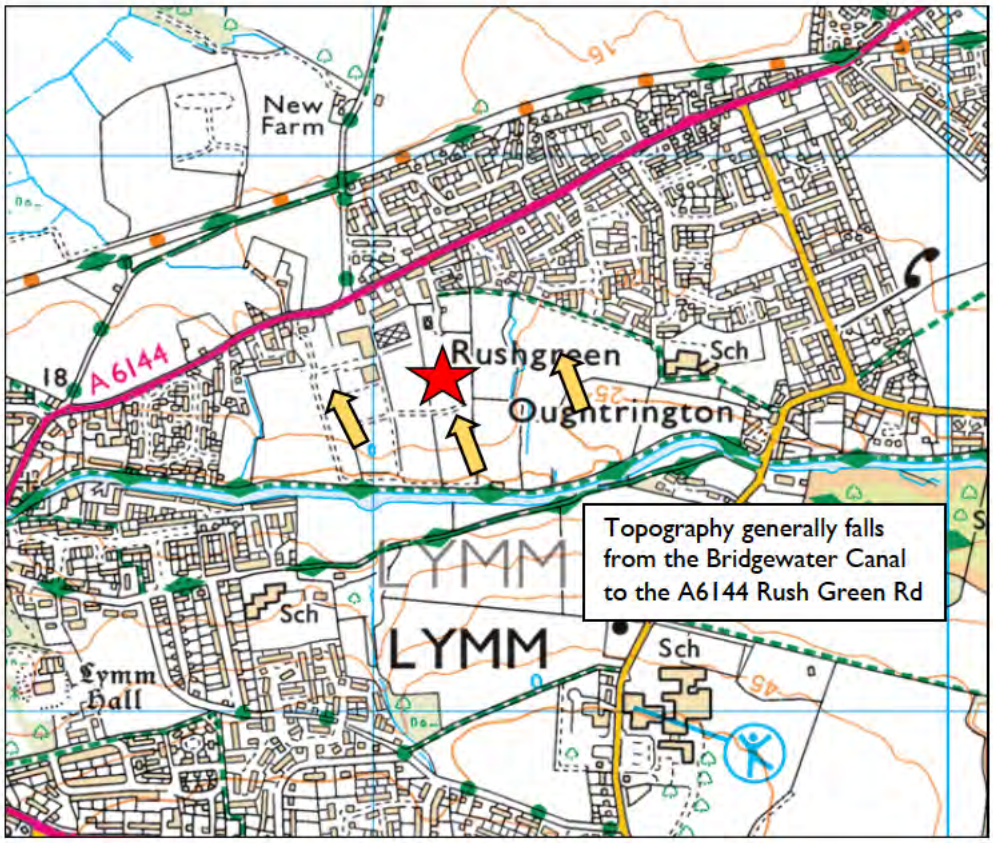

Figure 1.2 Site Plan (OS Map)

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PRELIMINARY PROPOSALS

1.4. The client's conceptual masterplan is shown in **Figure 1.3** and proposes between 350-410 dwellings with associated infrastructure works, a landscape buffer to sensitive boundaries and existing pockets of woodland and watercourses retained and protected.

1.5. The total developable area is 11.74ha, with approximately 10.51ha of green infrastructure proposed.

1.6. A full-sized plan of the below masterplan is included in **Appendix A**.

Figure 1.3 Conceptual Masterplan (Randall Thorp)

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SECTION 2 PRELIMINARY FLOOD RISK ADVICE

GOV.UK PLANNING ADVICE MAPS

2.1. The Gov.UK online Flood Maps provide initial information on any flood zoning onsite. These maps indicate that the majority of site is located within Flood Zone 1 (low probability of fluvial flooding) with a small area of Flood Zone 2 (medium probability of fluvial flooding).

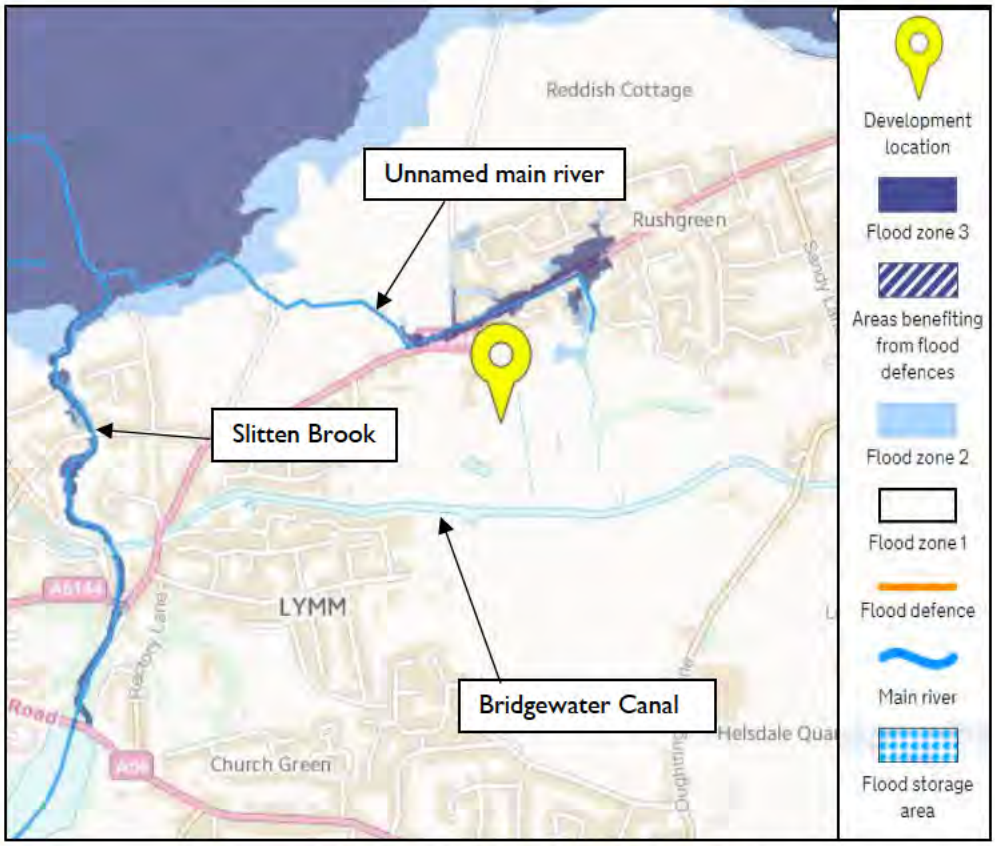

Figure 2.1 Flood Map for Planning (Gov.UK)

ENVIRONMENT AGENCY DATA

2.2. The latest flood data and maps has been requested from the Environment Agency (EA) and indicate similar flood zoning **(Figure 2.2)**. The data also includes estimated flood levels which can be used in conjunction with a topographical survey during the detailed design stage. This information has been included within **Appendix B**.

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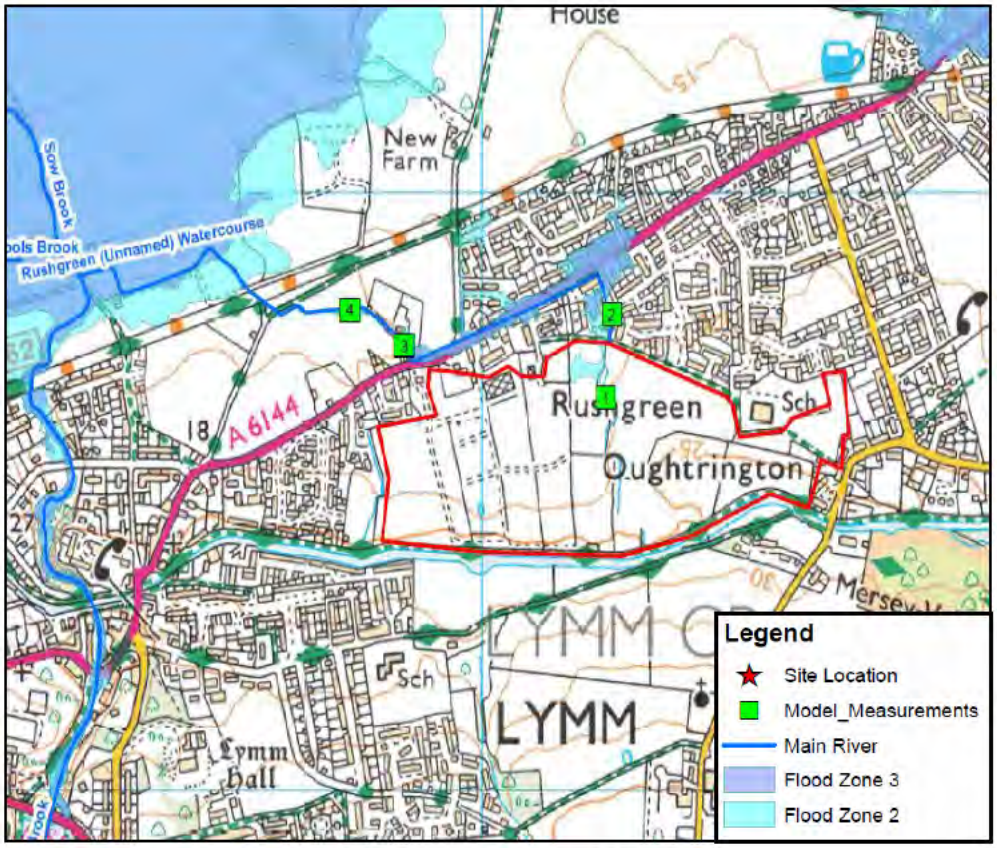

Figure 2.2 Detailed Flood Map (EA)

FLOOD ZONE GUIDANCE

2.3. The Flood Risk and Coastal Change Guidance indicates which, development type is suitable for each Flood Zone as shown in **Table 2.1 & 2.2**.

Flood Zone	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
1	✓	✓	✓	✓	✓
2	✓	Exception Test Required	✓	✓	✓
3a	Exception Test Required	x	Exception Test Required	✓	✓
3b	Exception Test Required	x	x	x	✓

Table 2.1 Flood Risk Classification

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Highly Vulnerable	• Police stations, Ambulance stations and Fire stations and Command Centres. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes & park homes intended for permanent residential use. • Installations requiring hazardous substances consent.
More Vulnerable	• Hospitals. • Residential institutions • Residential dwelling, student halls, drinking establishments/nightclubs and hotels. • Non–residential - Health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste.
Less Vulnerable	• Police, ambulance and fire stations which are not required during a flood. • Shops; financial, professional and other services; restaurants and cafes; hot food takeaways; offices; general industry; storage and distribution; non–residential institutions not included in 'more vulnerable'; and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which are not required during times of flood. • Sewage treatment works.

Table 2.2 Development Types (Abstract)

2.4. Applying the sequential approach, the conceptual masterplan (**Figure 1.3**) indicates that all residential developments (i.e. more vulnerable development) will be located within low probability areas (Flood Zone 1). Therefore, the client's preliminary proposals meet the requirements of the NPPF at this stage.

2.5. The estimated flood levels and detailed development proposals will require further analysis once a topographical survey is available.

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SECTION 3 EXISTING DRAINAGE INFRASTRUCTURE

PUBLIC SEWERS

3.1. The public sewers within the vicinity of the proposed site are owned and maintained by United Utilities (UU). Copies of their records have been requested and are included in **Appendix C** of this report.

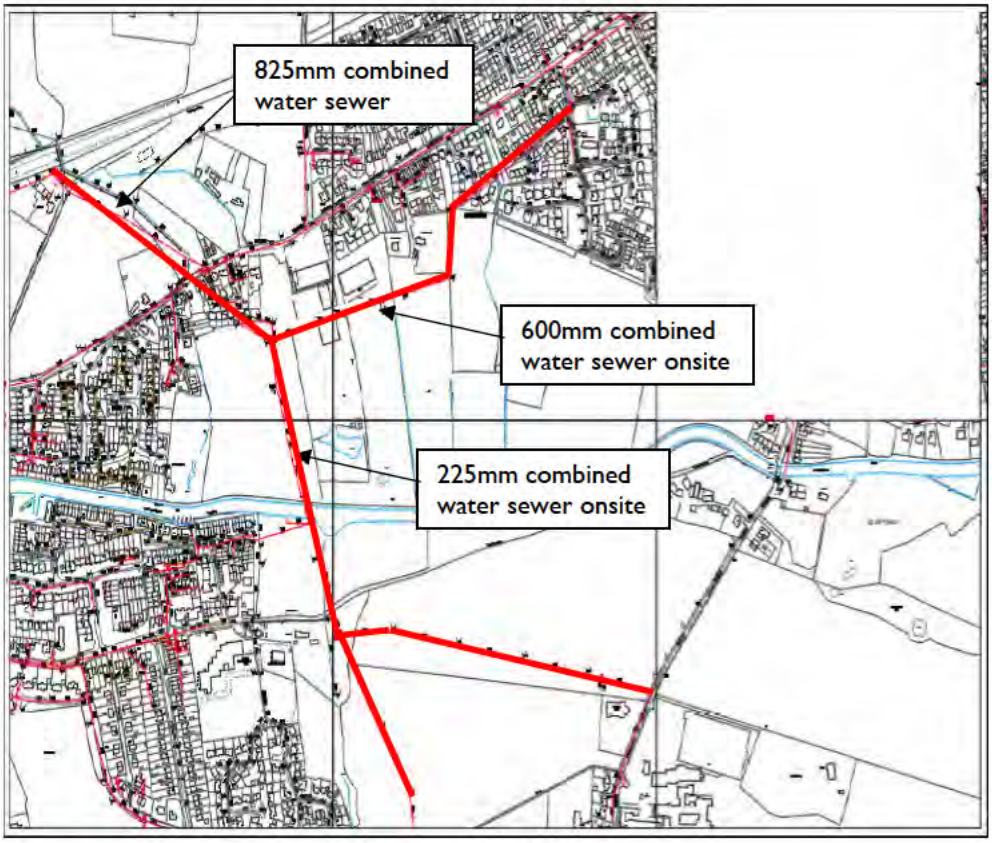

Figure 3.1 Combined UU Sewer Plan

Surface Water Sewers

3.2. United Utilities records indicate a number of surface water sewers in the surrounding areas but none onsite. The sewers surrounding the site collect and convey runoff to either the Bridgewater Canal (south) or the unnamed main river (north).

Foul Water Sewers

3.3. According to the records there are foul water sewers in the surrounding areas but none onsite. The sewers collect and convey effluent to the main combined sewer that flows in a northward direction.

Combined Water Sewers

3.4. Records indicate that there is a 225mm and a 600mm diameter combined sewer onsite. The 600mm sewer enters the site from the east (The Greenacres) and flows

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through the site in a westerly direction before leaving the site via the northern boundary.

3.5. The 225mm sewer enters the site from the Bridgewater canal and flows northwards to the 600mm sewer. The 225mm sewer appears to miss the proposed development areas but is likely to require a 3m offset each side of the centreline of the sewer (Sewers for Adoption 6th Edition).

3.6. The 600mm sewer passes through the proposed northern development zones and is likely to require a 4/5m offset each side of the centreline of the sewer (Sewers for Adoption 6th Edition).

PRIVATE DRAINAGE

3.7. There is no known private drainage onsite.

PRELIMINARY DEVELOPMENT DRAINAGE

Surface Water Drainage

3.8. Based on the topography and development proposals/location it should be possible to discharge any runoff from the development into the unnamed main river via the onsite waterbody. This arrangement is aligned with the runoff destination hierarchy set out in Paragraph 080 of the Flood Risk and Coastal Change Guidance document.

3.9. Note that any surface water runoff rates must be agreed by the Environment Agency and/or Lead Local Flood Authority, dependant on the status of the waterbody.

Foul Water Drainage

3.10. Foul effluent generated by the development should be able to connect into the onsite combined water sewers. At the stage the need for off-site reinforcement is unknown and United Utilities should be consulted as soon as practically possible.

Sewer Diversions

3.11. At this stage, it is difficult to assess if any sewer diversions would be required due to the plans only being at the conceptual stage. More information is required and any sewer diversion can be addressed at a later stage.

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SECTION 4 UTILITIES INFRASTRUCTURE

ELECTRICITY

4.1. The electricity in the area is supplied by Scottish Power Manweb (SP). These records identify a high voltage (11kV) supply within Rushgreen Road beyond the northern boundary, and within Oughtrington Crescent to the east of the site. There are also a number of LV supplies in the vicinity which serve the existing residential areas and commercial properties.

4.2. The need for any offsite reinforcement to meet the power demands of the development is unknown. Discussions with Scottish Power Manweb should be undertaken as soon as practically possible.

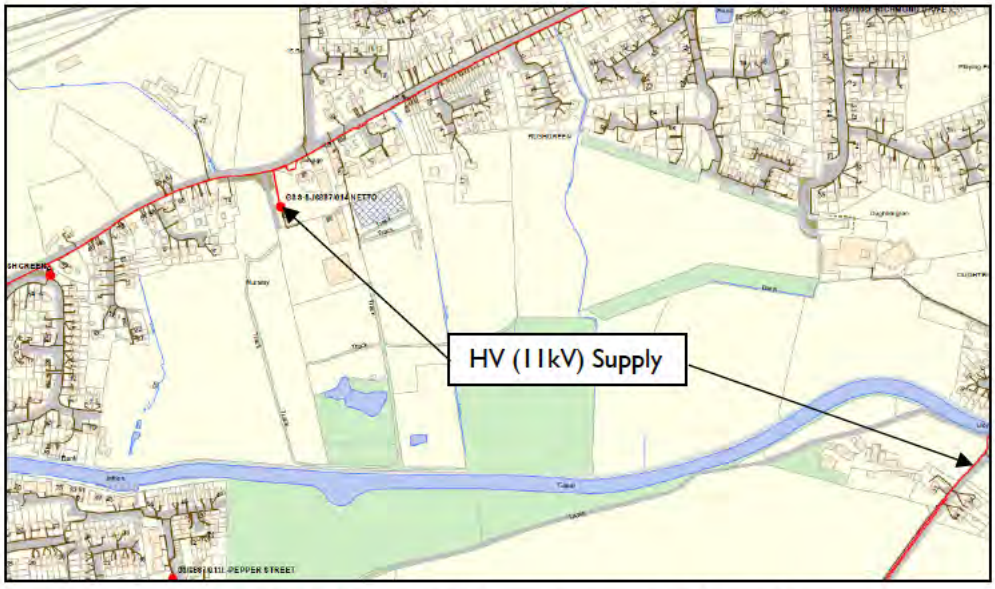

Figure 4.1 Electricity Infrastructure (SP Manweb)

4.3. A copy of the SP Manweb records has been included within **Appendix D**.

TELECOMMUNICATION

4.4. Openreach records show a number of assets in the vicinity of the site which serve the existing dwellings. A supply from the existing infrastructure might be possible but there may not be sufficient capacity. Discussions with Openreach should be undertaken as soon as practically possible.

4.5. A copy of Openreach records has been included within **Appendix E**.

MAINS WATER

4.6. United Utilities records indicate a number of water mains around the site that vary in size. Connections from these mains might but be able to supply the site but it is

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expected that a direct connection to the 400mm distributor main (north of the site) is more suitable.

4.7. Any offsite reinforcement works required to meet the water supply demands is unknown at this stage. Discussions with UU should therefore be undertaken as soon as practically possible.

4.8. A copy of United Utilities records has been included within **Appendix C**.

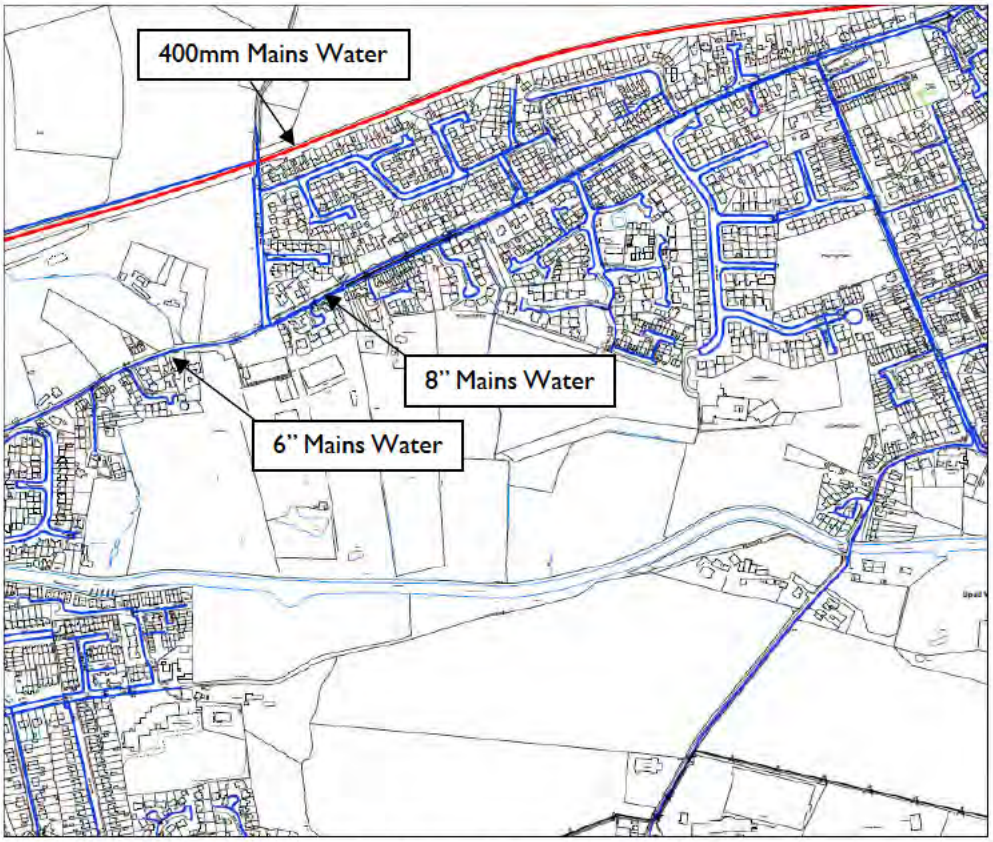

Figure 4.2 Water Infrastructure (UU)

GAS

4.9. Cadent/National Grid records indicate two onsite gas mains within the northern tow path of the Bridgewater canal. The first is a Local High Pressure main and enters the site from the south-eastern corner. The second is a Medium Pressure spur and supply from the LHP that exits the site from the south-western corner.

4.10. There is a vast network of Low Pressure mains in the area but these are unlikely to be suitable for the development proposes.

4.11. The LHP main are likely to have an associated legal easement but the exact dimensions are unknown at this stage and should be investigated as soon as practically possible.

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4.12. A connection to the LHP and/or MP could be suitable for the proposed site, but discussions with Cadent/National Grid should be undertaken to confirm. Any offsite reinforcement to meet the gas supply demands of the proposed development is unknown at this stage.

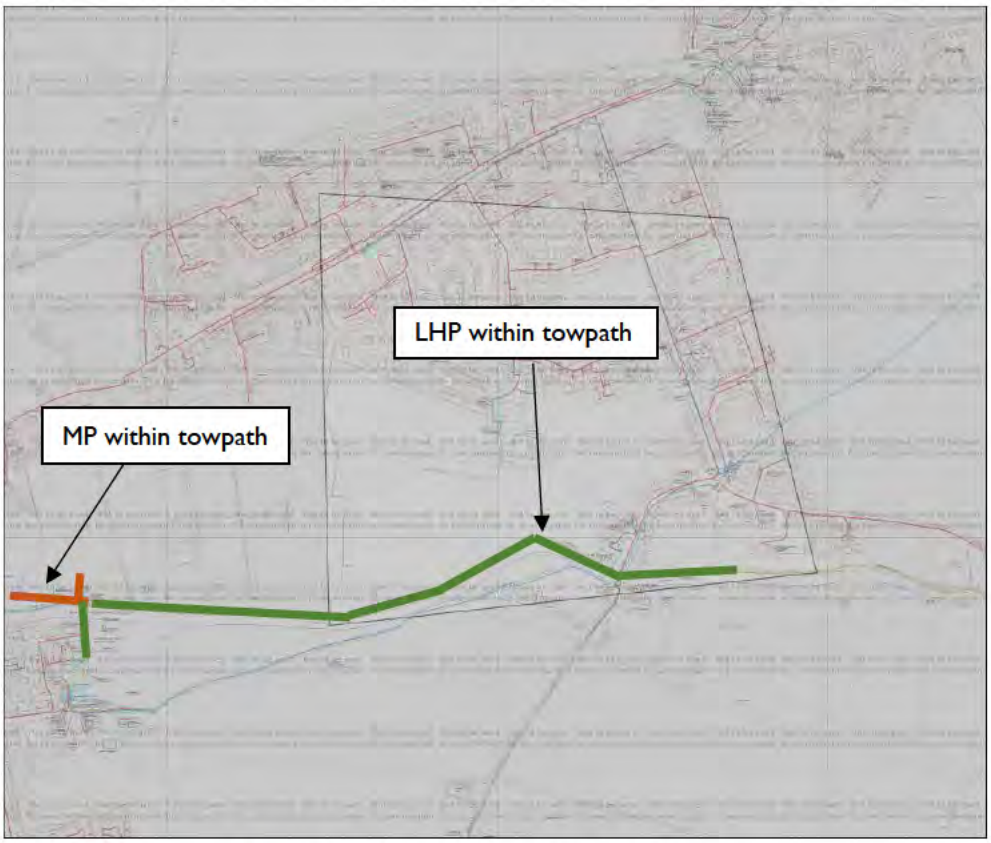

Figure 4.3 Gas Infrastructure (Cadent)

4.13. A copy of Cadent/National Grid records has been included within **Appendix F**.

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SECTION 5 HEALTH AND SAFETY EXECUTIVE CHECK

5.1. A preliminary consultation with the Health and Safety Executive has indicated that the proposed site is located near or on a major hazard site or major accident hazard pipeline. The plans provided highlighted one items of risk.

LHP MAIN

5.2. The Local High Pressure mains that follows the tow path of the Bridgewater canal is considered a major accident hazard pipeline. However, the HSE "consultation distance" for the risk is only a narrow inner zone.

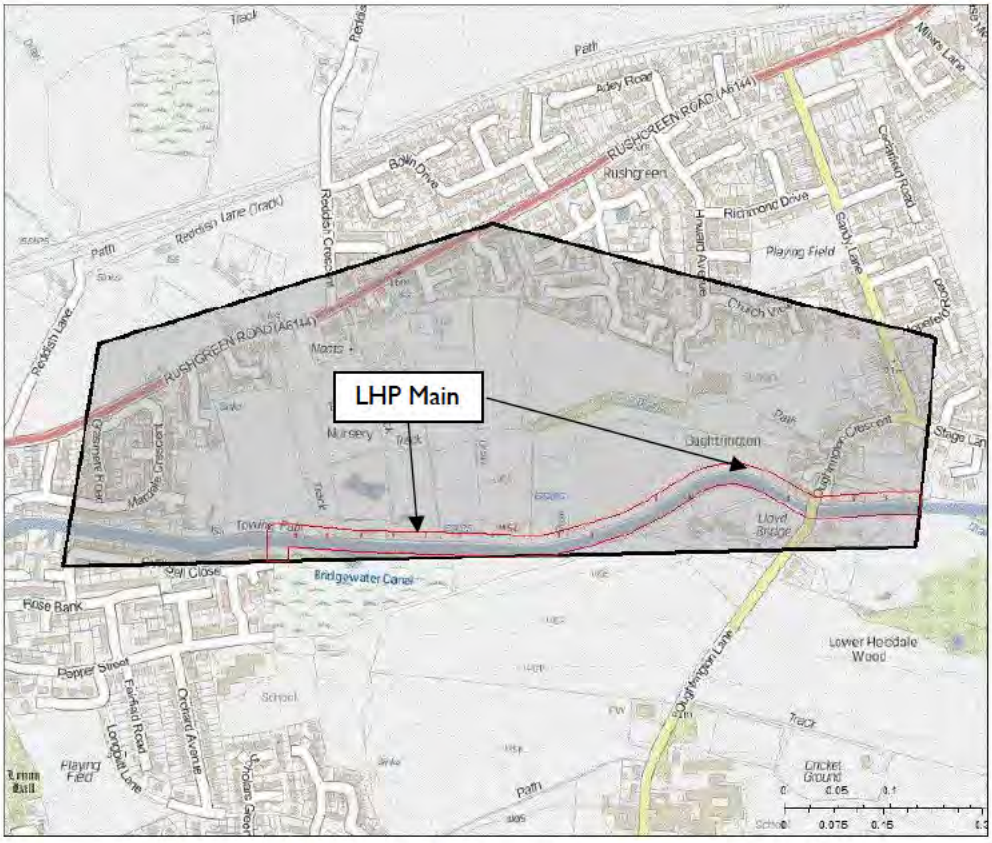

Figure 5.1 Planning Advice Map – LHP Mains (HSE)

CONSULTATION ZONING

5.3. The consultation distance consists of three zones known as the Inner, Middle and Outer. These zones along with the sensitivity level of the development (**Table 5.1**) will determine if the HSE will advise against the proposed development (**Table 5.2**).

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5.4.

Level of Sensitivity	Developments in Inner Zone	Development in Middle Zone	Development in Outer Zone
1	Don't Advise Against	Don't Advise Against	Don't Advise Against
2	Advise Against	Don't Advise Against	Don't Advise Against
3	Advise Against	Advise Against	Don't Advise Against
4	Advise Against	Advise Against	Advise Against

Table 5.1 HSE Decision Matrix

Development Type	Examples	Development Detail and Size	Justification
DT2.1 Housing	Houses, flats, retirement flats / bungalows, residential caravans, mobile homes	Developments up to and including 30 dwelling units and at a density of no more than 40 per hectare (**Level 2**)	Development where people live or are temporarily resident. It may be difficult to organise people in the event of an emergency
	Exclusions		
	Very small developments including infill and back land developments	DT2.1 x 1 Developments of 1 or 2 dwelling units (**Level 1**)	Minimal increase in numbers at risk
	Larger housing developments	DT2.1 x 2 Larger developments for more than 30 dwelling units (**Level 3**)	Substantial increase in numbers at risk
		DT2.1 x 3 Any developments for more than 2 dwelling units at a density of more than 40 dwelling units per hectare (**Level 3**)	High density development

Table 5.2 HSE Development Classification

5.5. The residential proposals for the development are be considered a **Level 3** "type" and as such should only occur in the outer zone. The conceptual development masterplan (**Appendix A**) locates all sensitive development outside of any HSE zoning and thus satisfies the HSE condition.

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SECTION 6 CONCLUSION

6.1. This flood risk and utilities appraisal provides an overview of the existing infrastructure on or around the proposed site and evaluates flood risk issues that may potentially influence the conceptual masterplan. In summary, the statement confirms that;

a) The proposed development areas are within Flood Zone 1 & 2 (low & medium probability). In accordance with the Flood Risk and Coastal Change Guidance these proposals are acceptable in this zone.

b) The proposed surface water runoff generated by the proposals should discharge to the unnamed main river or onsite waterbody. Flow rates to be agreed with the Environment Agency or Lead Local Flood Authority (dependant on waterbody).

c) The proposed foul water effluent will discharge to United Utilities onsite combined sewer. Flow rates and any offsite/onsite upgrade works are to be agreed with United Utilities.

d) Any combined water sewer diversions should be investigated further once the masterplan layout is fixed.

e) Early discussions with Scottish Power Manweb are required to establish the proposed electricity route(s) to the site.

f) The existing Openreach infrastructure that surrounds the site could be able to cater for the site proposals. However early discussions with Openreach should be undertaken.

g) Early discussions with United Utilities are required to establish the proposed mains water route(s) to the site.

h) Early discussions with Cadent/National Grid are required to confirm the onsite easement associated with the LHP mains and establish the future proposed gas main route(s) to the site.

i) Early discussions with Health and Safety Executive are required to confirm the consulting distances associated with the LHP pipelines. Once confirmed the conceptual masterplan can be adjusted to suit if necessary, and therefore avoid any future objections during the planning process.

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APPENDIX A

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Area 1:	3.29 ha	Area 4:	8.95 ha
Developable Area:	1.98 ha	Developable Area:	3.61 ha
Spine Road:	0.01 ha	Spine Road:	0.40 ha
Green Infrastructure:	1.30 ha	Green Infrastructure:	4.94 ha
Area 2:	9.02 ha	**Total Site Area:**	**24.0 ha**
Developable Area:	4.56 ha	**(Areas 1, 2, 3 and 4)**	
Spine Road:	0.66 ha	Total Developable Area:	11.74 ha
School Extension:	0.60 ha	School Extension:	0.60 ha
Green Infrastructure:	3.20 ha	Spine Roads:	1.15 ha
		Green Infrastructure:	10.51 ha
Area 3:	2.74 ha		
Developable Area:	1.59 ha	**Potential Yield:**	
Spine Road:	0.08 ha	@30 dph:	352 units
Green Infrastructure:	1.07 ha	@35 dph:	411 units

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

RANDALL THORP

Canada House, 3 Chepstow Street, Manchester M1 5FW
0161 228 7721 mail@randallthorp.co.uk www.randallthorp.co.uk

KEY:

- Site Boundary
- Water body
- Existing woodland/trees
- Proposed woodland/trees
- Proposed open space
- Proposed development cells
- Proposed 0.6ha school extension
- Proposed primary access
- Proposed secondary access
- Potential Emergency Access
- Proposed main road
- Exsiting Public Right of Way
- Proposed footpath network

PEEL

Land off Rushg een Road Lymm, Warrington

Illustrati e Masterplan - Area 4

Drwg No: 630CD-13
Drawn by: AH
Rev by:
QM Status: Checked
Scale: NTS @ A3

Date: 19.09.17
Checker: CAW
Rev checker:
Product Status: Issue

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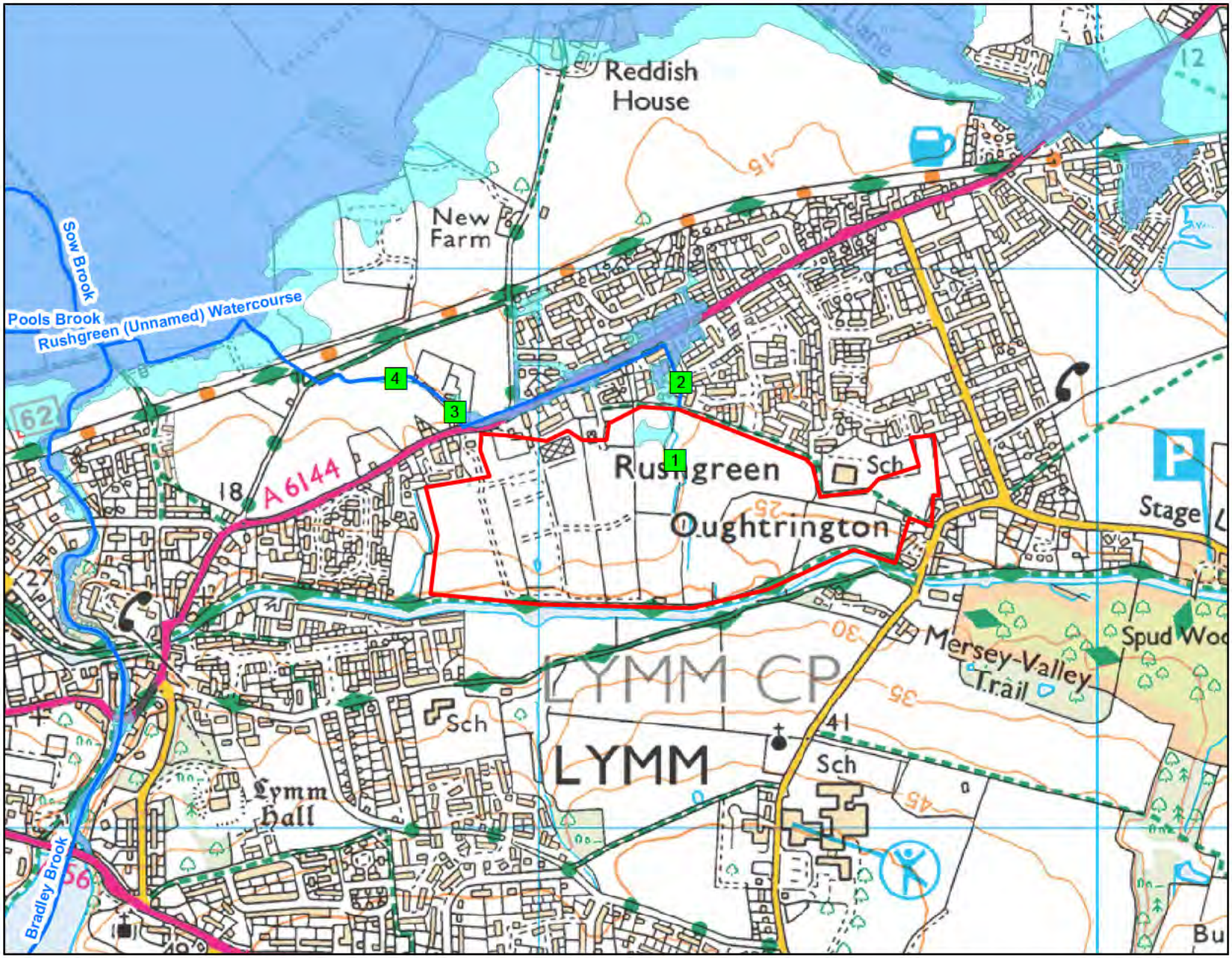
APPENDIX B

Detailed Flood Map centred on Rush Green Road, Lymm. Created 07/08/2017 [GMMC55891CC]



Environment Agency

1:10,001

N

Legend

- Site Location
- Model Measurements
- Main River
- Flood Zone 3
- Flood Zone 2

Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 08708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

					Undefended		
Map Reference	Model Node Reference	Easting	Northing	Data	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + Climate Change*	0.1 % AEP (1 in 1000 year)
1	ea013_Model_URUS01_00021	369243	387656	Modelled Water Level (m aodN)	16.50	16.57	16 80
				Modelled Flow (cumecs)	0.30	0 36	0.60
2	ea013_Model_URUS01_00019	369254	387795	Modelled Water Level (m aodN)	16.15	16.16	16 21
				Modelled Flow (cumecs)	0.29	0 34	0.51
3	ea013_Model_URUS01_00013	368849	387743	Modelled Water Level (m aodN)	13.69	13.73	13 91
				Modelled Flow (cumecs)	0.22	0 27	0.55
4	ea013_Model_URUS01_00011	368743	387803	Modelled Water Level (m aodN)	12.20	12.22	12 34
				Modelled Flow (cumecs)	0.22	0 27	0.55

Model data taken from Rushgreen Brook 2011

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes:

*Climate Change Scenario - 20% increase in flow. We only hold climate change measurements based on the previous climate change guidance. The new climate change guidance is available at https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.
For further guidance on climate change within the GMMC area please see the attachment 'Flood risk assessments: Climate change allowances'. Particularly section 3, table B which shows the Local precautionary allowances for potential climate change impacts.

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APPENDIX C

United Utilites Water Limited

Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone 0370 751 0101

Property.searches@uuplc.co.uk

Your Ref: LAND AT RUSH GREEN ROAD LY
Our Ref: [redacted]
Date: 14/8/2017

Shepherd Gilmour Infrastructure
SGi Consulting Colchester House
40 Peter Street

Manchester
M2 5GP

FAO: [redacted]

Dear Sirs

Location: **Rush Green Road Lymm WA13 9QL**

I acknowledge with thanks your request dated 08/08/17 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network.
http://www.unitedutilities.com/work-near-asset.aspx.

I trust the above meets with you requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please telephone us on 0370 7510101.

[redacted]

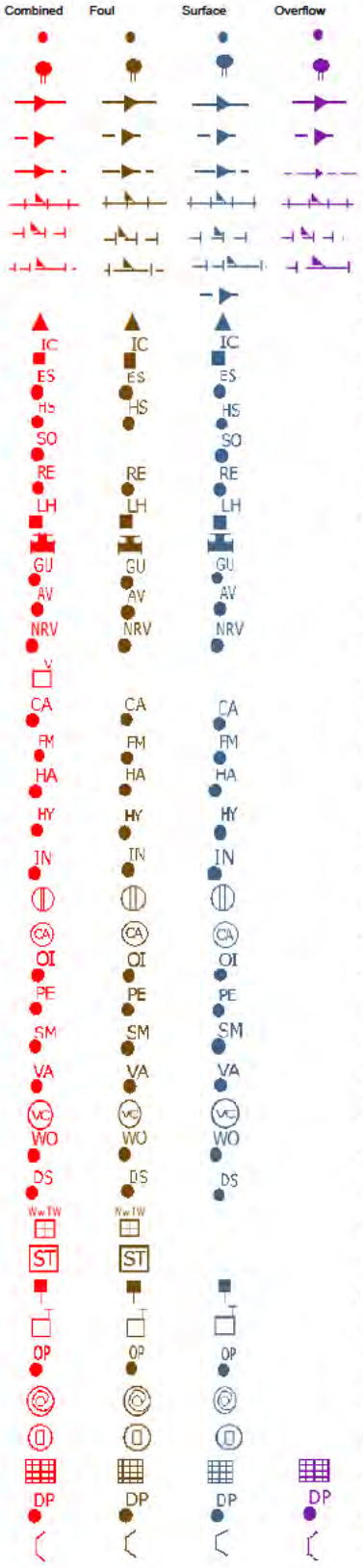
TERMS AND CONDITIONS - WASTERWATER & WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self-construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

1. This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
2. This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
3. In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only and given in accordance with the best information available. The nature of the relevant system and/or its actual position may be different from that shown on the plan and UUWL is not liable for any damage caused by incorrect information provided save as stated in section 199 of the Water Industry Act 1991. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
4. The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
5. The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
6. This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
8. If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
9. This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

WASTE WATER SYMBOLOGY



MANHOLE FUNCTION		SEWER SHAPE			
FO	Foul	CI	Circular	SQ	Square
SW	Surface Water	EG	Egg	TR	Trapezoidal
CO	Combined	OV	Oval	AR	Arch
OV	Overflow	FT	Flat Top	BA	Barrel
		RE	Rectangular	HO	Horse Shoe
SEWER MATERIAL				U	Unspecified
AC	Asbestos Cement	DI	Ductile Iron		
BR	Brick	VC	Vitrified Clay		
CO	Concrete	PP	Polypropylene		
CSB	Concrete Segment	PF	Pitched Fibre		
CSU	Concrete Segment	MA	Masonary, Coursed		
CC	Concrete Box Culverted	MA	Masonary, Random		
PSC	Plastic	RP	Reinforced Plastic		
GR	Glass Reinforced	CI	Cast Iron		
GRP	Glass Reinforced	SI	Spun Iron		
PVC	Polyvinyl Chloride	ST	Steel		
PE	Polyethtlene	U	Unspecified		

ABANDONED PIPE

Cleanwater Symbology

Pipework

Live	Proposed	
		Distribution Main - Pressurised Main
		LDTM Treated Water Distribution - Pressurised main
		LDTM Treated Water Distribution - Gravity main
		Trunk Main - Pressurised main
		Raw Water Aqueduct - Pressurised Main
		Raw Water Aqueduct - Gravity Main
		LDTM Raw Water Distribution - Pressurised main
		LDTM Raw Water Distribution - Gravity main
		Private Pipe
		Comms Pipe
		Concessionary Service

Abandoned

	LDTM Treated Water Distribution
	Trunk Main
	Raw Water Aqueduct
	LDTM Raw Water Distribution
	Distribution main
	Private Pipe
	Comms Pipe
	Concessionary Service

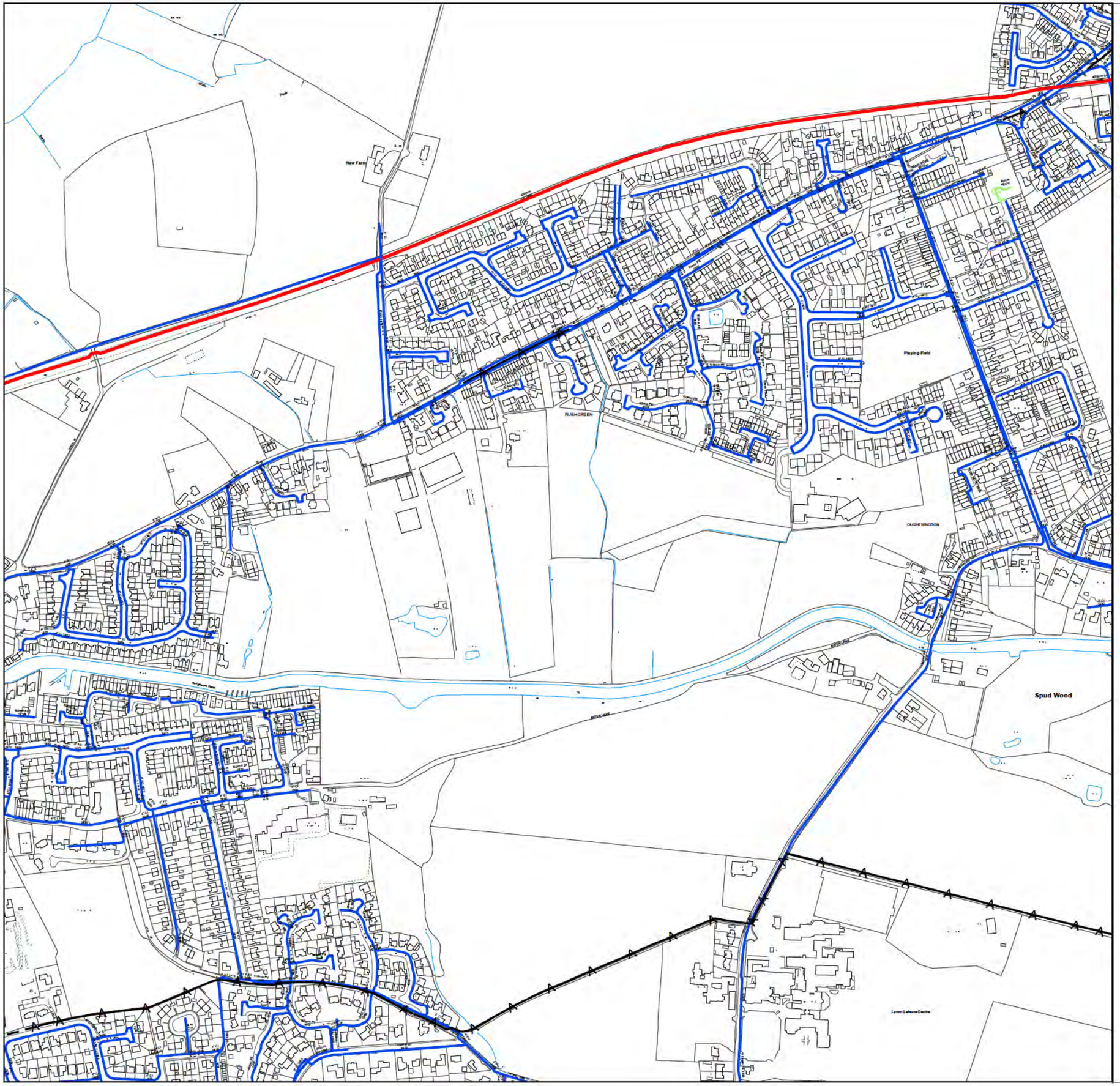
Property Types

Live	Proposed	
		Condition Report
		Pumping Station
		Water Treatment Works
		Valve House
		Water Tower
		Service Reservoir
		Supply Reservoir
		Pipe Bridges

Matertial Types		Lining Types	
AC	Asbestos Cement	CL	Cement Lining
CI	Cast Iron	TB	Tar or Bitumen
CU	Copper	ERL	Epoxy Resin
CO	Concrete		
DI	Ductile Iron	**Insertion Types**	
GI	Galvanised Iron		
GR	Grey Iron	DD	Die Drawn
OT	Others	DR	Directional Drilling
PB	Lead	MO	Moling
PV	uPVC	PI	Pipeline
SI	Spun Iron	SL	Slip Lined
ST	Steel		
UN	Unknown		
PE	Ployethelene		

Nodes

Live	Proposed	
		End Cap
		CC Valve open
		CC Valve closed
		AC Valve open
		AC Valve closed
		Air Valve
		Sluice Valve
		Non Return Valve
		Pressure Management Valve
		Change of Characterisitcs
		Anode
		Chlorination Point
		De Chlorination Point
		Bore Hole
		Inlet Point
		Bulk Supply Point
		Fire Hydrant
		Hydrant
		Pump
		Site Termination
		Service Start
		Service End
		Commercial Meter
		Domestic Meter
		Strainer Point
		Access Point
		Hatch Box
		IP Point
		Sampling Station
		Logger Box
		Stop Tap



Extract from Map of Water Mains

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available

The actual positions may be different from those shown on the plan, private service pipes may be shown where a known record is available.

United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown. Crown copyright and database rights [2016] Ordnance Survey 100022432.

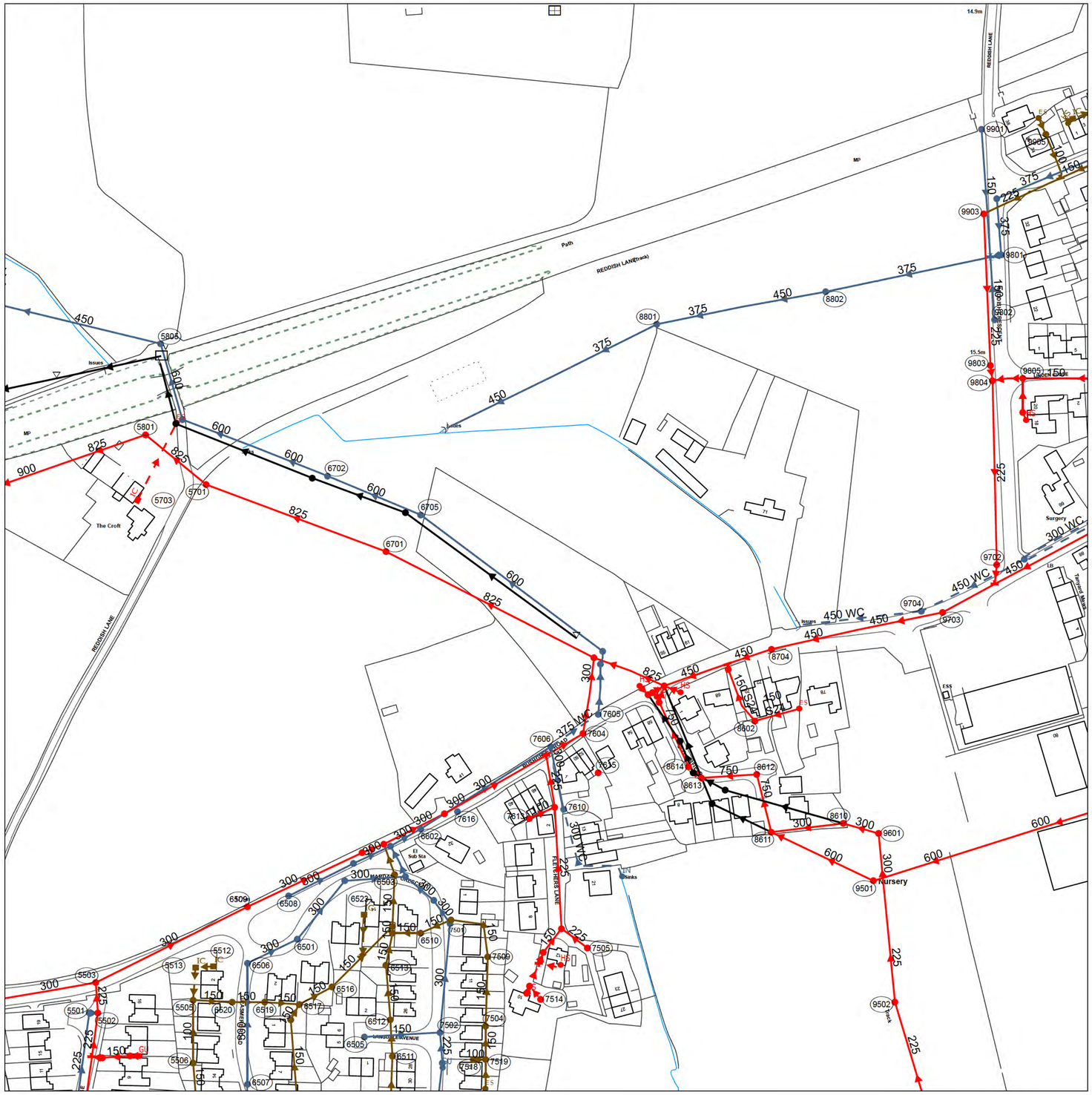
Rush Green Road Lymm WA13 9QL

Printed By: Property Searches Date: 14/08/2017

DO NOT SCALE

Approximate Scale: 1:5000

United Utilities
helping life flow smoothly



Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
5501	19.46	SW	18.14	225		CI	VC	4	9
5502	19.5	CO							
5503	18.32	CO							
5505		FO		150		CI	VC	18.03	
5506		FO		100		CI	VC	29	
5509		CO		150		CI	VC	12.72	
5519		CO		150		CI	VC	4.96	
5512		FO							
5513		FO							
5701	12.6	CO	10.23	825		CI	CO	36.24	1208
5703		CO							
5801	12.21	CO	10.21	825		CI	CO	45.54	506
5803	11.91	SW	10.91	600		CI	CO	36.4	
5805		SW							
6501	17.46	SW	15.88	300		CI	VC	34.83	41
6502	16.63	SW							
6503	15.92	FO							
6504	15	SW	14.75	150		CI	VC	35.06	
6505	16.05	SW							
6506	18.32	SW							
6507	20.19	SW							
6508	16.89	SW	15.12	300		CI	VC	33.54	
6509	17.1	CO	14.07	300		CI	VC	58.6	
6510		FO		150		CI	VC	13	
6511		FO							
6512		FO							
6513		FO							
6514		FO							
6515		FO							
6516		FO							
6517		FO	0	150		CI	VC	17	
6518		FO	0	150		CI	VC	8.06	
6519		FO							
6520		FO							
6521	15.79	SW							
6523		FO							
6601		SW							
6602	15.75	SW							
6603	16.25	CO							
6604		SW							
6605		CO							
6701		CO	0	825		CI	CO	88.6	
6702	12.16	SW	10.97	600		CI	VC	35.47	3547
6705		SW	0	600		CI	VC	46.62	
7501		SW							
7502	19.72	SW							
7503	20.99	SW							
7504		FO		150		CI	VC	32.02	
7505	16.67	CO	15.56	225		CI	VC	15	27
7506	16.72	CO							
7508	16	CO							
7509		FO							
7511		FO							
7513		CO							
7514		CO		150		CI	VC	8.01	
7518		FO		100		CI	VC	5.71	
7519		FO		150		CI	VC	15.02	
7601	15.75	CO							
7602	15.34	CO							
7603	15.34	CO	11.42	225		CI	VC	1.41	
7604	15.12	CO							
7605	15.22	SW							
7606	15.26	SW							
7607	14.64	CO							
7608	14.8	CO							
7609	15.34	SW							
7610	14.96	SW							
7613		CO							
7615		CO							
7616		SW							
7701	15.08	SW							
8601	15.3	CO							
8602		CO		150		CI	VC	27.18	
8603		CO							
8610	15.82	CO							
8611	15.65	CO	11.23	750		CI	CO	27.44	110
8612	15.2	CO							
8613	15.21	CO							
8614	15.21	CO							
8615	15.24	CO							
8704	14.99	CO	11.39	450		CI	CO	25.3	1265
8801	14.9	SW	12.9	375		CI	VC	53.67	179
8802	15.49	SW							
9501	16.63	CO	11	600		CI	CO	43.45	6
9502	17.21	CO	14.49	225		CI	VC	41.19	179
9601	16.04	CO	14.03	300		CI	VC	16.92	
9701	15.6	SW							
9702	15.53	CO							
9703	15.3	CO	11.5	450		CI	VC	39.81	3981
9704	15.21	SW	13.93	450		CI	VC	57.28	133
9801	15.64	SW	13.34	375		CI	VC	5.1	
9802	15.7	SW	14.82	150		CI	VC	29.07	
9803	15.72	CO							
9804	15.7	CO							
9805	15.66	CO							
9808		CO		100		CI	VC	15.66	
9901	15.49	SW							
9902	15.56	SW	13.36	375		CI	VC	26.08	
9903	15.66	CO							
9905		FO		100		CI	VC	21.73	
9906		FO							
5504		FO		100		CI	VC	7.21	
5507		CO							
5508		CO		100		CI	VC	4.27	
5702		CO							
6524		FO							
6606		SW							
6705		SW	10.96	600		CI	CO	36.4	
7512		SW							
7515		CO		150		CI	VC	3.94	
7516		CO		150		CI	VC	10.58	
7611		CO	0	150		CI	VC	5.66	
7617		CO							
7618		CO							
7619		SW	12.96	375		CI	CO	11	92
7620		SW							
7621		CO							
7802		SW							
8604		CO	0	825		CI	CO	8.16	
8605		CO	0	600		CI	CO	2.83	
8607		CO	3.43	600		CI	VC	8.77	
8608		CO	11.37	450		CI	VC	27.11	1355
8701		CO	11.49	450		CI	CO	41	
8803		SW	13.04	375		CI	VC	39.81	995
9503		CO	14.26	300		CI	VC	37.09	169
9602		CO							
9807		CO	13.62	150		CI	VC	7.07	101
9809		CO							
9810		CO							
9904		FO							
9909		FO							
9910		CO		100		CI	VC	7.57	
5511		CO							
6522		FO							
7517		CO							
7614		CO							
8609		CO							
9705		CO							
9806		SW							
9908		FO							
5802	11.95	CO							
5804		CO							
5805		CO							
6703		CO							
6704		CO							
7702		CO							
7900		CO							
8602		CO							
8603		CO							
8606		CO							

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
8609		CO							
7507		SW		300		CI	VC	50.31	

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole
Foul Surface Combined Overflow
Screen Chamber
Discharge Point
Outfall

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

Control Kiosk
Unspecified

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

OS Sheet No: SJ6887NE
Scale: 1:1250 Date: 14/08/2017
152 Nodes
Sheet 1 of 1

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SEWER RECORDS

OS Sheet No: SJ6887NE

Scale: 1:1250 Date: 14/08/2017

Printed By: Property Searches

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
5101	30.27	CO	28.45	375		CI	VC	52.35	42
5103		CO	0	225		CI	VC	47.87	
5104		CO							
5105		CO							
5106		CO							
5107		CO							
5108		CO		100		CI	VC	10.75	
5201		CO							
5201	29.16	CO							
5202	29.72	SW	28.52	150		CI	VC	21.36	18
5203	29.79	CO	28.37	150		CI	VC	20.88	23
5204	29.41	SW	27.26	225		CI	VC	31.26	1563
5205	29.34	CO							
5206	29.14	SW							
5207	29.62	CO							
5209		CO							
5301	28.68	SW							
5302	29.78	SW							
5303	29.78	CO	27	225		CI	VC	52.35	107
5304		FO							
5305	26.98	SW	25.44	375		CI	VC	5	167
5306	26.94	SW							
5307	14.34	SW							
5308	28.38	SW							
5309		SW	0	150		CI	VC	33.14	
5312		FO	0	150		CI	VC	16.28	
5313		FO							
5314		FO	0	150		CI	VC	69.58	
5401	21.68	SW							
5402	21.59	CO							
5403	23.43	SW							
5404	23.22	SW							
5405	23.18	CO							
5406	22.97	SW	21.65	150		CI	VC	28.64	47
5407	22.52	CO	21.32	150		CI	VC	32.25	55
5408	22.24	SW	21.01	150		CI	VC	28.02	21
5413		FO		150		CI	VC	54.15	
5414	22.31	FO							
5415		FO							
5416		FO		150		CI	VC	14.14	
5417		FO							
5420		CO							
5421		CO		150		CI	VC	23.47	
5425		CO		100		CI	VC	3.51	
5427		CO							
6001	36.62	CO							
6002	37.86	CO							
6006		CO		150		CI	VC	14.26	
6007		CO							
6101	32.75	FO							
6102	32.72	FO							
6103	33.14	CO	31.07	375		CI	VC	19.42	50
6104	32.42	CO							
6106		FO	0	150		CI	VC	19.24	
6110		CO							
6201	29.87	CO	28.33	150		CI	VC	38.64	64
6202	29.83	SW	0	150		CI	VC	41.59	
6203	31.07	CO	29.29	375		CI	VC	34.53	45
6203		SW							
6204	31.85	CO							
6205	31.15	CO	28.04	300		CI	VC	85.09	
6207		FO							
6301	28.8	CO							
6302	28.76	SW							
6303	28.86	CO	27.74	225		CI	VC	49.37	967
6304		SW	0	225		CI	VC	68.45	
6305	26.86	SW	25.8	225		CI	VC	55.44	4
6306	26.98	FO	0	150		CI	VC	9.43	
6307		FO							
6308	27.45	FO							
6309	27.5	SW	26.25	150		CI	VC	19.12	174
6310	27.45	SW							
6312		FO		150		CI	VC	10.01	
6313		CO		150		CI	VC	15.53	
6314		CO		150		CI	VC	3.41	
6317		SW		100		CI	VC	3.41	
6401	21.86	SW	19.6	225		CI	VC	51.04	95
6402	22.38	SW							
6403	22.89	SW	21.47	150		CI	VC	24.04	65
6404	23.07	SW							
6405		FO							
6406		FO							
6407		FO							
6408		FO							
6411	24.24	FO	22.66	150		CI	VC	14.32	
6412		FO							
6413		FO	0			CI	UN	31.78	
6414		FO							
6415		FO		150		CI	VC	31.81	
6416	25.52	FO							
6417	25.22	FO	24.58	150		CI	VC	13.04	130
6418	25.36	FO	24.72	150		CI	VC	11	85
6419		FO		100		CI	VC	1.88	
6420		FO							
6421		FO							
6422		SW							
6423		FO							
6428		FO							
6429		FO							
6431		FO		100		CI	VC	4.92	
7001	37.83	SW							
7002	40.34	SW	38.49	225		CI	VC	41	16
7003		CO							
7004	37.88	CO							
7005	43.03	CO							
7008		CO							
7010		CO							
7101	35.4	SW							
7102		CO							
7103		CO	0	150		CI	VC	46.02	
7201	31.61	SW							
7202	31.71	CO	28.41	300		CI	VC	57.27	
7203	31.42	SW	29.72	225		CI	VC	7.62	11
7204	31.07	SW	29.3	150		CI	VC	13.34	89
7205	31.04	SW							
7206	30.62	SW							
7207	30.52	CO							
7208	29.64	CO							
7209	29.58	SW							
7215		CO							
7219		CO							
7223		CO							
7227		CO		100		CI	VC	28.47	
7228		CO		100		CI	VC	16.49	
7229		CO		100		CI	VC	7.31	
7234		CO							
7241		FO							
7301	28.56	CO							
7302	27.06	SW							
7303	29.71	CO							
7304	28.27	SW							
7305	28.88	CO							
7306	28.24	SW	27.31	225		CI	VC	25.08	90
7307		SW							
7308		CO							
7309		SW							
7313	28.52	SW							
7314	28.16	CO							
7315		CO		100		CI	VC	10.6	
7319		CO							
7320	27.47	FO							
7321	27.52	FO							
7322	27.33	FO							
7323	27.08	FO	25.7	225		CI	VC	22.36	
7324	27.47	SW							
7325	27.6	SW							
7326	27.26	SW							
7327	27.26	SW							
7328	26.47	SW							
7329	26.76	SW							

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
7331		CO		100		CI	VC	8.92	
7332		CO							
7401	23.26	SW							
7402		FO							
8001	43.23	FO							
8002	42.38	SW							
8003	43.88	SW	41.88	225		CI	CO	48.54	45
8004	41.37	FO	39.32	150		CI	CO	14.43	40
8005	41.07	FO							
8006	40.67	FO							
8007	40.63	FO	38.18	150		CI	VC	17.52	70
8008	40.41	FO	37.93	150		CI	VC	32	24
8009	41.34	SW							
8010	41	SW							
8011	40.84	SW							
8012	40.6	SW	38.48	300		CI	CO	15.12	63
8013	40.39	SW	38.24	300		CI	CO	4.15	
8014	40.25	SW							
8015	40.7	SW	39.18	225		CI		12.19	30
8016		FO							
8017		FO							
8018		FO		100		CI	VC	19.9	
8101	36.41	FO							
8102	36.25	SW							
8103	38.92	SW							
8104	39.21	FO							
8105	35.06	SW							
8106	35.1	FO							
8201	31.28	FO							
8202	32.22	SW							
8203	30.89	SW							
8205	32.33	FO							
8206		FO	0	150		CI	VC	11.41	
8208	31.07	SW	29.47	225		CI	VC	30.68	32
8209	29.8	SW							
8210	31.11	FO							
8301	28.33	SW							
8302	27.24	SW	25.97	375		CI	CO	41.57	87
8305		CO							
8307	27.1	CO	0	225		CI	VC	8.06	
8308		CO	0	225		CI	VC	15.81	
8309		CO							
8310		CO							
8311	27.97	CO	26.04	150		CI	VC	22.2	
8313	27.35	SW							
8314	27.31	SW							
8315		SW	0	150		CI	VC	19.1	
8316		SW	0	225		CI	VC	31.95	
8317	27.88	SW	26.27	225		CI	VC	13	28
9001	39.99	SW							
9002	40.79	SW	38.99	300		CI	CO	15.24	19
9003	41.28	SW	39.49	300		CI	CO	8.92	18
9004	44.57	SW							
9005	44.61	SW	43.41	225		CI	CO	25.56	38
9006	45.03	SW	43.73	225		CI	CO	22.52	72
9007	46.22	SW							
9008	46.33	FO							
9009	45.91	FO	44.25	150		CI	CO	23.27	29
9010	45.04	FO	43.44	150		CI	CO	24.08	73
9011	44.61	FO	43.11	150		CI	CO	22.66	39
9012	44.58	FO							
9013	41.37	FO	39.41	150		CI	CO	10.59	17
9014	40.75	FO	38.79	150		CI	VC	15.43	18
9015	39.94	FO							
9016	46.04	SW	44.56	225		CI	CO	25.67	31
9017		SW							
9018		FO							
9101	38.35	SW							
9102	38.68	FO							
9103	39.9	SW							
9201	29.84	SW							
9301	26.62	CO	24.95	225		CI	VC	46.49	86
9302	26.67	CO							
9401	25.58	CO	22.07	225		CI	VC	67.05	20
9402	20.43	CO	17.51	225		CI	VC	73.08	24
5109		CO		150		CI	VC	1.7	
5110		CO							
5208		CO							
5210		CO	0	150		CI	VC	9.15	
5310		SW	13.22	300		CI	VC	67.03	
5311		SW							
5409		CO	0	150		CI	VC	36.22	
5410		CO	0	150		CI	VC	7.07	
5411		CO	0	150		CI	VC	11.66	
5412		SW	0	150		CI	VC	15.13	
5419		SW							
5424		CO							
5426		CO							
6003		CO							
6004		CO							
6005		CO							
6105		FO	0	150		CI	VC	15.52	
6107		FO	0	150		CI	VC	5	
6108		CO	30.68	375		CI	CO	19.65	49
6109		CO	29.77	375		CI	VC	17.72	38
6316		SW		100		CI	VC	2.16	
6318		FO							
6409		SW	0	150		CI	VC	17.03	
6424		FO							
6425		FO							
6426		FO							
6427		FO							
6430		FO							
7007		CO							
7009		CO							
7012		CO							
7013		CO							
7104		CO	0	150		CI	VC	64.16	
7210		SW	0	150		CI	VC	22.2	
7212		SW	0	225		CI	VC	15.52	
7213		CO	0	150		CI	VC	8.54	
7214		CO	0	150		CI	VC	9	
7215		CO							
7216		CO	0	150		CI	VC	7.07	
7217		CO	0	150		CI	VC	3	
7218		SW							
7220		CO							
7221		CO							
7226		CO							
7227		CO							
7228		CO							
7229		CO							
7235		CO							
7238		CO							
7239		CO							
7240		SW							
7242		FO							
7243		FO		100		CI	VC	20	
7311		SW							
7312		CO	0	150		CI	VC	29.15	
7318		SW	0	150		CI	VC	7.28	
7330		SW	26.04	225		CI	VC	9.22	132
7403		FO		0		CI	UN	48.14	
8019		FO							
8204		FO	0	150		CI	VC	10.3	
9020		CO							
9303		CO	0	225		CI	VC	35	
9305		SW	0	375		CI	VC	4.47	
5102		CO							
5212		CO							
5423		CO							
6009		CO							
6206		CO							
6315		CO							
6428		FO							
6432		FO							
7006		CO							
7011		CO							
7211		CO							
7222		CO							

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
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LampHole
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PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outfall

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

Control Kiosk
Unspecified

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
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CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

OS Sheet No: SJ6887SE
Scale: 1:1250 Date: 14/08/2017
311 Nodes
Sheet 1 of 2

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SEWER RECORDS

OS Sheet No: SJ6887SE

Scale: 1:1250 Date: 14/08/2017

Printed By: Property Searches

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
7225		CO							
7230		CO							
7231		CO							
7232		CO							
7316		CO							
7317		CO							
7315		CO							
8211		FO							
8303		CO							
8304		CO							
6311		FO	0	225		CI	VC	39.39	

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad

Printed By: Property Searches

OS Sheet No: SJ6887SE

Scale: 1:1250 Date: 14/08/2017

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outfall

Control Kiosk
Unspecified

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
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OS Sheet No: SJ6887SE
Scale: 1:1250 Date: 14/08/2017
311 Nodes
Sheet 2 of 2

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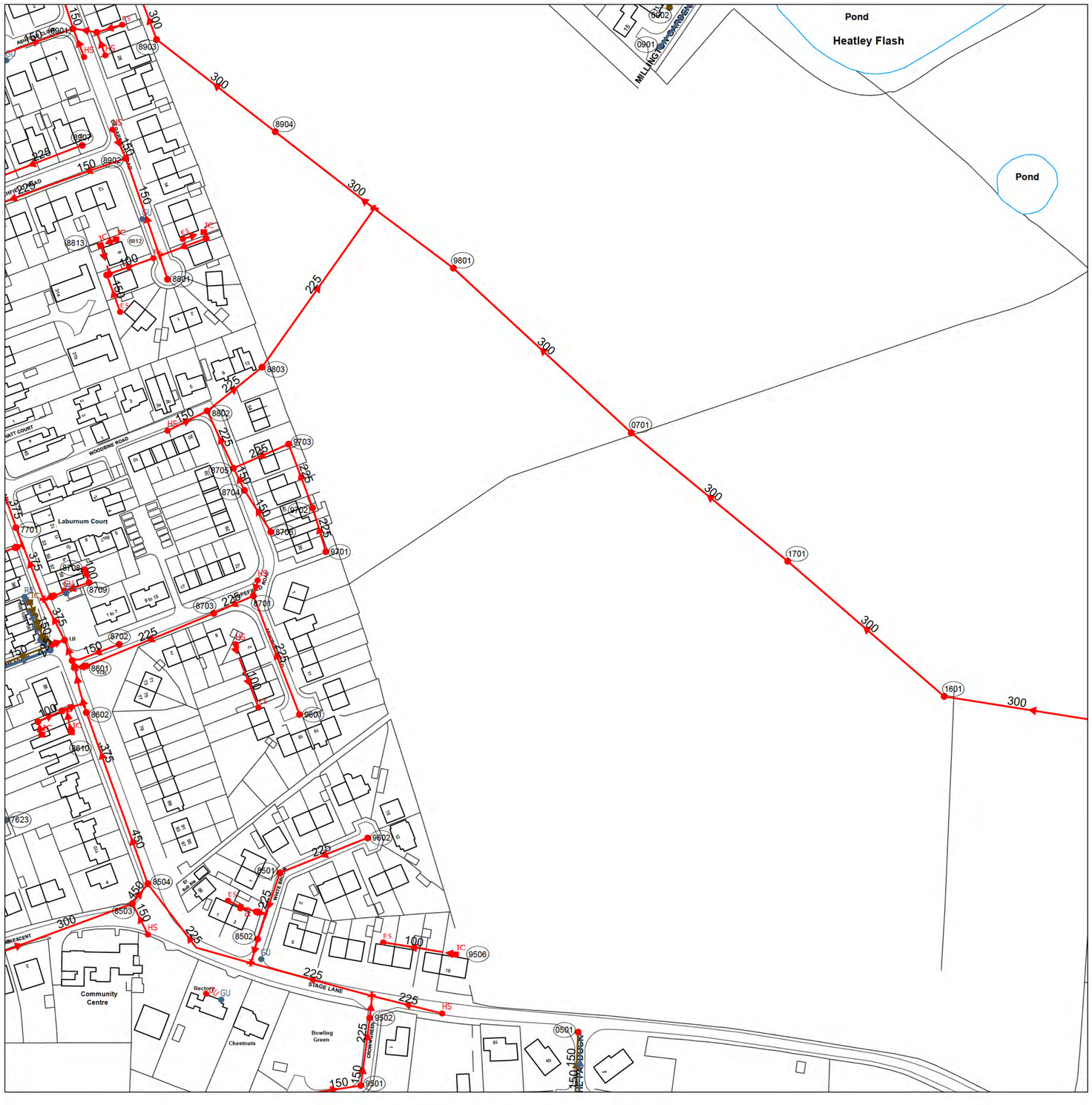
SEWER RECORDS



Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
5601		SW	0	150		CI	VC	15.81	
5602		CO	0	150		CI	VC	11.66	
5603	19.21	FO							
5604		FO							
5607		FO							
5701	19.21	SW	17.16	300		CI	VC	19.33	957
5702	19.14	SW	17.12	300		CI	VC	13.59	113
5703	19.19	FO	16.94	150		CI	VC	39.92	114
5704	18.56	SW							
5705	18.58	FO							
5706	19.21	SW							
5707	18.93	FO							
5708	18.91	SW							
5709	18.53	FO							
5710	18.55	SW							
5711	18.18	SW	16.68	300		CI	CO	67.27	
5712	18.19	FO	16.42	150		CI	VC	67.07	99
5714		FO							
5801	18.06	FO							
5802	18.08	SW	16.88	150		CI	VC	71.18	
5803		SW							
5804	17.46	FO							
5805	17.35	SW							
5806	17.07	SW							
5807	17.08	FO							
5808	18.18	SW							
5809		FO							
5813		FO		100		CI	VC	6.29	
5814		FO							
5815		FO		100		CI	VC	13.99	
5901	16.84	FO	14.68	225		CI	VC	33.02	97
5902	16.89	SW							
5903	17.04	FO	15.22	150		CI	VC	75.64	128
5904	16.86	SW							
5905	16.73	FO							
5909		SW							
5914		FO		150		CI	VC	7.82	
5915		FO		150		CI	VC	10.62	
5917		SW		150		CI	VC	7.49	
5920		FO							
5926		FO							
6502		CO		150		CI	VC	16.46	
6503		CO		150		CI	VC	6.78	
6701	19.37	SW	18.37	150		CI	VC	46.06	128
6702	19.44	FO	17.94	150		CI	VC	49.31	133
6703	19.23	SW	17.97	225		CI	CO	5.74	72
6704	19.04	FO	17.76	150		CI	VC	25.95	130
6705	18.71	SW	17.81	300		CI	CO	20.75	109
6706	18.8	FO							
6707	18.99	SW	17.42	300		CI	VC	17	81
6708	19	FO	17.1	150		CI	VC	28.16	256
6709	19.07	SW	17.89	300		CI	CO	29.68	156
6711	19.26	FO	17.76	150		CI	VC	9.48	105
6801		SO							
6802	18.23	SW							
6901	17.73	SW							
6902		FO							
6903	18.48	SW	17.7	150		CI	VC	68.62	181
6905	17.37	CO							
6908		SW							
6909		CO		150		CI	VC	9.97	
6910		FO	0	150		CI	VC	78	
6911		CO							
6913		FO							
6914		FO							
6917		FO							
7501	23.89	CO							
7502		CO	0	300		CI	VC	109.79	
7506		CO							
7507		CO							
7511		CO							
7512		CO							
7516		CO							
7517		SW		100		CI	VC	6.83	
7601	20.52	FO							
7602	20.3	FO							
7603	20.2	FO							
7604	20.39	FO	18.51	150		CI	VC	27.75	107
7605	20.52	SW							
7606	20.2	SW							
7607	20.39	SW	18.29	900		CI	CO	23.94	1197
7608		CO							
7609		CO		100		CI	VC	11.97	
7610		CO							
7613		FO							
7614		FO		150		CI	UN	13.3	
7615		FO							
7616		FO							
7617		FO							
7619		FO							
7620		FO		150		CI	UN	11.44	
7621		FO							
7622		SW							
7623		SW		100		CI	UN	16.66	
7624		SW		150		CI	UN	10.98	
7625		FO							
7626		FO		150		CI	UN	1.03	
7627		FO		150		CI	UN	4.17	
7629		FO							
7630		FO							
7636		SW		150		CI	UN	12.41	
7637		SW		100		CI	UN	27.65	
7638		FO							
7639		FO							
7640		FO							
7641		FO							
7643		SW							
7701		CO							
7702		CO	0	100		CI	VC	4.87	
7704	20.56	CO							
7705	20.62	CO							
7706	20.56	SW							
7707		CO		100		CI	VC	15.27	
7708		CO		150		CI	VC	15.68	
7709		CO		150		CI	VC	3.57	
7711		FO		150		CI	UN	3.05	
7712		FO		150		CI	UN	6.89	
7713		FO		150		CI	UN	5.78	
7714		SW		150		CI	UN	6.31	
7715		CO							
7801	18.44	CO	16.2	225		CI	VC	30.36	
7802	18.84	CO							
7803		CO							
7804		CO		150		CI	VC	6.33	
7901	17.74	CO	16.89	150		CI	VC	35.11	121
7902	17.86	CO							
7905		CO		225		CI	VC	13.44	
7906		CO		0		CI	VC	16.47	
7907		CO		0		CI	VC	13.58	
7908		CO		0		CI	VC	9.73	
8501	22.95	CO							
8502	23.05	CO							
8503	22.06	CO	19.31	450		CI	VC	11.4	190
8504	22.05	CO							
8510		CO		100		CI	VC	4.44	
8601	20.54	CO							
8602	20.94	CO							
8603	20.62	CO							
8610		CO							
8701	20.43	CO							
8702	20.42	CO	19.07	150		CI	VC	21.31	
8703	20.56	CO	18.76	225		CI	VC	62.77	126
8704	20.04	CO							
8705	20.55	CO							
8706	20.31	CO	19.07	150		CI	VC	22.47	68
8708		CO	0	100		CI	VC	5.96	
8709		CO	0	100		CI	VC	17.19	
8801	18.92	CO	17.23	150		CI	VC	58.19	135
8802	19.52	CO							
8803		CO	0	225		CI	VC	88.23	
8805		CO							
8808		CO							
8810		CO		100		CI	PF	22.67	
8812		CO							
8813		CO							
8814		CO							
8901	17.6	CO	0	150		CI	VC	51.73	
8902	18.14	CO							
8903	11.9	CO							
8904		CO							
8907		CO		225		CI	VC	49.61	
8908		CO	0	300		CI	VC	65.48	
8909		FO							
8911		CO							
9501	24.81	CO							
9502	24.39	CO							
9506		CO							
9601	21.4	CO	19.63	225		CI	VC	57.94	68
9602	22.85	CO	21.5	225		CI	VC	43.08	120
9701		CO							
9702		CO							
9703		CO							
9801		CO							
5713		SW	0	225		CI	VC	34.09	
5715		SW	17	300		CI	CO	13.04	100
5810		FO	0	150		CI	VC	7	
5811		SW							
5812		SW	16.12	300		CI	VC	35.12	391
5906		SW	0	150		CI	VC	9.85	
5907		FO	0	150		CI	VC	29.02	
5908		SW	0	150		CI	VC	26.93	
5910		SW							
5911		SW							
5913		SW							
5918		FO							
5919		SW							
5922		SW							
5923		SW							
5927		FO							
5928		FO							
5930		FO							
5931		FO		100		CI	VC	2.18	
6501		CO	0	150		CI	VC	31.14	
6710		SW							
6803		FO	0	150		CI	VC	30	
6804		SW	0	300		CI	VC	13	
6805		FO	0	150		CI	VC	10.05	
6806		FO	0	150		CI	VC	9.9	
6807		SW							
6904		SW	0	150		CI	VC	39.56	
6907		SW	0	150		CI	VC	6.32	
7505		CO	0	150		CI	VC	3	
7510		SW							
7513		CO							
7514		SW		100		CI	VC	13.73	
7611		CO							
7618		FO							
7628		FO							
7631		FO							
7632		FO							
7634		SW							
7635		SW							
7642		FO							
7646		SW							
7717		FO							
7718		SW							
7720		CO							
7721		SW							
7904		CO	16.47	225		CI	VC	37.34	149
7909		CO							
7910		CO							
7912		FO							
7913		SW							
8506		SW							
8507		CO	0	150		CI	VC	15.65	
8508		SW							
8509		CO							
8511		SW							
8605		CO		100		CI	UN	24.23	
8606		CO	18.84	375		CI	VC	41.44	104
8607		CO	0	450		CI	VC	10.48	
8608		CO	0	225		CI	VC	1.47	
8611		CO							
8707		CO	0	150		CI	VC	7.28	
8710		CO							
8804		CO	0	150		CI	VC	20.12	
8811		CO							
8815		CO							
8816		SW							
8905		CO	0	150		CI	VC	14.32	
8906		CO	0	150		CI	VC	13.93	
8910		CO	0	100		CI	VC	11.12	
9504		CO	0	225		CI	VC	32.98	
9505		CO							
9508		CO		100		CI	PF	27.44	
5817		FO							
5912		SW		150		CI	VC	10.84	
5916		FO		150		CI	VC	2.97	
5924		SW							
5929		FO							
6906		CO							
6912		CO							
6916		CO							
7503		CO							
7508		CO							
7612		CO							
7633		SW		100		CI	UN	15.82	
7645		SW		100		CI	UN	8.38	
7703		CO							
7710		CO							
7719		SW		100		CI	UN	10.65	
7903		CO							
7911		CO							
8505		CO							
8513		CO							
8604		CO							
8612		CO							
8809		CO							
9503		CO							
9901		CO							

OS Sheet No: SJ6987NE

Scale: 1:1250 Date: 14/08/2017

Printed By: Property Searches

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outfall

Control Kiosk
Unspecified

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

OS Sheet No: SJ6987NE

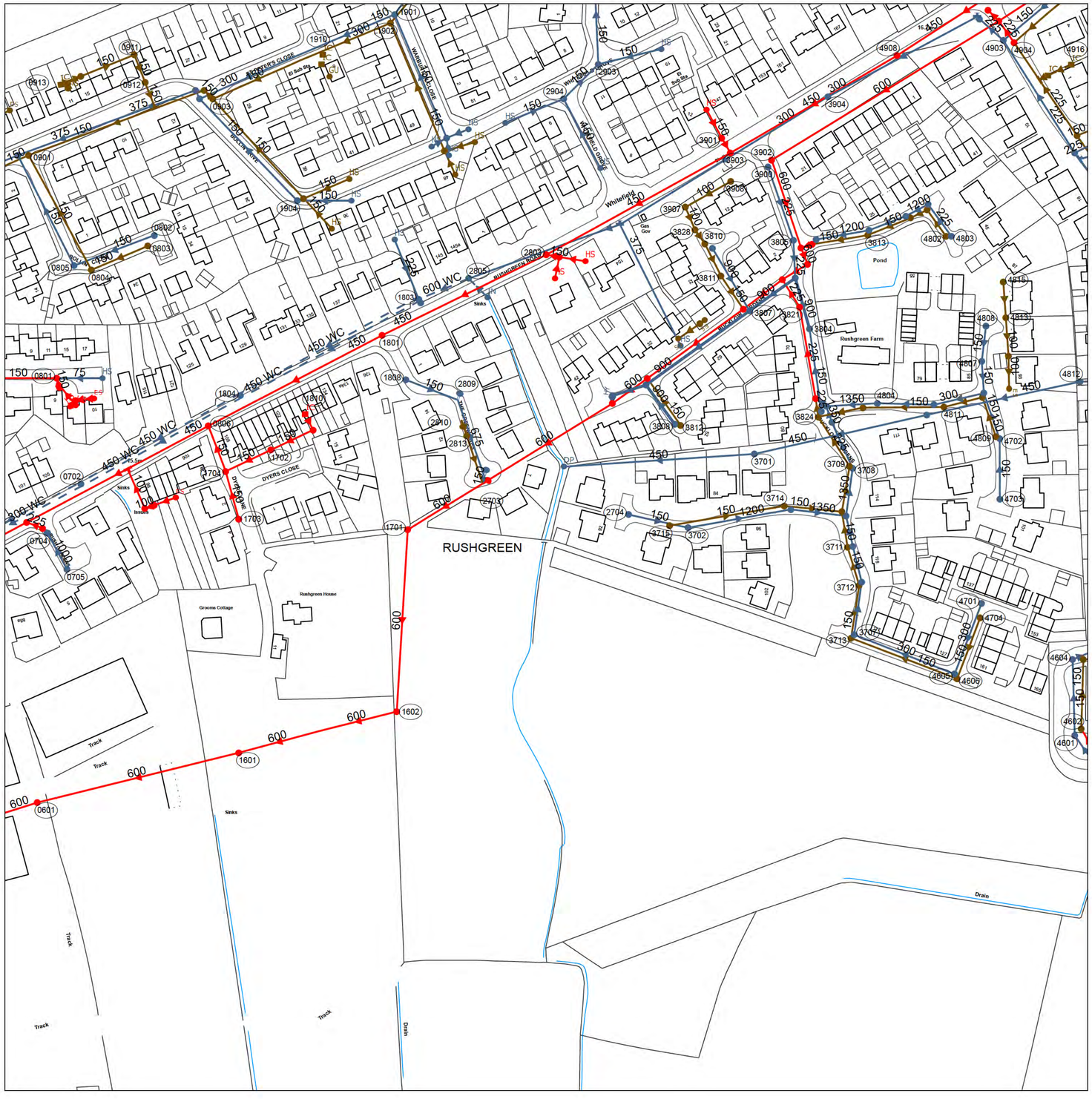
Scale: 1:1250 Date: 14/08/2017

271 Nodes

Sheet 1 of 1

United Utilities
helping life flow smoothly

SEWER RECORDS



OS Sheet No: SJ6987NW

Scale: 1:1250 Date: 14/08/2017

Printed By: Property Searches

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
0601		CO	0	600		CI	VC	59.77	
0701	15.78	CO							
0702	15.59	SW							
0703	15.68	CO	13.55	225		CI	VC	7.89	
0704	15.71	SW	13.21	1000		CI	VC	3.27	
0705	16.72	SW	14.5	1000		CI	CO	16.94	15
0706		CO		100		CI	VC	4.64	
0707		CO							
0801	15.62	CO							
0802	15.89	SW	14.25	150		CI	VC	39.56	152
0803	15.87	FO	14.34	150		CI	VC	28.23	37
0804	15.83	FO							
0805	15.67	SW							
0806	15.63	CO							
0809		CO		150		CI	VC	10.34	
0811		CO		150		CI	VC	4.48	
0901	15.55	FO	12.67	150		CI	VC	31.78	96
0902	15.85	SW							
0903	15.72	FO	13.39	150		CI	VC	5.66	189
0904	15.74	SW	13.74	300		CI	VC	2.24	
0905	15.77	FO							
0906	15.74	SW							
0909		FO		150		CI	VC	26.59	
0911		FO							
0912		FO							
0913		FO							
1601	16.54	CO							
1602		CO	0	600		CI	CO	37.11	
1701	17.02	CO							
1702		CO							
1703	16.23	CO	14.65	150		CI	VC	22.8	114
1704	15.85	CO							
1801	15.97	CO	12.22	450		CI	VC	90.43	377
1802	16	SW	14.75	450		CI	VC	94.45	429
1803	15.94	SW							
1804	15.81	SW							
1808	16.28	SW							
1809		CO		150		CI	VC	2.57	
1810		CO							
1901	16.13	SW							
1902	16.04	FO							
1903	16.18	FO							
1904	16.2	SW							
1910		FO							
1911		FO							
2702	15.99	SW	13.19	150		CI	VC	3.31	4
2703	16.03	CO							
2704	17.07	SW	15.43	150		CI	VC	28.1	26
2800	16.45	SW							
2801	16.66	CO	12.19	600		CI	CO	70.41	
2802	15.92	CO	14.13	150		CI	VC	6.08	4
2803	15.98	CO							
2804	16.63	SW							
2805		SW							
2808	16.45	CO							
2809	15.79	SW	14.09	675		CI	CO	37.48	187
2810	15.7	FO	14.65	150		CI	VC	7.75	65
2813	15.73	FO	14.53	150		CI	VC	23.14	9
2901	16.41	FO	14.64	150		CI	VC	64.08	169
2902	16.5	SW	14.86	150		CI	VC	61.85	88
2903	16.03	SW							
2904	16	SW							
3701		SW							
3702	17	SW							
3703	17.57	SW							
3704	17.61	SW	13.88	1350		CI	CO	22.26	101
3705	17.93	SW	14.35	900		CI	CO	14.43	31
3706	18.31	SW	14.72	900		CI	CO	16.86	46
3707	18.71	SW							
3708	17.36	SW							
3709	17.34	FO							
3710	17.58	FO	14.13	225		CI	VC	21.3	101
3711	17.95	FO	16.23	150		CI	VC	16.59	8
3712	18.3	FO	16.38	150		CI	VC	18.34	122
3713	18.81	FO							
3714	17.46	FO							
3715	17.03	FO	14.94	150		CI	VC	53.7	85
3800	17.15	SW	15.77	150		CI	VC	38.42	41
3801	16.53	CO	12.45	600		CI	CO	13.68	
3803	16.41	SW							
3804	16.63	SW							
3805	16.52	SW	14.47	225		CI	VC	17.58	103
3806	16.17	SW	13.91	900		CI	CO	33.6	160
3807	16.09	SW							
3808	16.25	SW							
3809	16.07	CO							
3810	16.2	FO							
3811	16.02	FO							
3812	16.24	FO							
3813	16.85	FO	13.19	150		CI	VC	26.13	84
3814	16.43	CO	12.88	150		CI	VC	5.3	86
3815	16.5	CO	12.48	600		CI	CO	8.13	271
3816	16.87	SW	13.62	1200		CI	CO	24.83	177
3817	16.45	SW	13.48	150		CI	VC	2.91	5
3818	17.08	SW							
3819	17.04	SW							
3820	16.96	CO							
3821	16.55	CO							
3822	16.31	CO	0	600		CI	CO	22.6	
3823	17.09	FO	15.49	150		CI	VC	21.09	11
3824	17.1	FO							
3825		FO		100		CI	VC	12.11	
3826		FO							
3900	16.24	SW	14.85	225		CI	VC	35.83	94
3901		CO							
3902	16.26	CO	12.6	600		CI	CO	42.73	356
3903	16.26	CO							
3904	16.32	SW	14.93	300		CI	VC	112.68	
3907		FO		100		CI	PE	11.28	
3908		FO		100		CI	PE	24.08	
4601	20.42	SW	18.04	150		CI	VC	35.01	100
4602		FO							
4603	19.45	FO							
4604	19.48	SW							
4605	19.48	SW	16.13	300		CI	VC	49.8	94
4606	19.59	FO	16.94	150		CI	VC	52.39	159
4701	19	SW	16.3	300		CI	VC	34.99	206
4702	17.48	SW							
4703	17.78	SW	16.38	150		CI	VC	27.75	42
4704	19.19	FO	17.19	150		CI	VC	30.03	120
4801		SW	0	450		CI	VC	61.68	
4802	16.88	FO							
4803	16.92	SW	15.16	225		CI	VC	18.2	15
4804	17.23	SW	13.59	1350		CI	CO	23.6	472
4805	16.99	SW	13.64	1350		CI	CO	26.22	524
4806	17.17	SW							
4807	17.11	SW	15.01	150		CI	VC	14.72	55
4808	16.89	SW	15.21	150		CI	VC	16.51	83
4809	17.42	FO	16.22	150		CI	VC	19.19	42
4810	17.15	FO							
4811	16.97	FO	15.67	150		CI	VC	37.37	208
4812	17.21	SW	0	450		CI	VC	72.43	
4813		FO		100		CI	PE	17.87	
4814		FO		100		CI	PE	15.17	
4815		FO		100		CI	PE	16.39	
4901	16.6	SW	15.33	225		CI	VC	61.59	560
4902	16.64	FO							
4903	16.24	SW							
4904	16.28	CO							
4905	16.18	CO							
4906	16.25	CO							
4907	16.29	SW							
4908	16.32	CO	12.87	450		CI	VC	89.19	557
4911	16.65	FO	13.48	150		CI	VC	8.47	94
4912	16.83	FO	13.39	150		CI	CO	21.24	106
4913	16.65	SW	13.92	1200		CI	CO	11.56	83
4914	16.77	SW	13.78	1200		CI	CO	18.27	114
4916		FO							
4917		FO							
0907		SW	0	75		CI	VC	21	21

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
0808		CO							
0810		CO							
0812		CO							
0907		SW	13.75	300		CI	CO	2.24	
0908		SW	13.71	375		CI	VC	43.66	4366
0915		FO							
0917		FO							
1603		CO	3.36	600		CI	VC	38.33	
1805		FO	0	150		CI	VC	19.1	
1806		SW	0	225		CI	VC	29.74	
1807		CO	0	150		CI	VC	18.98	
1905		SW	0	150		CI	VC	25	
1906		FO	0	150		CI	VC	22.85	
1907		SW	0	150		CI	VC	8.06	
1908		SW							
1909		FO							
1912		FO							
2807		CO	0	150		CI	VC	12.17	
2811		CO	0	150		CI	VC	10.2	
2905		SW							
2906		SW	0	150		CI	VC	29.15	
2908		SW	0	150		CI	VC	10.77	
2909		FO	0	150		CI	VC	14.56	
2910		FO	0	150		CI	VC	12.08	
2912		SW							
3802		SW	0	375		CI	VC	136.71	
3905		SW	0	150		CI	VC	29.83	
3906		CO	0	150		CI	VC	14.76	
4910		FO							
4918		FO							
5714		SW							
0708		CO							
0914		FO							
0916		FO							
2806		SW							
4909		SW	0	300		CI	VC	78.29	
4915		SW							
4919		FO							
2812		SW	14.41	880	920	OV	BR	12.42	65

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
TJunction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole
Foul Surface Combined Overflow
Screen Chamber
Discharge Point
Outfall
Control Kiosk
Unspecified

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

OS Sheet No: SJ6987NW
Scale: 1:1250 Date: 14/08/2017
189 Nodes
Sheet 1 of 1

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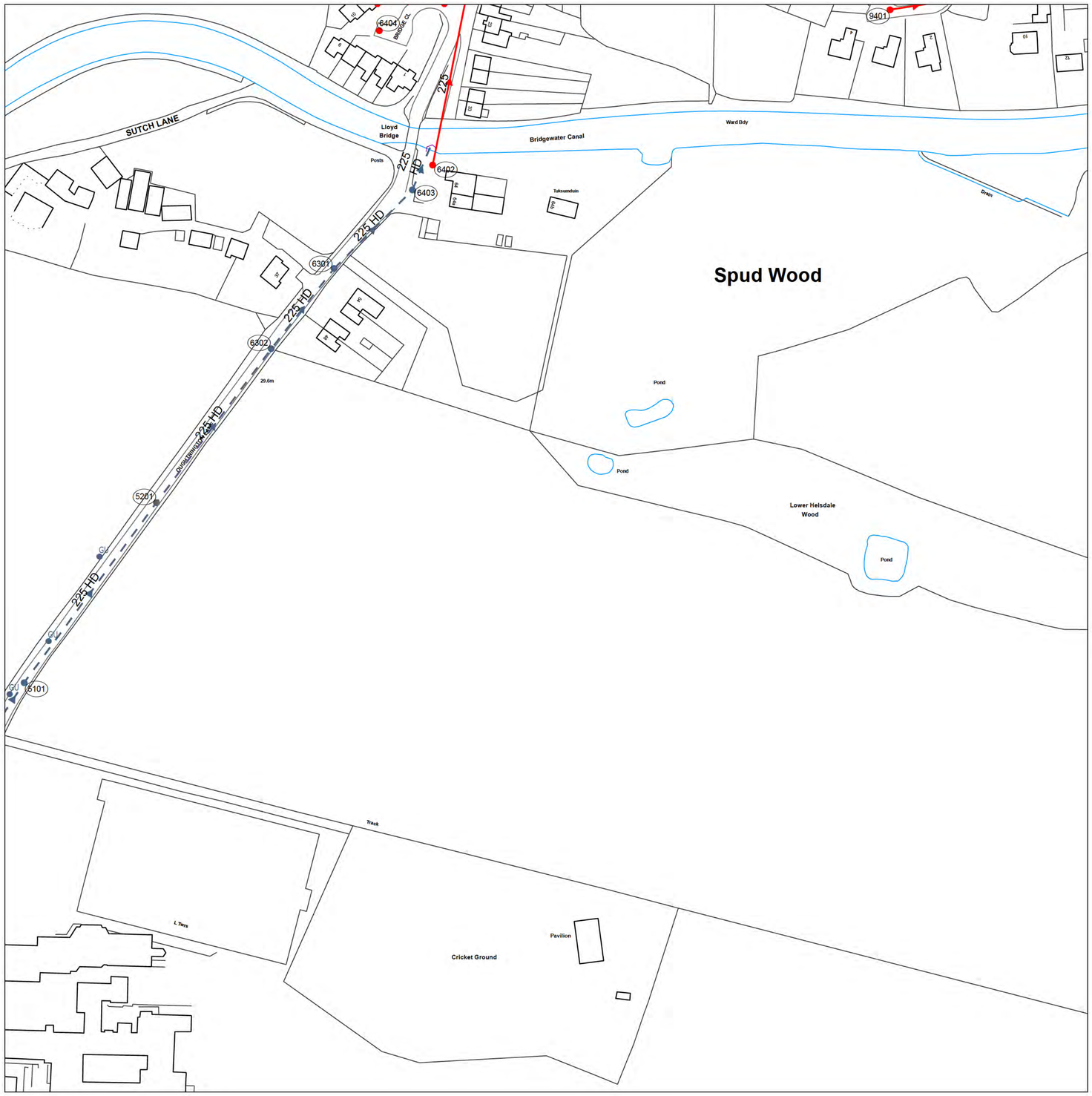
SEWER RECORDS



Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad	Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
5101	38.63	SW																	
5201	32.38	SW																	
6301	28.5	SW	27.18	225		CI	VC	51.19											
6302	29.44	SW																	
6402		CO	0	225		CI	VC	78.63											
6403		SW																	
6404		CO																	
9401		CO	0	150		CI	VC	24.35											
5102		SW																	
5202		SW																	
5203		SW																	

Printed By: Property Searches

OS Sheet No: SJ6987SE

Scale: 1:1250 Date: 14/08/2017

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outfall

Control Kiosk
Unspecified

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

LEGEND

MANHOLE FUNCTION

FO Foul
SW Surface Water
CO Combined
OV Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

OS Sheet No: SJ6987SE
Scale: 1:1250 Date: 14/08/2017
11 Nodes
Sheet 1 of 1

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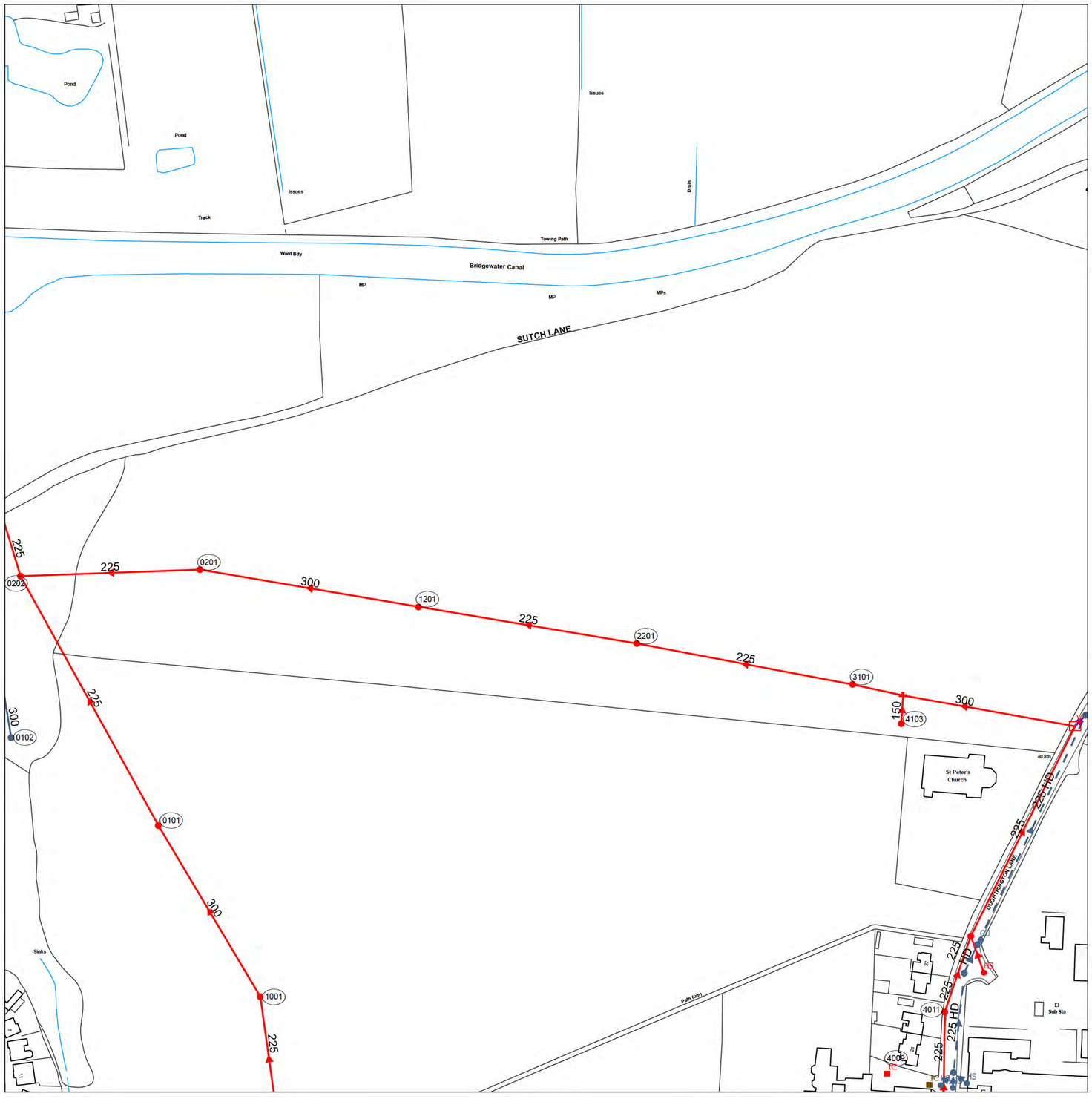
SEWER RECORDS



Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
0101		CO							
0102		SW							
0201	35.69	CO							
0202	31.88	CO							
1001	46.26	CO							
1201	37.15	CO							
2201	38.25	CO							
3101	39.99	CO							
4001	48.43	SW							
4002	45.79	SW							
4003	45.19	SW							
4004	45.09	CO							
4006		FO							
4009		CO							
4011		CO							
4102		SW							
4103	41.36	CO	39.17	150		CI	VC	13.05	
4005		CO	0	225		CI	VC	18.03	
4007		SW		225		CI	VC	7.81	
4008		SW		225		CI	VC	7.09	
4010		SW		225		CI	VC	8.49	
4012		SW							
4104		CO							
4101		CO							

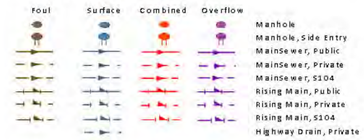
Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad

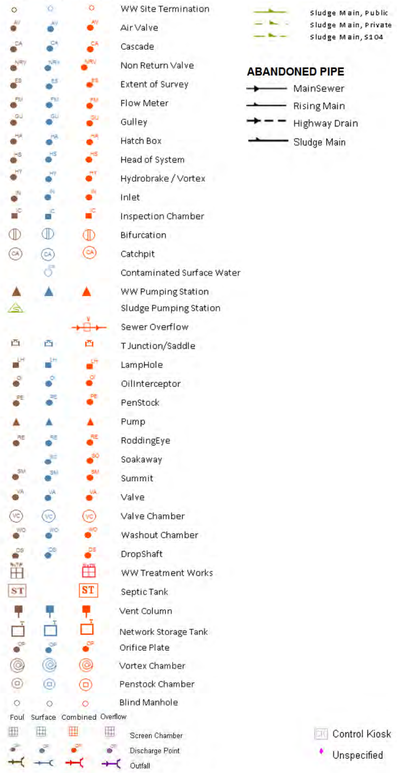
Printed By: Property Searches

OS Sheet No: SJ6987SW

Scale: 1:1250 Date: 14/08/2017

WASTE WATER SYMBOLOGY





ABANDONED PIPE

- MainSewer
- Rising Main
- Highway Drain
- Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

OS Sheet No: SJ6987SW
Scale: 1:1250 Date: 14/08/2017
24 Nodes
Sheet 1 of 1

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SEWER RECORDS

RUSHGREEN

SUTCH LANE

Spud Wood

Bridgewater Canal

Ravenbank Community Primary School

Ravenbank Nurseryington

Ravenbank House

Ravenbank Farm

Ravenbank Manor

Ravenbank Cricket Ground

Lower Hollands Wood

Evergreen Farm

Wadcornes Farm

Lloyd Bridge

Tracking Path

Reading Field

Cricket Ground

St Peter's Church

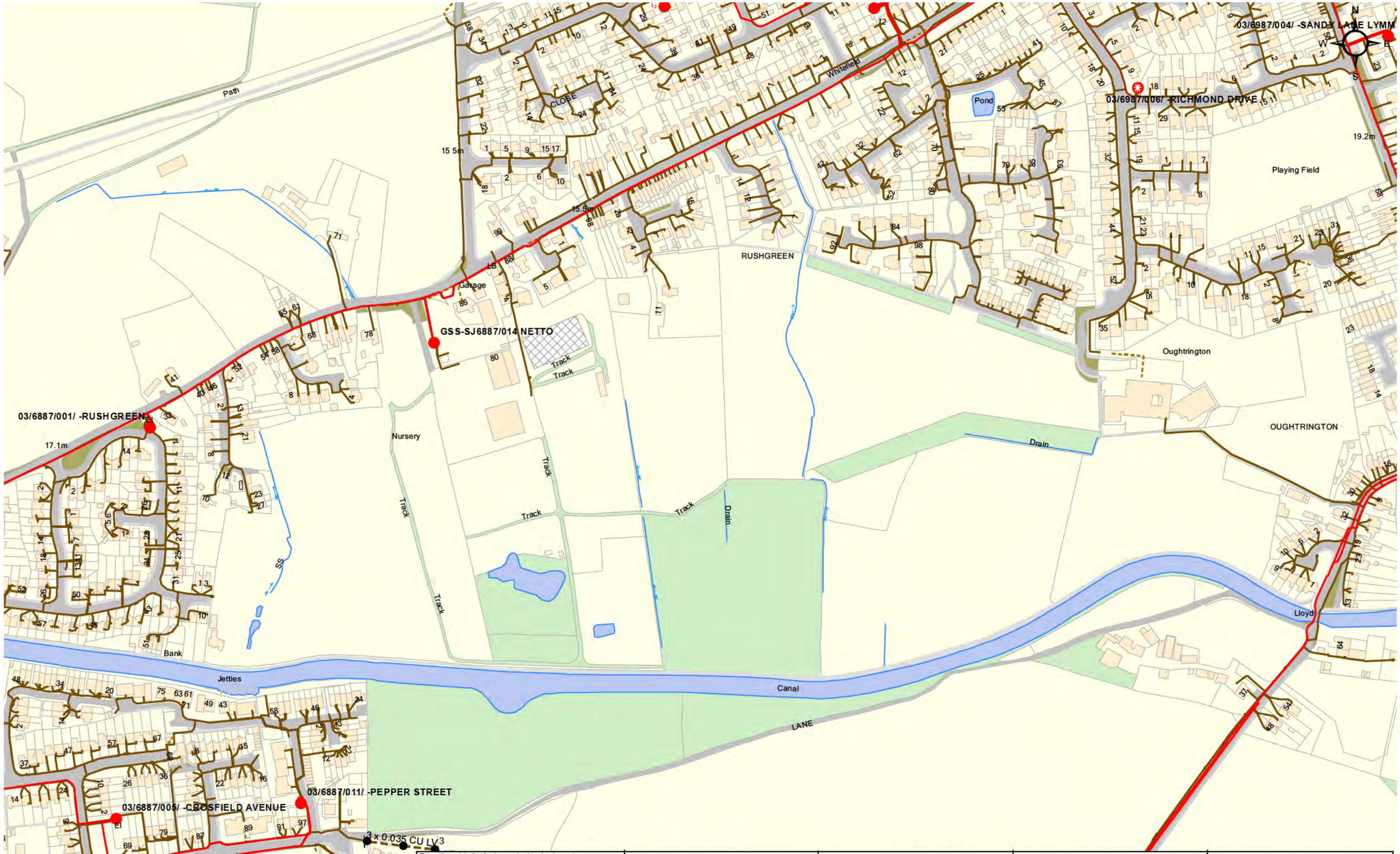
Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX D



The position and depths of underground and overhead apparatus as indicated on this plan are approximate and are intended for guidance only. The depths may have changed if the land surface levels have altered. You are also informed that the plan may not show, or may inaccurately show, individual property services and services to street lighting installations. The onus of locating the apparatus precisely before commencing any excavations or other works in the immediate vicinity therefore rests entirely upon the person undertaking or responsible for those works. Before any such works are undertaken the precise location of the apparatus and cables should therefore be ascertained by suitable means. In the event of an emergency or for further assistance please contact 0800-092-9290 (ScottishPower area) or 0800-001-5400 (SP Manweb area).

SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2366937

OVERHEAD LINE

UNDERGROUND CABLES
In Use
Out of Use
Assumed route

VOLTAGE COLOUR KEY
EHV 132kV BLUE
33kV GREEN
HV RED
LV BROWN

Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply (to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS	775	600	450
ACROSS ROADS	775	700	600
ALONG ROADS	775	700	600
AGRICULTURAL	910	910	910

Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

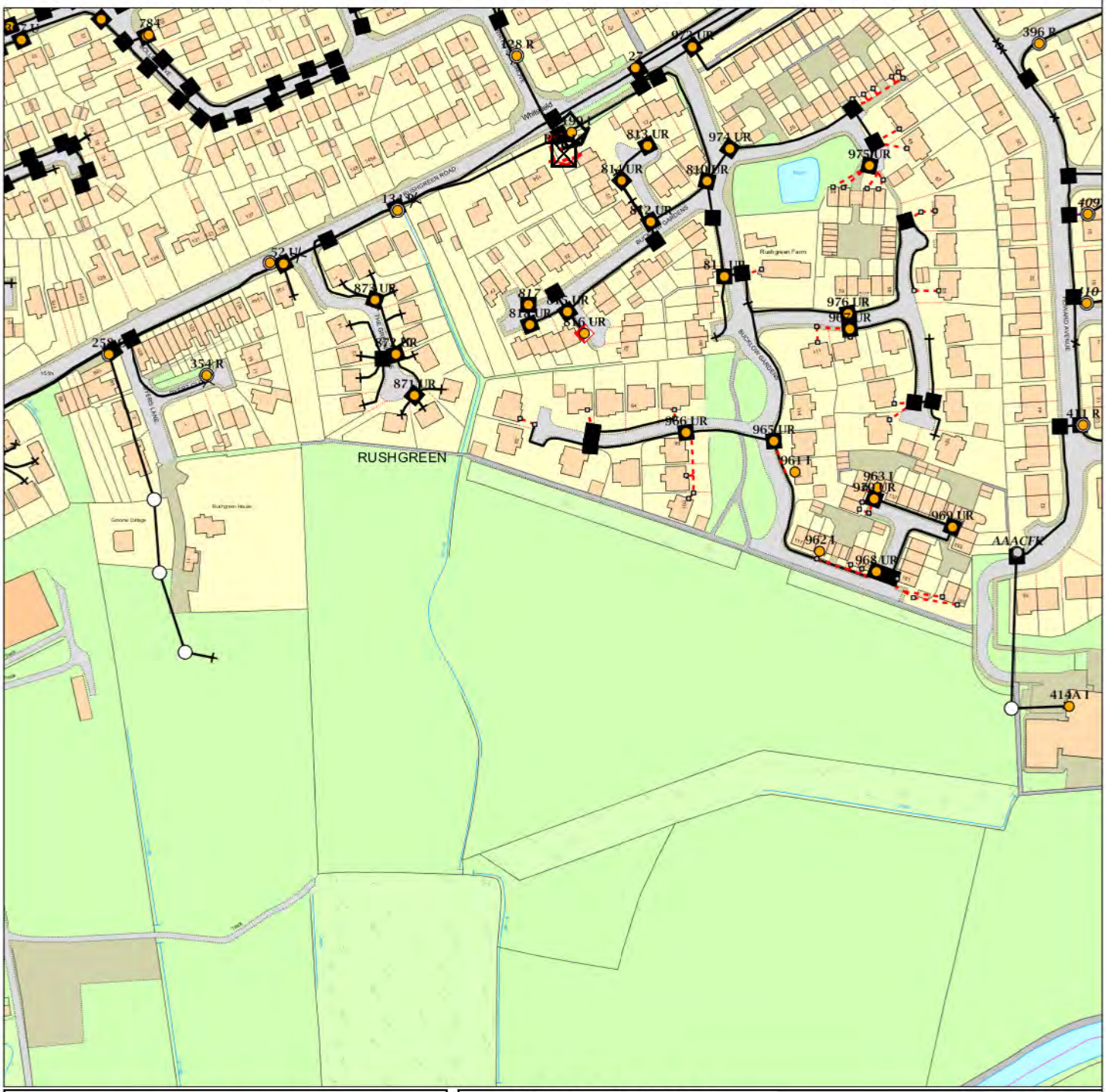
DATE 14/09/2017
SCALE 1 : 3,000
MAP REFERENCE 369,161 387,555
0 10 20 40 60 80
Metres

Shepherd Gilmour
Consulting Engineers

APPENDIX E

Colchester House, 40 Peter Street, Manchester M2 5GP
(44)0161 837 1500
www.shepherd-gilmour.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	×
Planned		Duct Tee	▲
Inferred		Planned Box	
Building		Manhole	
Kiosk	Ⓚ	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

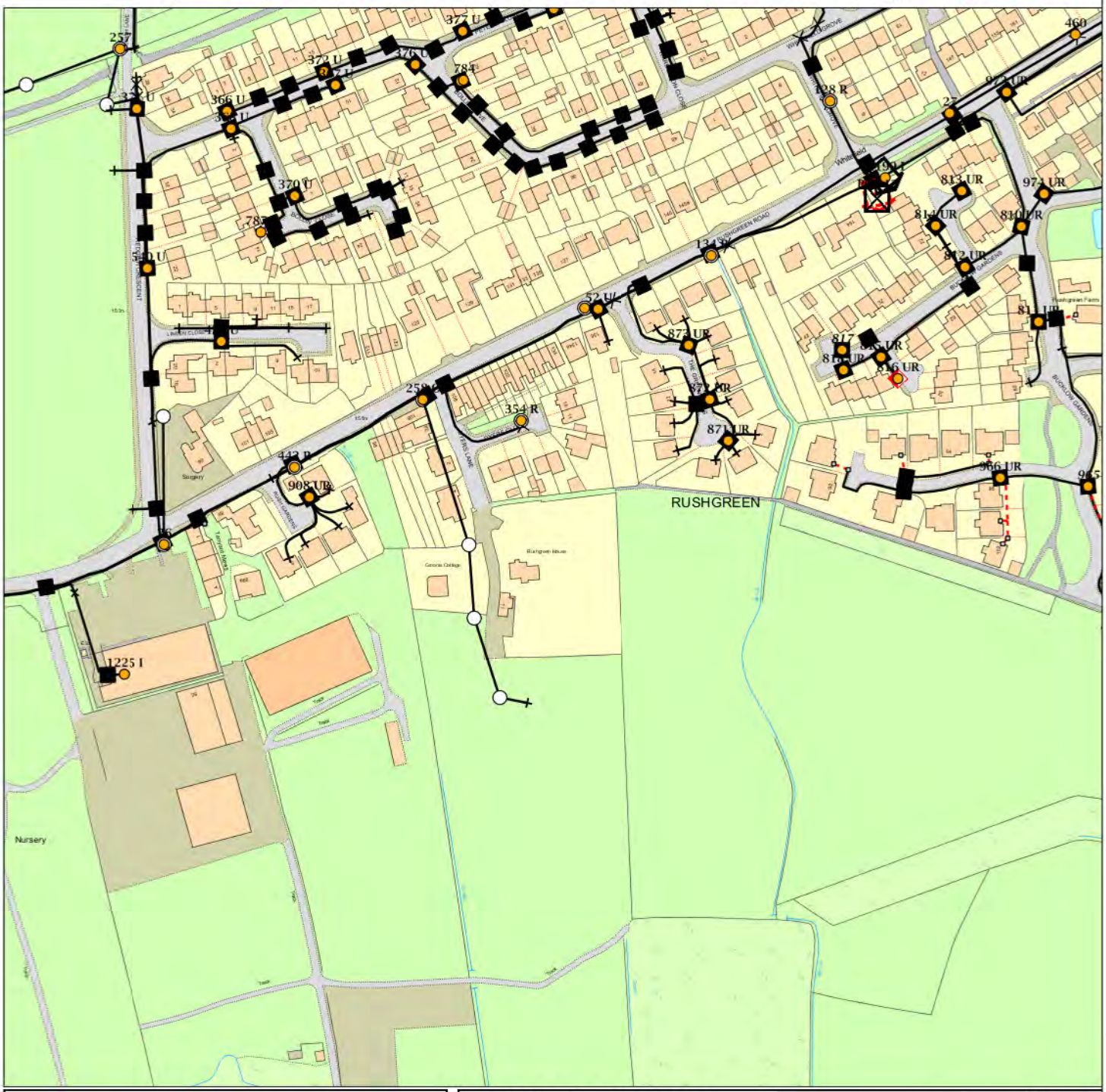
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : GAS11569D
Map Reference : (centre) SJ6929187710
Easting/Northing : (centre) 369291,3877
Issued : 08/08/2017 11:56:23

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



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ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	×
Planned		Duct Tee	▲
Inferred		Planned Box	
Building		Manhole	
Kiosk	Ⓚ	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

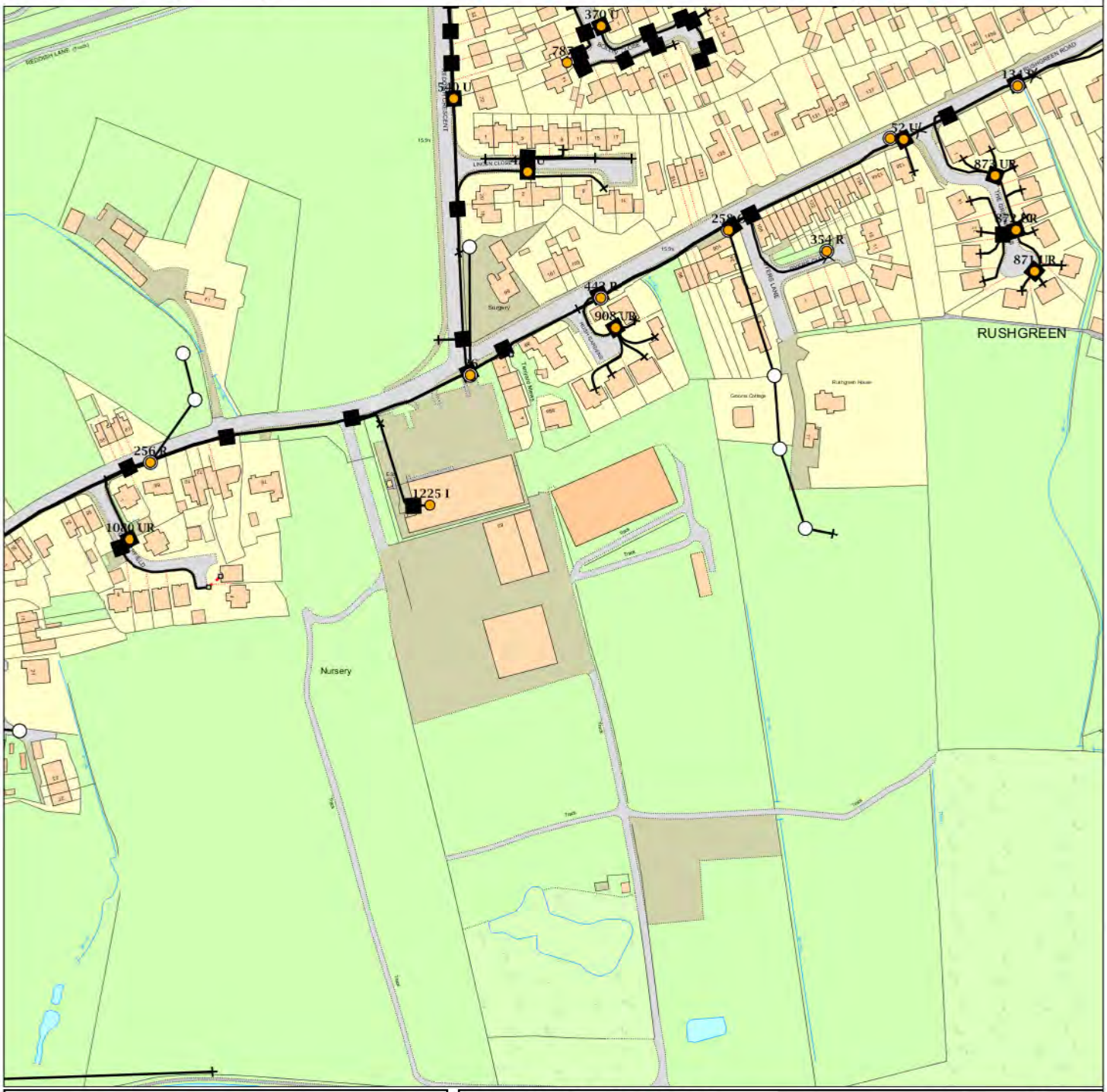
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : XVK11569V
Map Reference : (centre) SJ6914887731
Easting/Northing : (centre) 369148,387
Issued : 08/08/2017 11:57:10

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

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ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	
Planned		Duct Tee	
Inferred		Planned Box	
Building		Manhole	
Kiosk	K	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

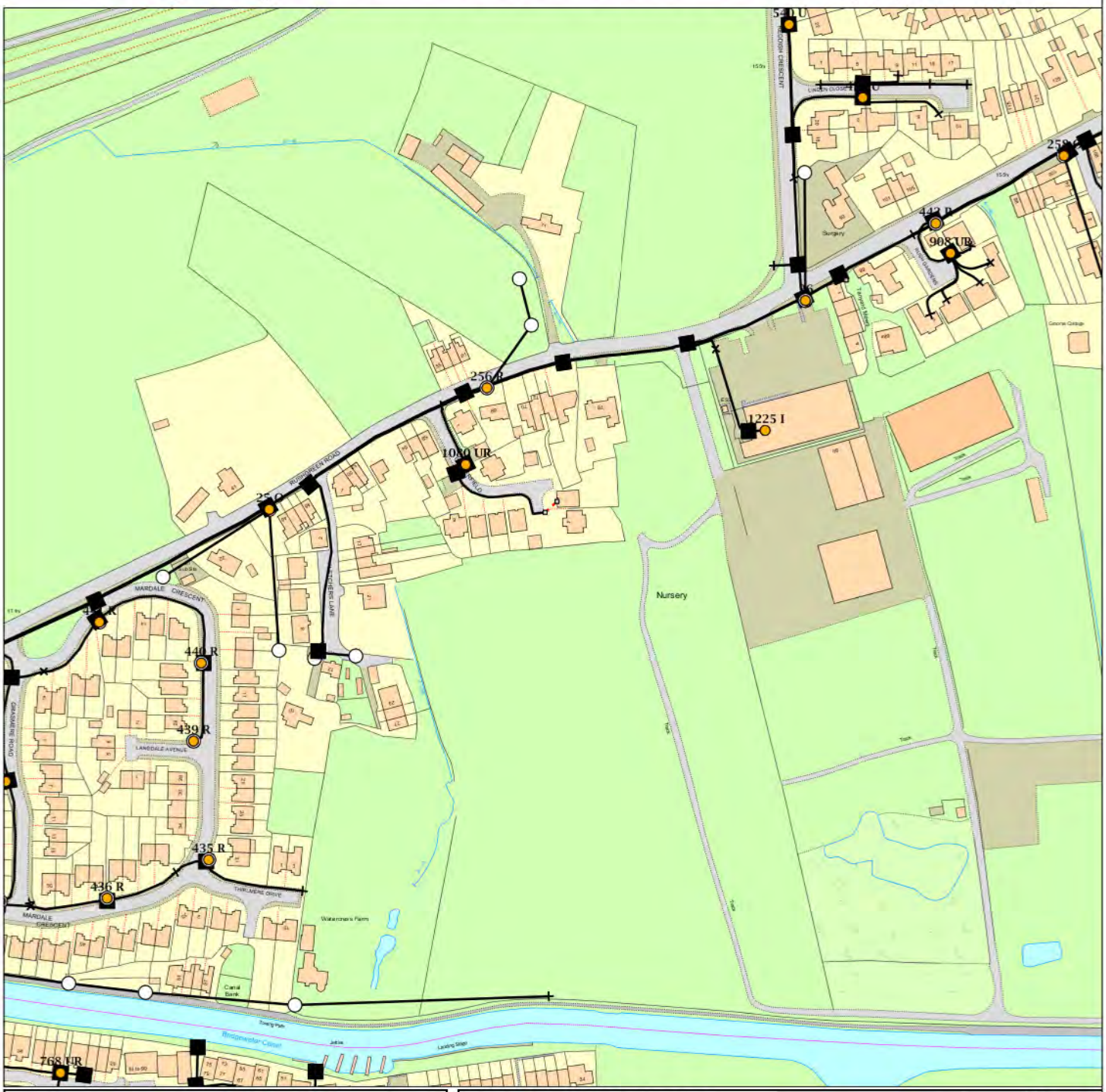
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : IDB11572L
Map Reference : (centre) SJ6900987653
Easting/Northing : (centre) 369009,387
Issued : 08/08/2017 11:57:57

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

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openreach BT

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email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP	Pole
Planned DP	Planned Pole
PCP	Joint Box
Planned PCP	Change Of State
Built	Split Coupling
Planned	Duct Tee
Inferred	Planned Box
Building	Manhole
Kiosk	Planned Manhole
Hatchings	Cabinet
	Planned Cabinet

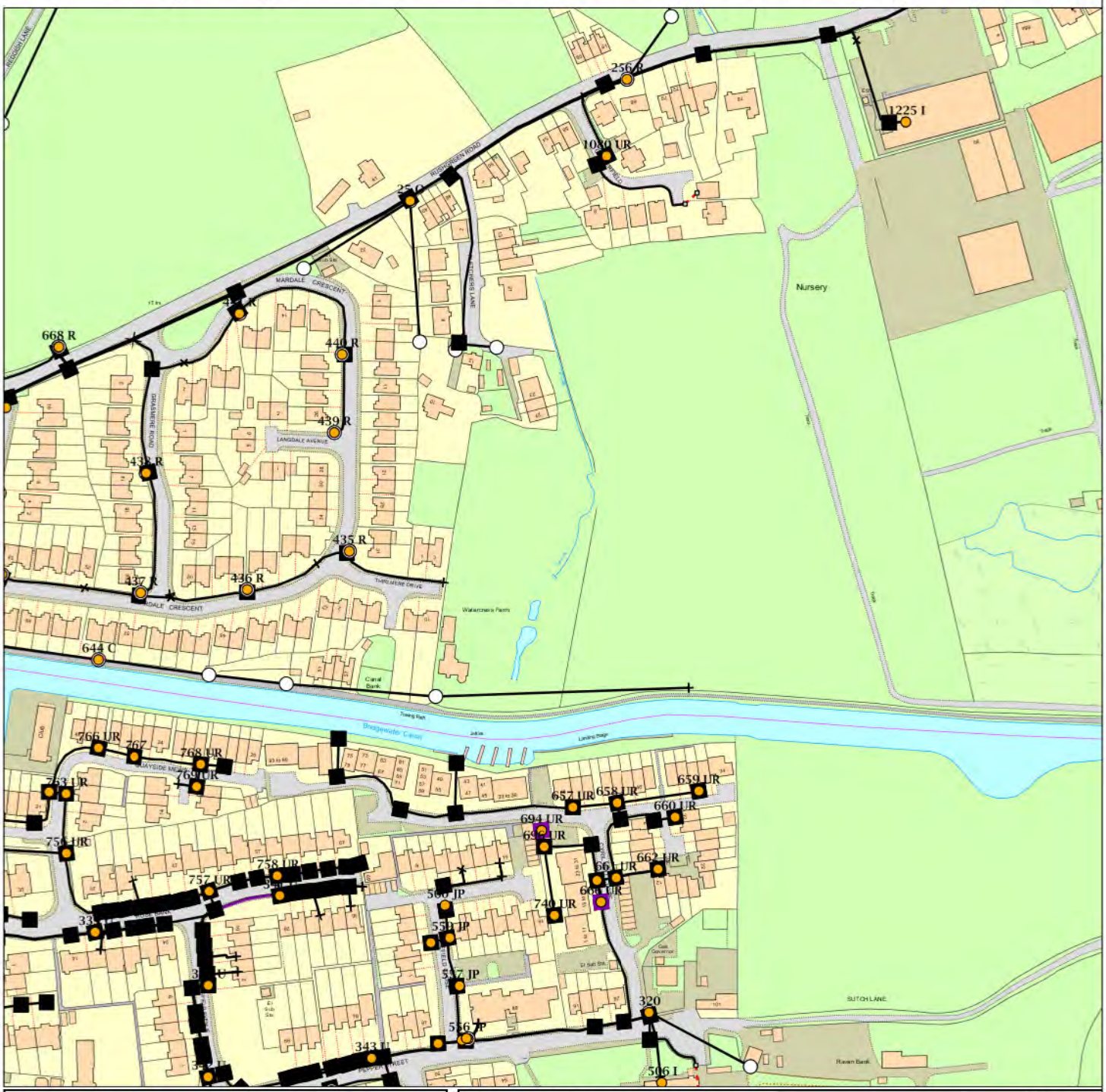
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach a BT Group business BT

BT Ref : TPA11581S
Map Reference : (centre) SJ6885687618
Easting/Northing : (centre) 368856,387
Issued : 08/08/2017 11:58:24

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



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(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	
Planned		Duct Tee	
Inferred		Planned Box	
Building		Manhole	
Kiosk	K	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

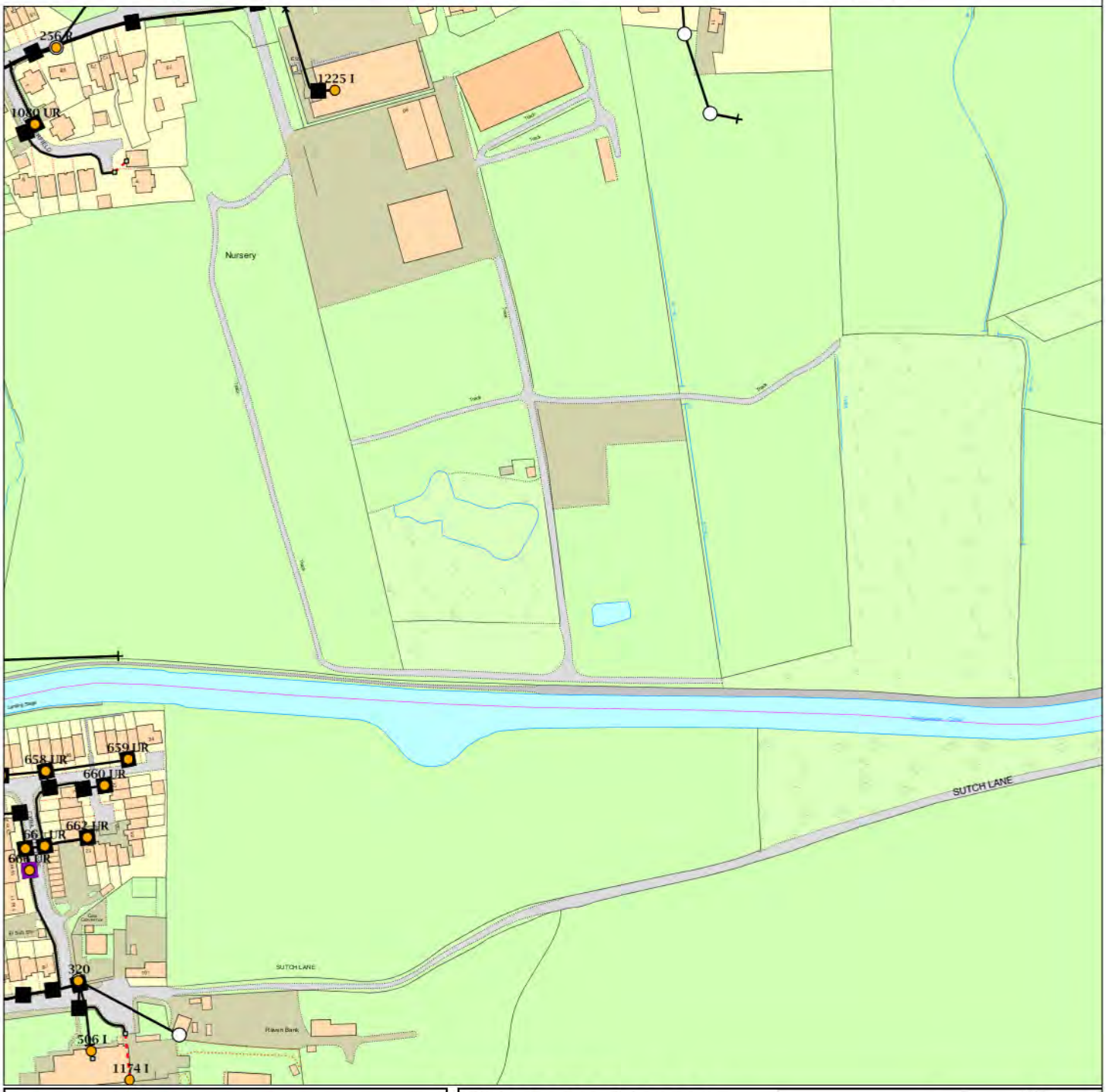
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach a BT Group business BT

BT Ref : REK11513W
Map Reference : (centre) SJ6879287475
Easting/Northing : (centre) 368792,3874
Issued : 08/08/2017 11:51:27

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

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openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	×
Planned		Duct Tee	▲
Inferred		Planned Box	
Building		Manhole	
Kiosk	Ⓚ	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business
BT

BT Ref : ETE11526P
Map Reference : (centre) SJ6905287461
Easting/Northing : (centre) 369052,387
Issued : 08/08/2017 11:52:33

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply

IMPORTANT WARNING

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openreach BT

CLICK BEFORE YOU DIG

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email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	X
Planned		Duct Tee	▲
Inferred		Planned Box	
Building		Manhole	
Kiosk	K	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : WTU11533K
Map Reference : (centre) SJ6935487515
Easting/Northing : (centre) 369354,387
Issued : 08/08/2017 11:53:40

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply

IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	+
Built		Split Coupling	X
Planned		Duct Tee	▲
Inferred		Planned Box	
Building		Manhole	
Kiosk	K	Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

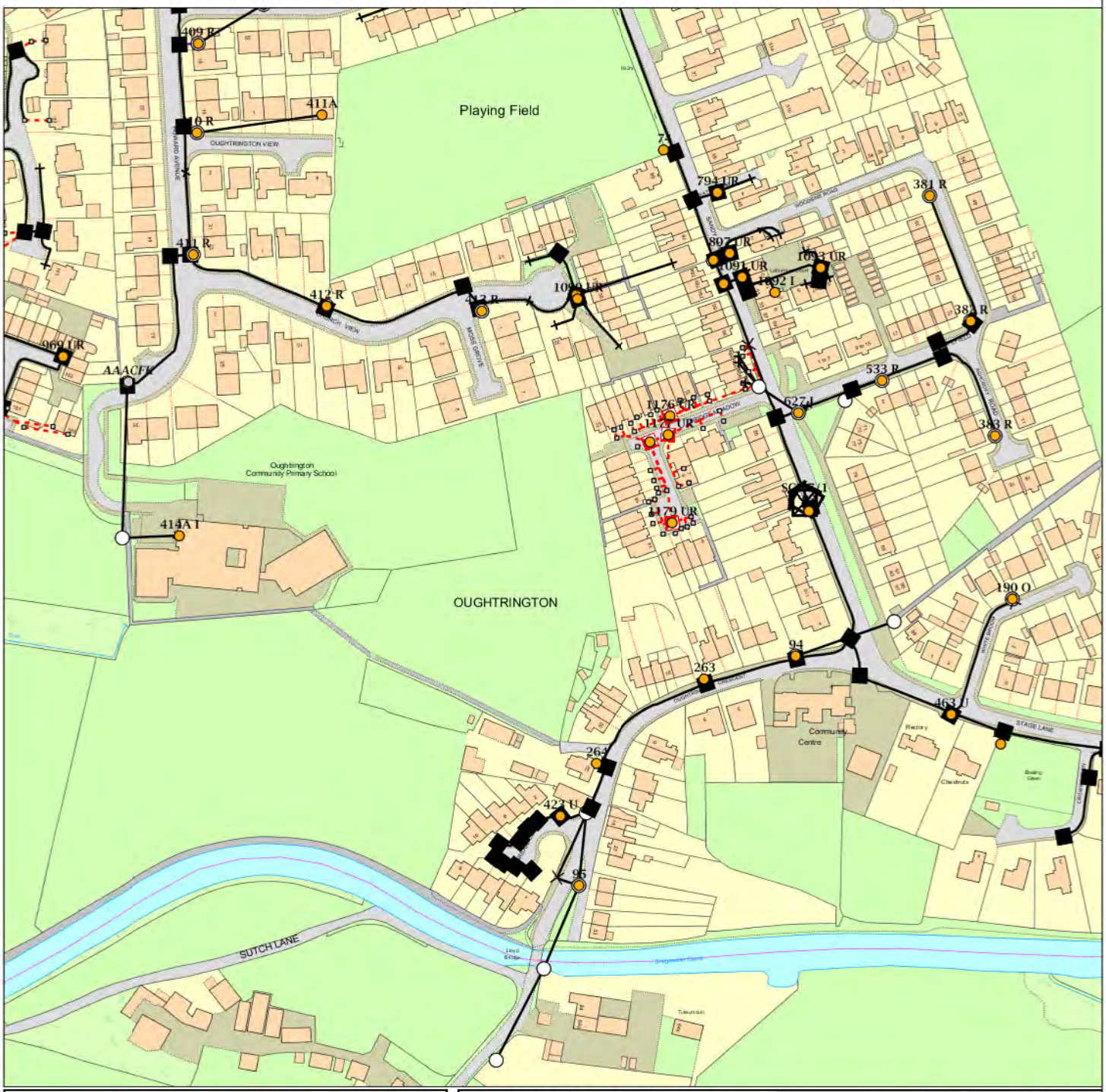
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : EJR11536C
Map Reference : (centre) SJ6956487556
Easting/Northing : (centre) 369564,387
Issued : 08/08/2017 11:54:01

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP	Pole
Planned DP	Planned Pole
PCP	Joint Box
Planned PCP	Change Of State
Built	Split Coupling
Planned	Duct Tee
Inferred	Planned Box
Building	Manhole
Kiosk	Planned Manhole
Hatchings	Cabinet
	Planned Cabinet

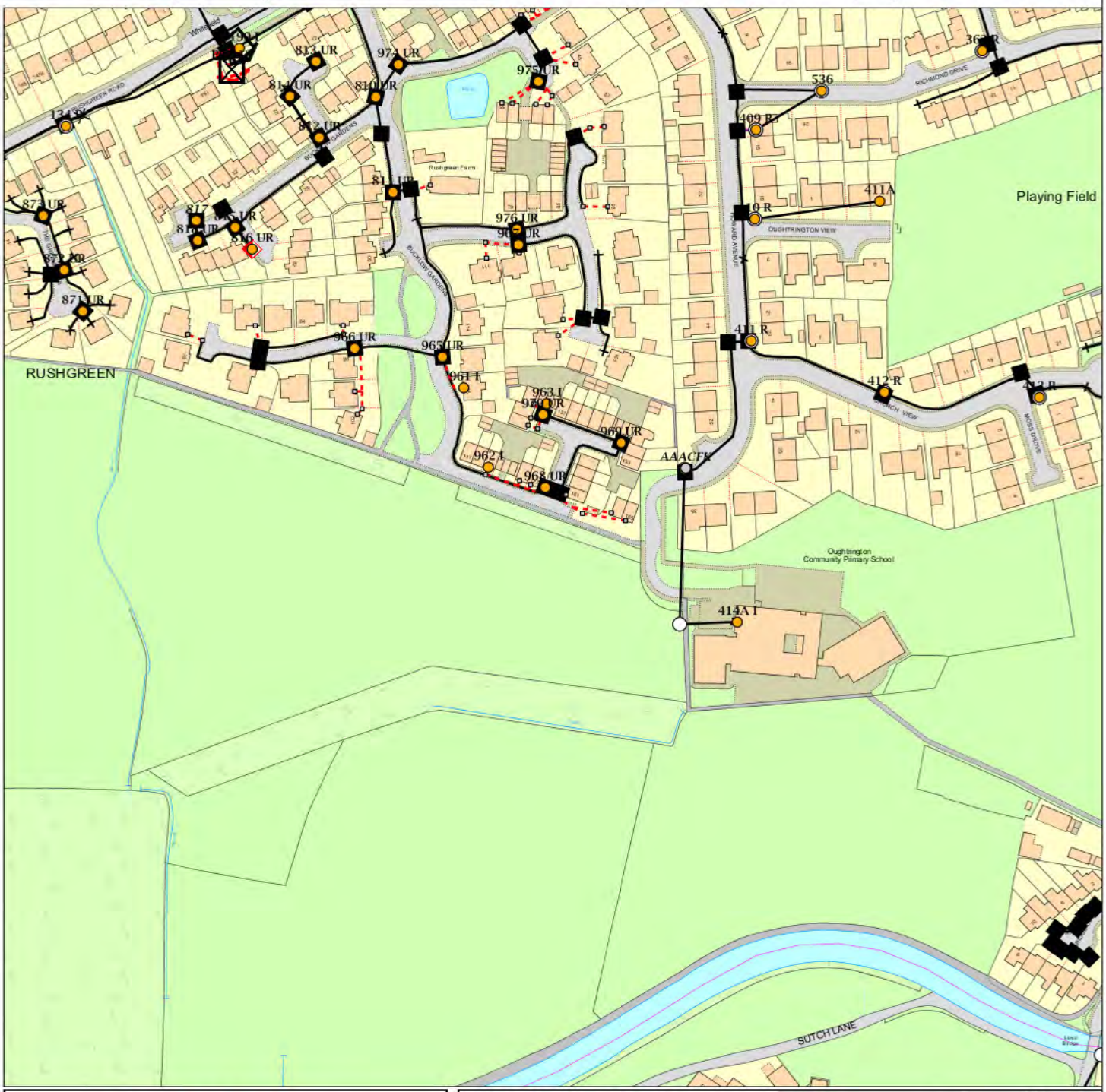
Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach a BT Group business

BT Ref : ADQ11542Q
Map Reference : (centre) SJ6969687631
Easting/Northing : (centre) 369696,387
Issued : 08/08/2017 11:54:49

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP	Pole
Planned DP	Planned Pole
PCP	Joint Box
Planned PCP	Change Of State
Built	Split Coupling
Planned	Duct Tee
Inferred	Planned Box
Building	Manhole
Kiosk	Planned Manhole
Hatchings	Cabinet
	Planned Cabinet

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : CGA11557F
Map Reference : (centre) SJ6944287671
Easting/Northing : (centre) 369442,387
Issued : 08/08/2017 11:55:16

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Shepherd Gilmour
Consulting Engineers

APPENDIX F

Colchester House, 40 Peter Street, Manchester M2 5GP
(44)0161 837 1500
www.shepherd-gilmour.co.uk

Cadent
Your Gas Network

Plant Protection
Cadent
Block 1; Floor 1
Brick Kiln Street
Hinckley
LE10 0NA
E-mail: plantprotection@cadentgas.com
Telephone: +44 (0)800 688588

[redacted]
Shepherd Gilmour Infrastructure
4th Floor Colchester House
40 Peter Street
Manchester
Manchester
Greater Manchester
M2 5GP

National Gas Emergency Number:
0800 111 999*

National Grid Electricity Emergency Number:
0800 40 40 90*
* Available 24 hours, 7 days/week.
Calls may be recorded and monitored.

www.cadentgas.com

Date: 09/08/2017
Our Ref: NW_TW_Z1_3SWX_353164
Your Ref: Lymm East
RE: Proposed Works, Land at Rushgreen Road Lymm East

Thank you for your enquiry which was received on 09/08/2017.
Please note this response and any attached map(s) are valid for 28 days.

An assessment has been carried out with respect to Cadent Gas Ltd, National Grid Electricity Transmission plc's and National Grid Gas plc's apparatus. Please note it does not cover the items listed in the section "Your Responsibilities and Obligations", including gas service pipes and related apparatus.
For details of Network areas please see the Cadent website (http://cadentgas.com/Digging-safely/Dial-before-you-dig) or the enclosed documentation.

As your works are at a "proposed" stage, any maps and guidance provided are for information purposes only. This is not approval to commence work. You must submit a "Scheduled Works" enquiry at the earliest opportunity and failure to do this may lead to disruption to your plans and works. Plant Protection will endeavour to provide an initial assessment within 14 days of receipt of a Scheduled Works enquiry and dependent on the outcome of this, further consultation may be required.

In any event, for safety and legal reasons, works must not be carried out until a Scheduled Works enquiry has been completed and final response received.

Your Responsibilities and Obligations

The "Assessment" Section below outlines the detailed requirements that must be followed when planning or undertaking your scheduled activities at this location.

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near Cadent and/or National Grid's apparatus, e.g. as contained within the Construction (Design and Management) Regulations.

This assessment solely relates to Cadent Gas Ltd, National Grid Electricity Transmission plc (NGET) and National Grid Gas plc (NGG) and apparatus. This assessment does **NOT** include:

Cadent and/or National Grid's legal interest (easements or wayleaves) in the land which restricts activity in proximity to Cadent and/or National Grid's assets in private land. You must obtain details of any such restrictions from the landowner in the first instance and if in doubt contact Plant Protection.
Gas service pipes and related apparatus
Recently installed apparatus
Apparatus owned by other organisations, e.g. other gas distribution operators, local electricity companies, other utilities, etc.

It is **YOUR** responsibility to take into account whether the items listed above may be present and if they could be affected by your proposed activities. Further "Essential Guidance" in respect of these items can be found on the National Grid Website (http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982).

This communication does not constitute any formal agreement or consent for any proposed development work; either generally or with regard to Cadent and/or National Grid's easements or wayleaves nor any planning or building regulations applications.

Cadent Gas Ltd, NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you require further assistance please contact the Plant Protection team via e-mail (click here) or via the contact details at the top of this response.

Yours faithfully

Plant Protection Team

ASSESSMENT

Affected Apparatus
The apparatus that has been identified as being in the vicinity of your proposed works is:

High or Intermediate pressure (above 2 bar) Gas Pipelines and associated equipment
Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are gas services and associated apparatus in the vicinity)
Above ground gas sites and equipment

Requirements

BEFORE carrying out any work you must:

Note the presence of an Above Ground Installation (AGI) in proximity to your site. You must ensure that you have been contacted by Cadent and/or National Grid prior to undertaking any works within 10m of this site.
Carefully read these requirements including the attached guidance documents and maps showing the location of apparatus.
Contact the landowner and ensure any proposed works in private land do not infringe Cadent and/or National Grid's legal rights (i.e. easements or wayleaves). If the works are in the road or footpath the relevant local authority should be contacted.
Ensure that all persons, including direct labour and contractors, working for you on or near Cadent and/or National Grid's apparatus follow the requirements of the HSE Guidance Notes HSG47 - 'Avoiding Danger from Underground Services' and GS6 – 'Avoidance of danger from overhead electric power lines'. This guidance can be downloaded free of charge at http://www.hse.gov.uk
In line with the above guidance, verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken.

GUIDANCE

High Pressure Gas Pipelines Guidance:
If working in the vicinity of a high pressure gas pipeline the following document must be followed: 'Specification for Safe Working in the Vicinity of Cadent and/or National Grid High Pressure Gas Pipelines and Associated Installations - Requirements for Third Parties' (SSW22). This can be obtained from:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33968

Dial Before You Dig Pipelines Guidance:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33969

Excavating Safely - Avoiding injury when working near gas pipes:
http://www.nationalgrid.com/NR/rdonlyres/2D2EEA97-B213-459C-9A26-18361C6E0B0D/25249/Digsafe_leaflet3e2finalamends061207.pdf

Standard Guidance

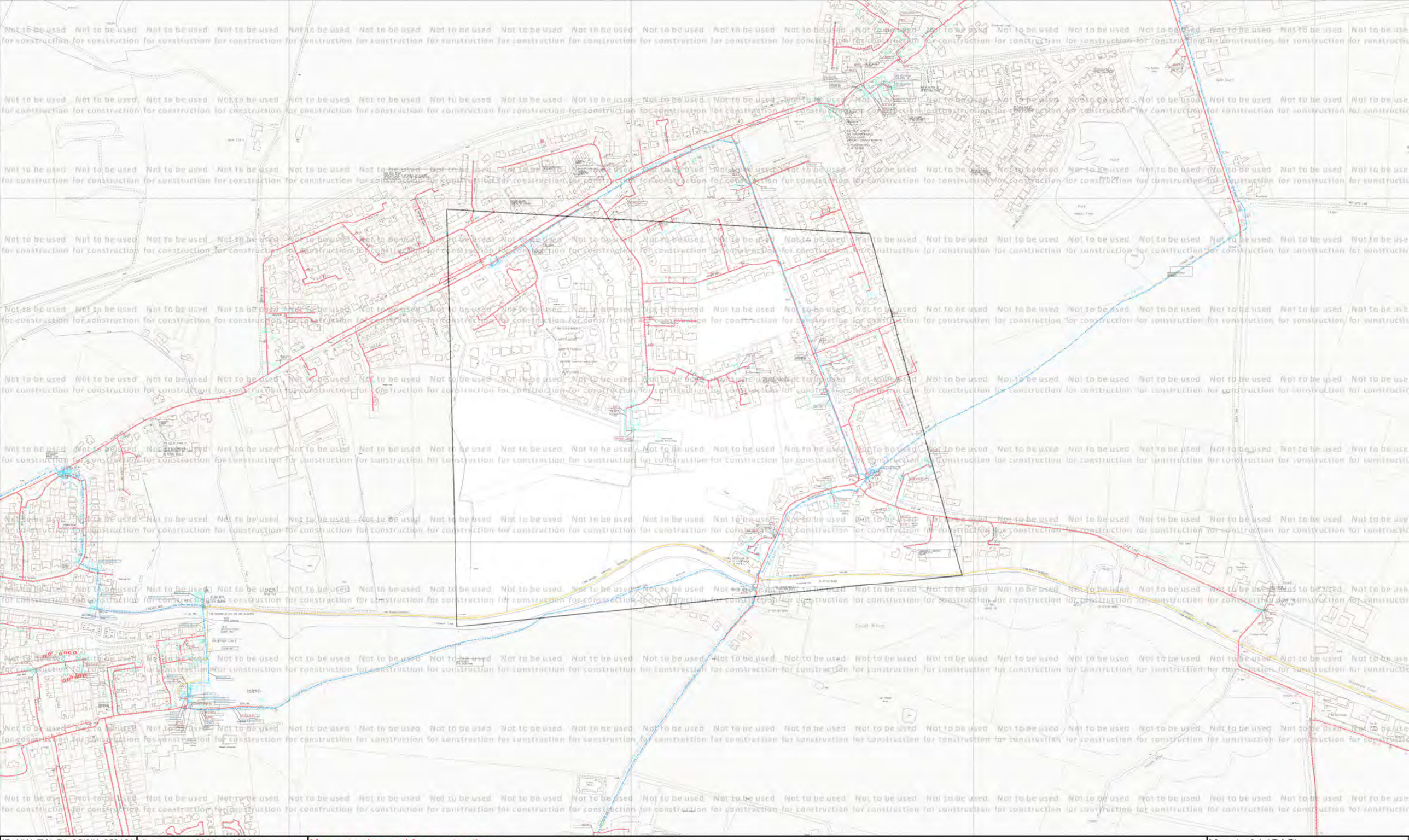
Essential Guidance document:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982

General Guidance document:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=35103

Excavating Safely in the vicinity of gas pipes guidance (Credit card):
http://www.nationalgrid.com/NR/rdonlyres/A3D37677-6641-476C-9DDA-E89949052829/44257/ExcavatingSafelyCreditCard.pdf

Excavating Safely in the vicinity of electricity cables guidance (Credit card):
http://www.nationalgrid.com/NR/rdonlyres/35DDEC6D-D754-4BA5-AF3C-D607D05A25C2/44858/ExcavatingSafelyCreditCardelectricitycables.pdf

Copies of all the Guidance Documents can also be downloaded from the National Grid Website:
http://www.nationalgrid.com/uk/Gas/Safety/work/downloads/



ID: NW_TW_Z1_3SWX_353164

View extent: 2060m, 1220m

USER: [redacted]

DATE: 09/08/2017

DATA DATE: 08/08/2017

REF: Lymm East

MAP REF: SJ6987
CENTRE: 369607, 387680

LP MAINS
MP MAINS
IP MAINS
LHP MAINS
NHP MAINS

0m 100m
Approximate scale 1:5000
on A3 Colour Landscape

Some examples of Plant Items:
Valve | Depth of Cover | Syphon | Diameter Change | Material Change | Out of Standard Service

Map not to be used for construction

This plan shows those pipes owned by National Grid Gas plc in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Map 1 of 1 (GAS)

MAPS Plot Server Version 1.9.0

Cadent

Your Gas Network

Requested by: Shepherd Gilmour Infrastructure

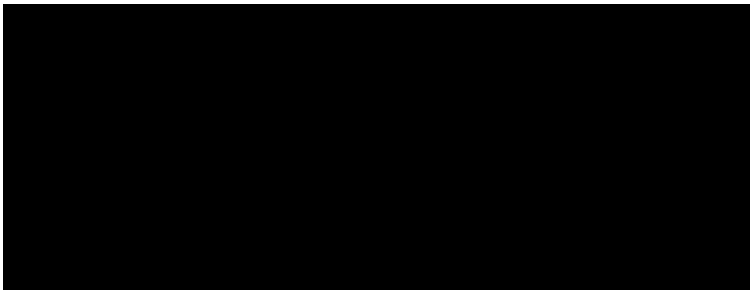
ENQUIRY SUMMARY

Received Date
09/08/2017

Your Reference
Lymm East

Location
Centre Point: 369607, 387680
X Extent: 755
Y Extent: 610
Postcode: WA13 9RH
Location Description: Land at Rushgreen Road Lymm East

Map Options
Paper Size: A3
Orientation: LANDSCAPE
Requested Scale: 2500
Actual Scale: 1:5000 (GAS)
Real World Extents: 2060m x 1220m (GAS)



Address: 4th Floor Colchester House, 40 Peter Street, Manchester, Manchester, Greater Manchester, M2 5GP

Description of Works
Currently only in the initial planning stages for potential residential development

Enquiry Type
Proposed Works

Activity Type
Development Project

Work Types
Work Type: Plans Only

Cadent
Your Gas Network

Plant Protection
Cadent
Block 1; Floor 1
Brick Kiln Street
Hinckley
LE10 0NA
E-mail: plantprotection@cadentgas.com
Telephone: +44 (0)800 688588

[redacted]
Shepherd Gilmour Infrastructure
4th Floor Colchester House
40 Peter Street
Manchester
Manchester
Greater Manchester
M2 5GP

National Gas Emergency Number:
0800 111 999*

National Grid Electricity Emergency Number:
0800 40 40 90*
* Available 24 hours, 7 days/week.
Calls may be recorded and monitored.

www.cadentgas.com

Date: 09/08/2017
Our Ref: NW_TW_Z1_3SWX_353172
Your Ref: Lymm West
RE: Proposed Works, Land at Rush Green Road, Lymm West

Thank you for your enquiry which was received on 09/08/2017.
Please note this response and any attached map(s) are valid for 28 days.

An assessment has been carried out with respect to Cadent Gas Ltd, National Grid Electricity Transmission plc's and National Grid Gas plc's apparatus. Please note it does not cover the items listed in the section "Your Responsibilities and Obligations", including gas service pipes and related apparatus.
For details of Network areas please see the Cadent website (http://cadentgas.com/Digging-safely/Dial-before-you-dig) or the enclosed documentation.

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In any event, for safety and legal reasons, works must not be carried out until a Scheduled Works enquiry has been completed and final response received.

Your Responsibilities and Obligations

The "Assessment" Section below outlines the detailed requirements that must be followed when planning or undertaking your scheduled activities at this location.

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near Cadent and/or National Grid's apparatus, e.g. as contained within the Construction (Design and Management) Regulations.

This assessment solely relates to Cadent Gas Ltd, National Grid Electricity Transmission plc (NGET) and National Grid Gas plc (NGG) and apparatus. This assessment does **NOT** include:

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Gas service pipes and related apparatus
Recently installed apparatus
Apparatus owned by other organisations, e.g. other gas distribution operators, local electricity companies, other utilities, etc.

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Cadent Gas Ltd, NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you require further assistance please contact the Plant Protection team via e-mail (click here) or via the contact details at the top of this response.

Yours faithfully

Plant Protection Team

ASSESSMENT

Affected Apparatus
The apparatus that has been identified as being in the vicinity of your proposed works is:

High or Intermediate pressure (above 2 bar) Gas Pipelines and associated equipment
Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are gas services and associated apparatus in the vicinity)
Above ground gas sites and equipment

Requirements

BEFORE carrying out any work you must:

Note the presence of an Above Ground Installation (AGI) in proximity to your site. You must ensure that you have been contacted by Cadent and/or National Grid prior to undertaking any works within 10m of this site.
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Ensure that all persons, including direct labour and contractors, working for you on or near Cadent and/or National Grid's apparatus follow the requirements of the HSE Guidance Notes HSG47 - 'Avoiding Danger from Underground Services' and GS6 – 'Avoidance of danger from overhead electric power lines'. This guidance can be downloaded free of charge at http://www.hse.gov.uk
In line with the above guidance, verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken.

GUIDANCE

High Pressure Gas Pipelines Guidance:
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http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33968

Dial Before You Dig Pipelines Guidance:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33969

Excavating Safely - Avoiding injury when working near gas pipes:
http://www.nationalgrid.com/NR/rdonlyres/2D2EEA97-B213-459C-9A26-18361C6E0B0D/25249/Digsafe_leaflet3e2finalamends061207.pdf

Standard Guidance

Essential Guidance document:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982

General Guidance document:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=35103

Excavating Safely in the vicinity of gas pipes guidance (Credit card):
http://www.nationalgrid.com/NR/rdonlyres/A3D37677-6641-476C-9DDA-E89949052829/44257/ExcavatingSafelyCreditCard.pdf

Excavating Safely in the vicinity of electricity cables guidance (Credit card):
http://www.nationalgrid.com/NR/rdonlyres/35DDEC6D-D754-4BA5-AF3C-D607D05A25C2/44858/ExcavatingSafelyCreditCardelectricitycables.pdf

Copies of all the Guidance Documents can also be downloaded from the National Grid Website:
http://www.nationalgrid.com/uk/Gas/Safety/work/downloads/

ID: NW_TW_Z1_3SWX_353172

USER: [redacted]

DATE: 09/08/2017

DATA DATE: 08/08/2017

REF: Lymm West

MAP REF: SJ6887

CENTRE: 368867, 387607

View extent: 4120m, 2440m

LP MAINS

MP MAINS

IP MAINS

LHP MAINS

NHP MAINS

0m 200m

Approximate scale 1:10000 on A3 Colour Landscape

Some examples of Plant Items:

Valve | Depth of Cover | Syphon | Diameter Change | Material Change | Out of Standard Service

Map not to be used for construction

This plan shows those pipes owned by National Grid Gas plc in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Map 1 of 1 (GAS)

MAPS Plot Server Version 1.9.0

Cadent

Your Gas Network

Requested by: Shepherd Gilmour Infrastructure

ENQUIRY SUMMARY

Received Date
09/08/2017

Your Reference
Lymm West

Location
Centre Point: 368867, 387606
X Extent: 805
Y Extent: 705
Postcode: WA13 9RH
Location Description: Land at Rush Green Road, Lymm West

Map Options
Paper Size: A3
Orientation: LANDSCAPE
Requested Scale: 10000
Actual Scale: 1:10000 (GAS)
Real World Extents: 4120m x 2440m (GAS)

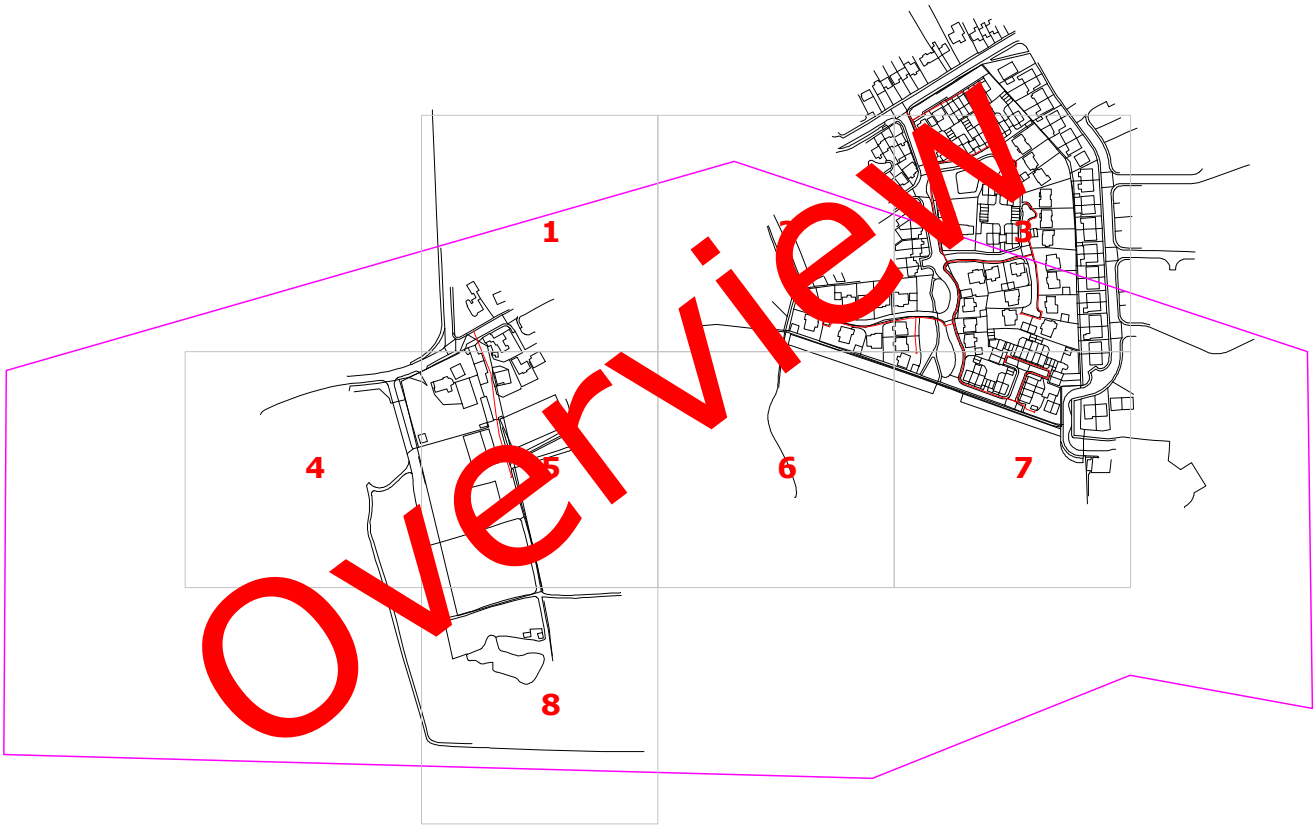
Address: 4th Floor Colchester House, 40 Peter Street, Manchester, Manchester, Greater Manchester, M2 5GP

Description of Works
Currently only in the initial planning stages for potential residential development- west of the site

Enquiry Type
Proposed Works

Activity Type
Development Project

Work Types
Work Type: Plans Only



Date Requested: 08/08/2017

Requested by: Shepherd Gilmour

Company: Shepherd Gilmour Infrastructure L

Job Reference: 10979229

Your Scheme/Reference: Land at Rush Gree

Key for Mains & Service Pipework

Existing LP mains or services operating up to 75 millibar gauge

Existing MP mains or services operating between 75 millibar and 2 bar gauge

Existing IP mains or services operating between 2 bar and 7 bar gauge

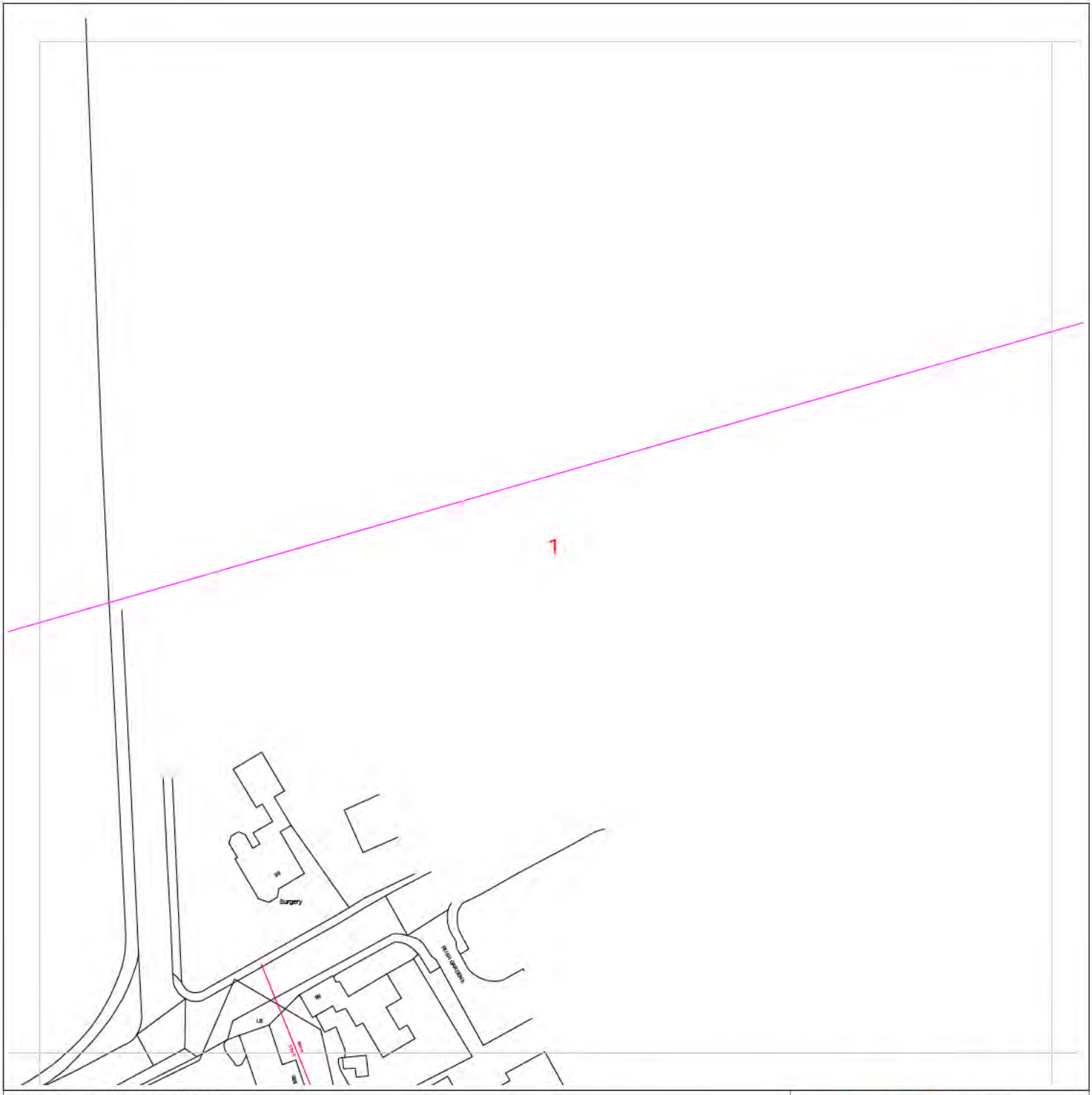
ESP UTILITIES GROUP

ESP Utilities Group Ltd
Bluebird House
Mole Business Park
Leatherhead
Surrey
KT22 7BA
Phone: 01372 587500
Email: info@espug.com

Dig Sites:

Area Line

Approx scale on A4 paper: 1:1000
(excluding Overview map)



Date Requested: 08/08/2017

Requested by: Shepherd Gilmour

Company: Shepherd Gilmour Infrastructure L

Job Reference: 10979229

Your Scheme/Reference: Land at Rush Gree

Key for Mains & Service Pipework

Existing LP mains or services operating up to 75 millibar gauge

Existing MP mains or services operating between 75 millibar and 2 bar gauge

Existing IP mains or services operating between 2 bar and 7 bar gauge

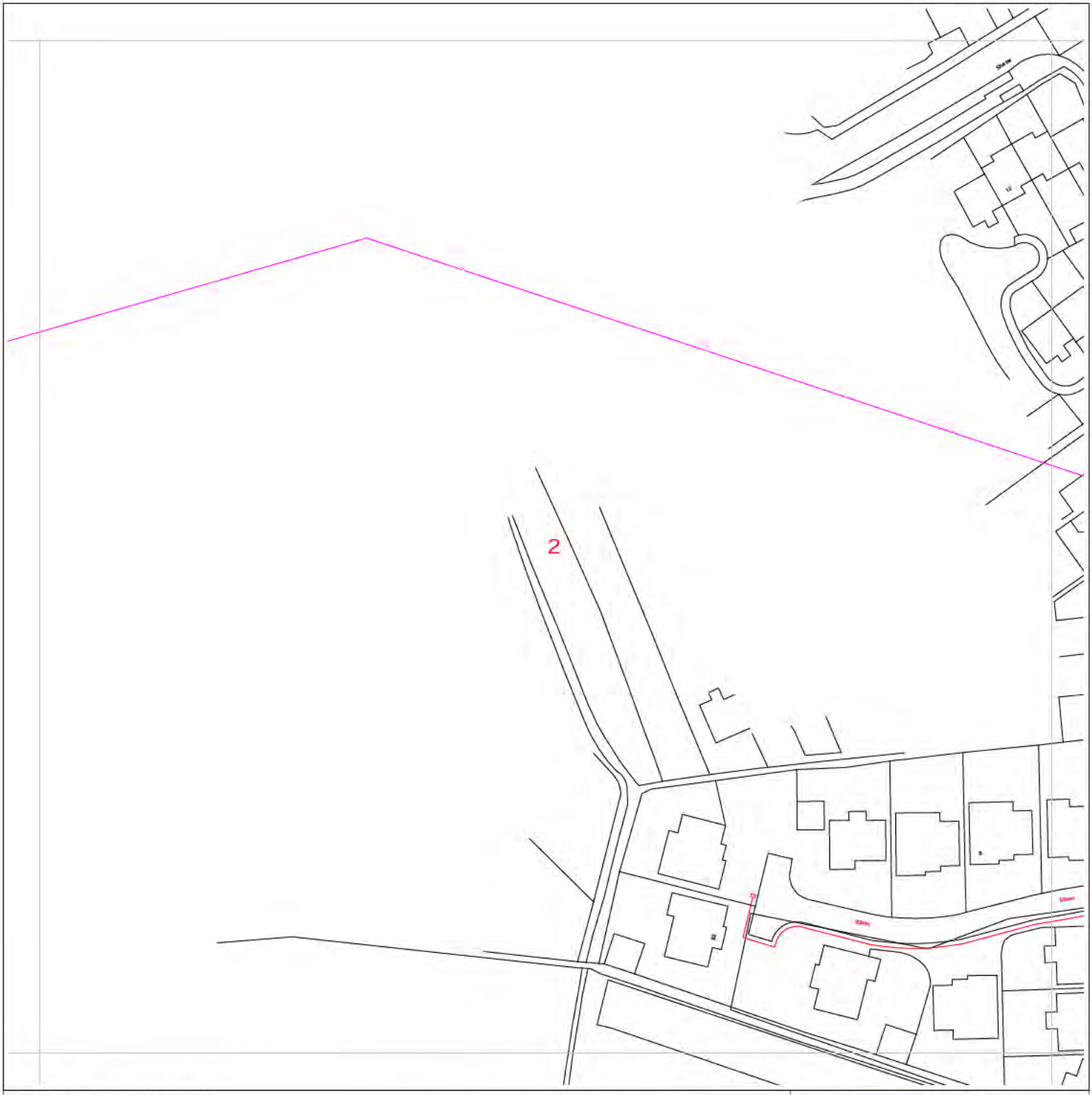
ESP UTILITIES GROUP

ESP Utilities Group Ltd
Bluebird House
Mole Business Park
Leatherhead
Surrey
KT22 7BA
Phone: 01372 587500
Email: info@espug.com

Dig Sites:

Area Line

Approx scale on A4 paper: 1:1000
(excluding Overview map)



Date Requested: 08/08/2017

Requested by: Shepherd Gilmour

Company: Shepherd Gilmour Infrastructure L

Job Reference: 10979229

Your Scheme/Reference: Land at Rush Gree

Key for Mains & Service Pipework

Existing LP mains or services operating up to 75 millibar gauge

Existing MP mains or services operating between 75 millibar and 2 bar gauge

Existing IP mains or services operating between 2 bar and 7 bar gauge

ESP UTILITIES GROUP

ESP Utilities Group Ltd
Bluebird House
Mole Business Park
Leatherhead
Surrey
KT22 7BA
Phone: 01372 587500
Email: info@espug.com

Dig Sites:

Area Line

Approx scale on A4 paper: 1:1000
(excluding Overview map)

Date Requested: 08/08/2017

Requested by: Shepherd Gilmour

Company: Shepherd Gilmour Infrastructure L

Job Reference: 10979229

Your Scheme/Reference: Land at Rush Gree

Key for Mains & Service Pipework

Existing LP mains or services operating up to 75 millibar gauge

Existing MP mains or services operating between 75 millibar and 2 bar gauge

Existing IP mains or services operating between 2 bar and 7 bar gauge

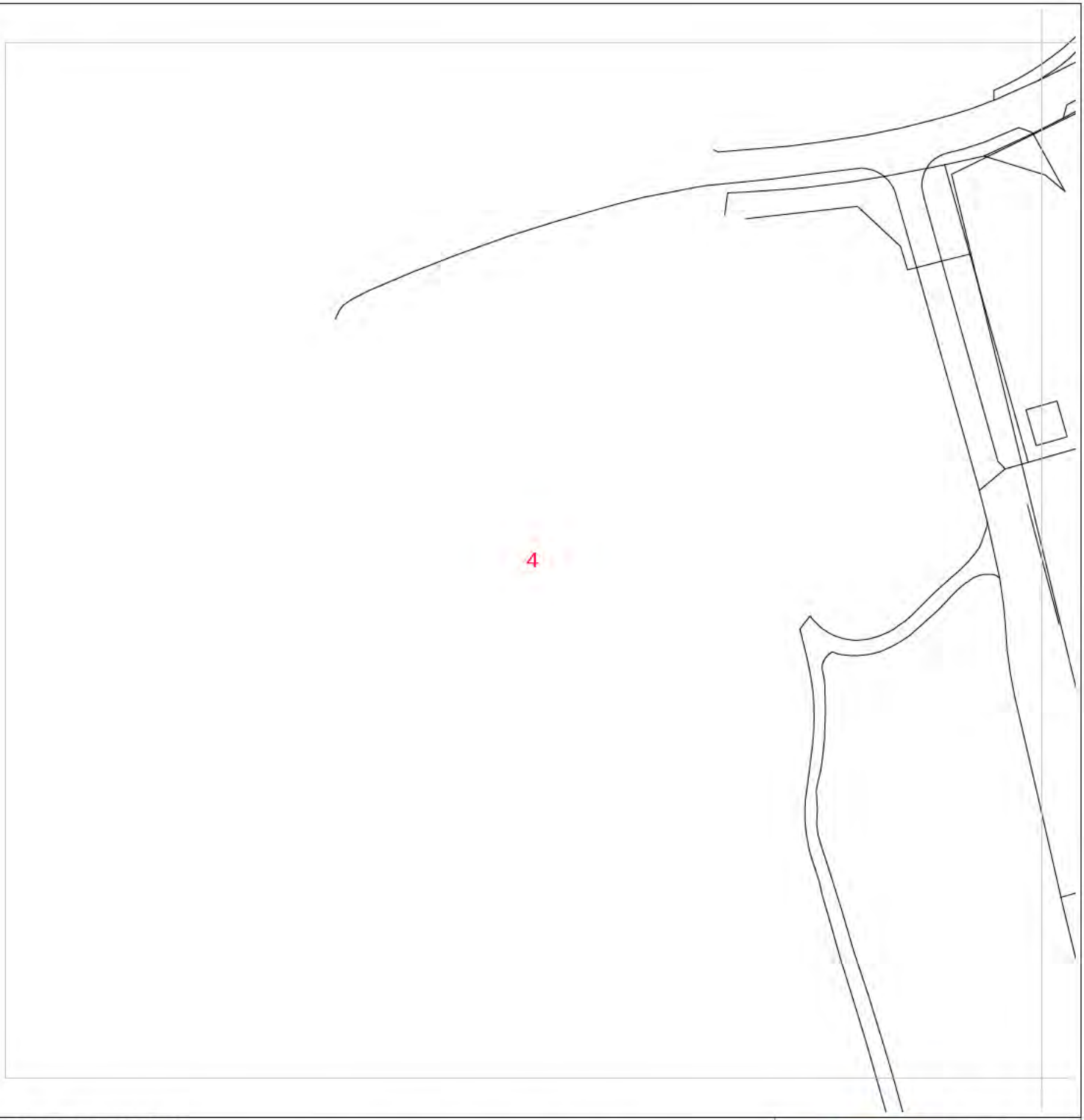
ESP UTILITIES GROUP

ESP Utilities Group Ltd
Bluebird House
Mole Business Park
Leatherhead
Surrey
KT22 7BA
Phone: 01372 587500
Email: info@espug.com

Dig Sites:

Area Line

Approx scale on A4 paper: 1:1000
(excluding Overview map)



Date Requested: 08/08/2017

Requested by: Shepherd Gilmour

Company: Shepherd Gilmour Infrastructure L

Job Reference: 10979229

Your Scheme/Reference: Land at Rush Gree

Key for Mains & Service Pipework

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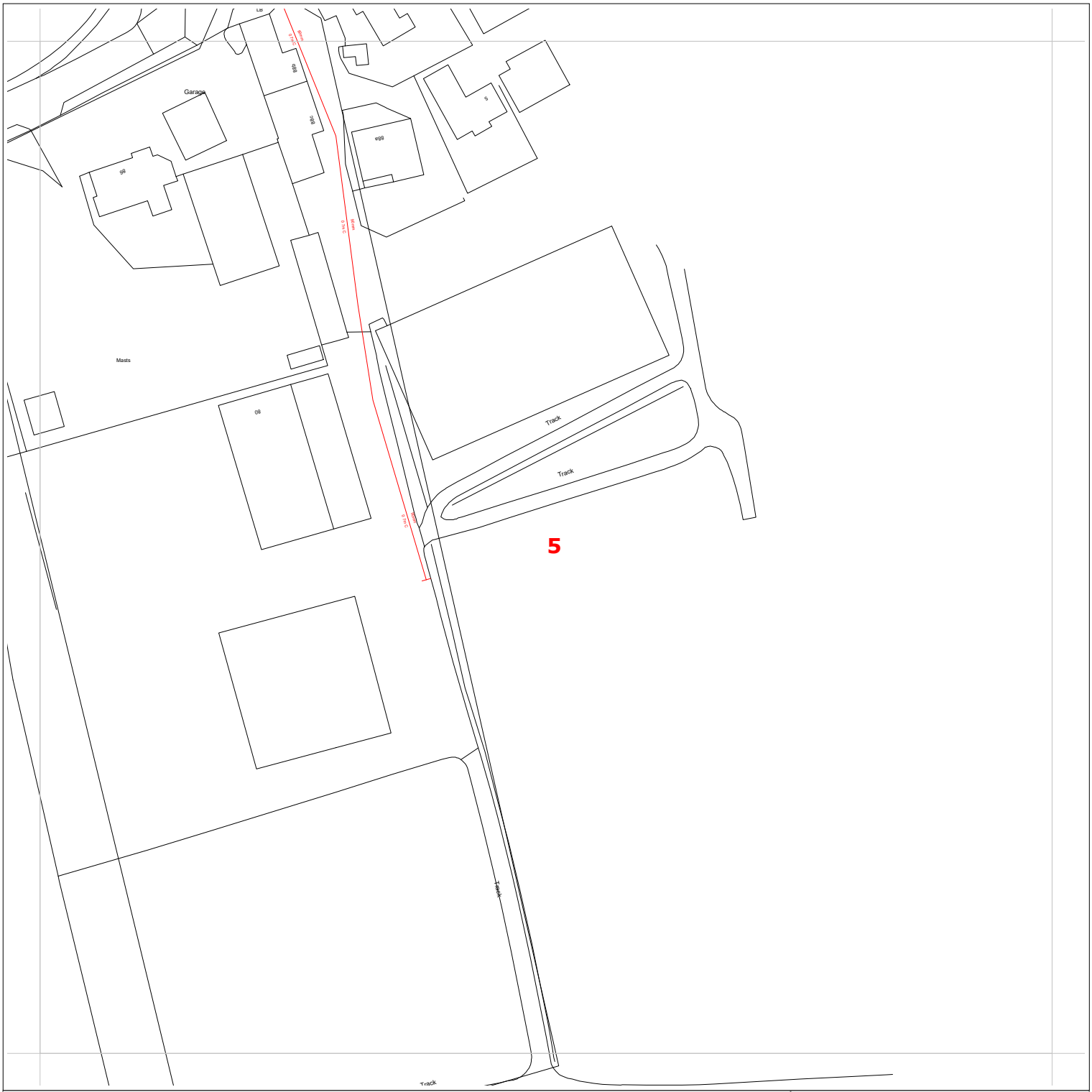

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Whilst ESP Utilities Group Ltd (ESP) try to ensure the asset information we provide is accurate, the information is provided Without Prejudice and ESP accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for he full cost of repairs to ESP apparatus and all claims made against them by Third parties as a result of any interference or damage.

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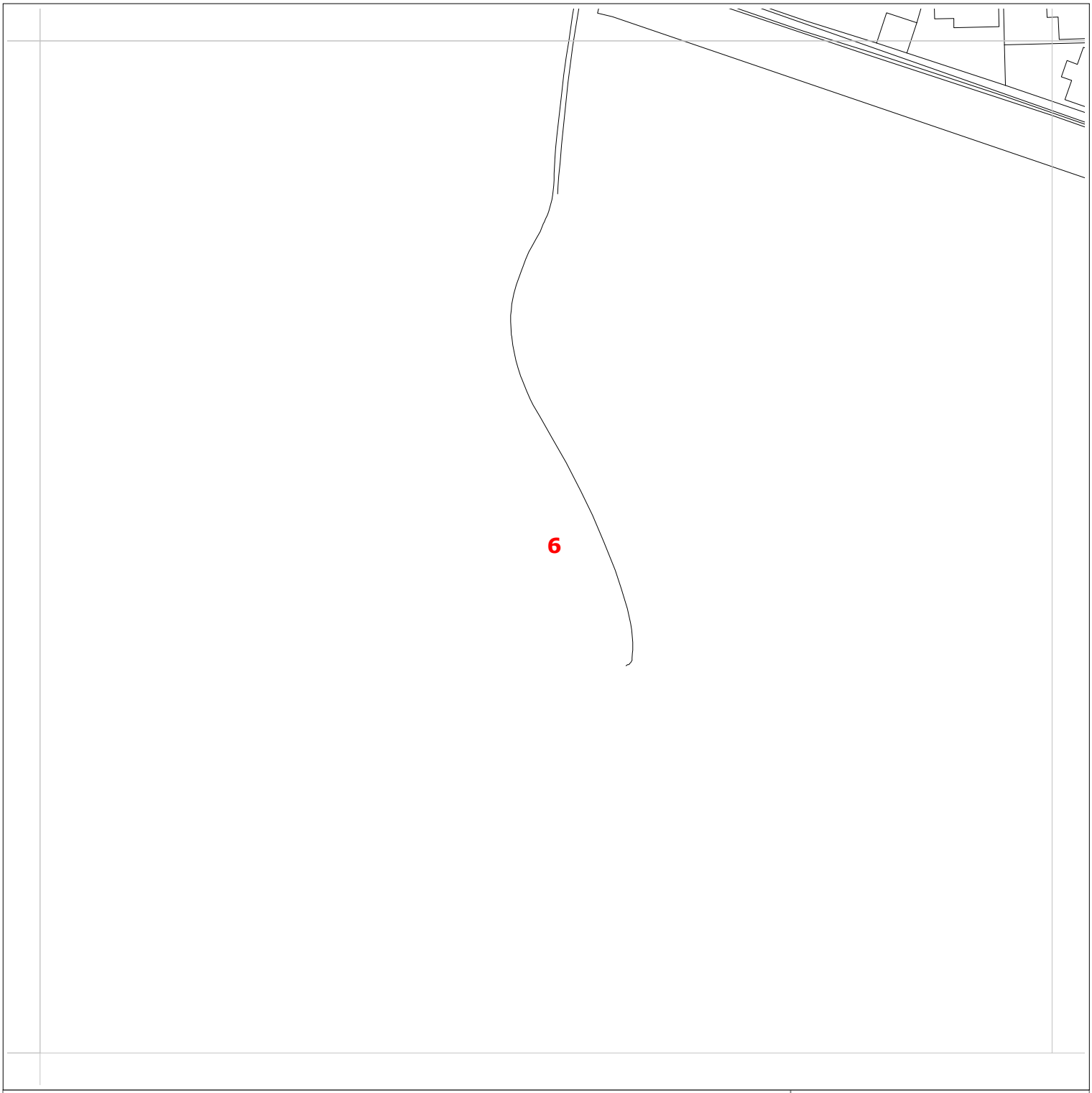

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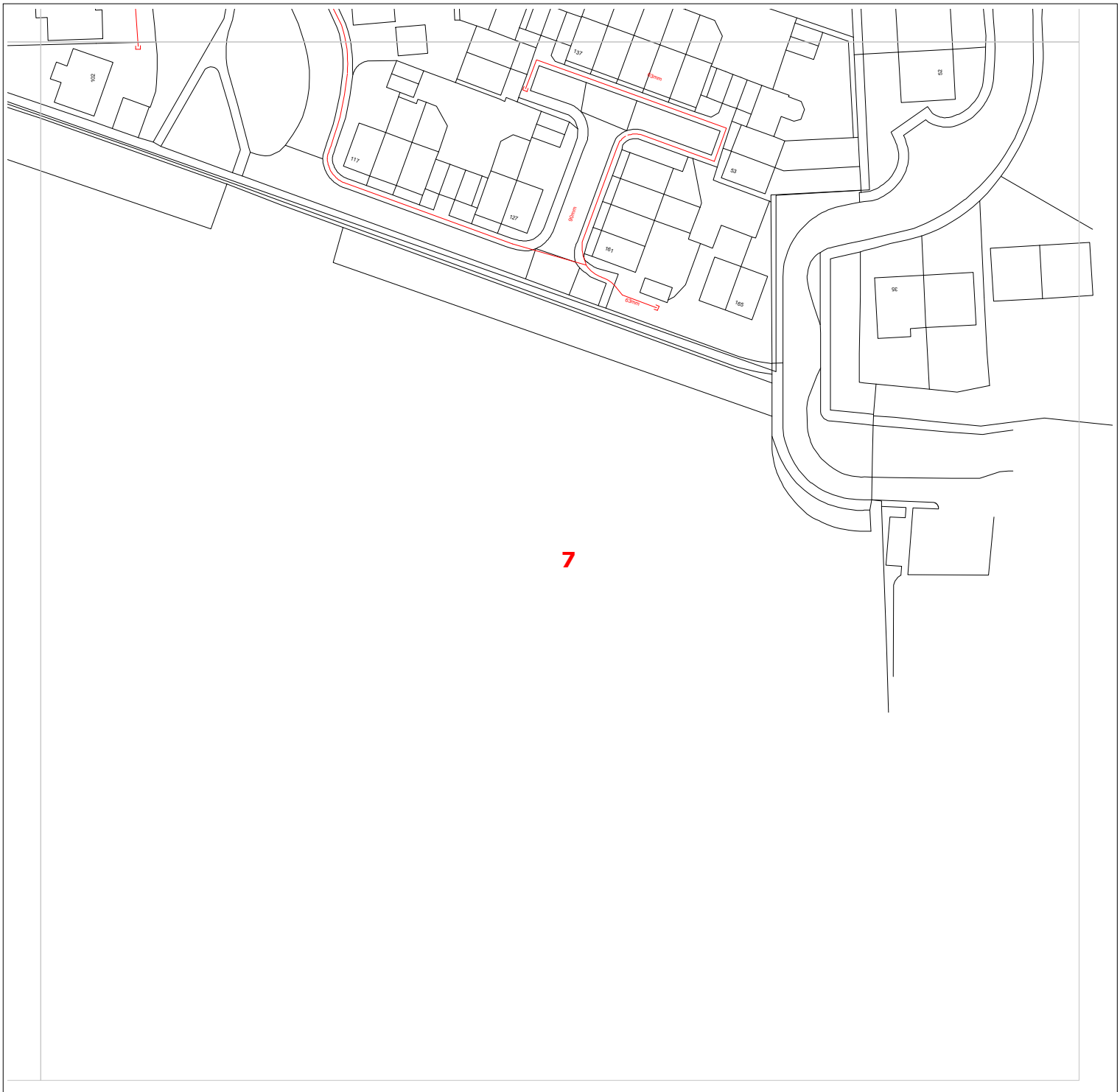

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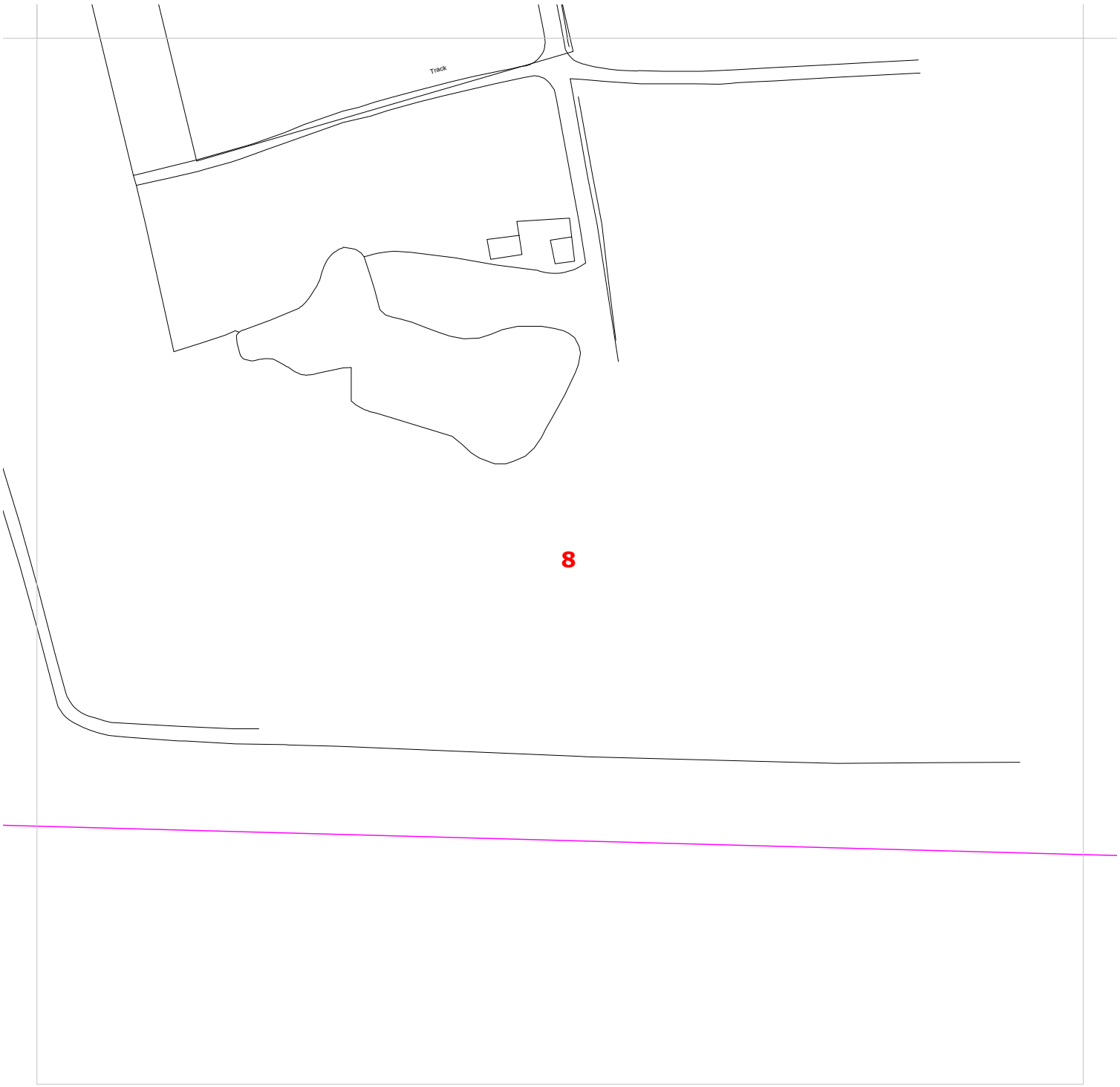

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Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX G

Shepherd Gilmour Infrastructure
Castlefield House, 29 Ellesmere Street,
Manchester

M15 4LZ

Advice : HSL-170814103759-432 Crosses Consultation Zone

Please enter further details about the proposed development by continuing with the enquiry on the HSE's Planning Advice Web App from the Previous Enquiries tab either now or at a later time, unless the Web App has stopped the process and notified you to contact HSE.

Your Ref: Land at Rush Green Road, Lymm
Development Name:
Comments:

Commercial In Confidence

The proposed development site which you have identified currently lies within the consultation distance (CD) of at least one major hazard site and/or major accident hazard pipeline; HSE needs to be consulted on any developments on this site.

This advice report has been generated using information supplied by [redacted] at Shepherd Gilmour Infrastructure on 14 August 2017.

You will also need to contact the pipeline operator as they may have additional constraints on development near their pipeline.

- 6765 1049 Cadent Gas Ltd

HSL/HSE accepts no liability for the accuracy of the pipeline routing data received from a 3rd party. HSE/HSL also accepts no liability if you do not consult with the pipeline operator.

You may wish to contact HSE's Planning Advice team to discuss the above enquiry result on 01298 218159 or by email at lupenquiries@hsl.gsi.gov.uk.