



TETRA TECH

Argosy Drive

Utilities Strategy Addendum

PRESENTED TO

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1 INTRODUCTION

The following report is an addendum to the previous Aecom Utilities Strategy for Argosy Drive submitted as part of planning application 134103/FO/2022.

The original scheme brought forward for planning consisted of 3 blocks of terraced logistics units outlined in Figure 1 below consisting of the following units:

Unit 1 – 8 individual units

Unit 2 – 3 individual units

Unit 3 – 3 individual units



Figure 1 – Original Argosy Drive scheme

Following market testing and a period of value engineering Columbia Threadneedle Investments have decided to reduce the number of Units in the Unit 1 terrace from 8 to 6 whilst maintaining the overall footprint of the Unit. Units 2 + 3 remain the same. The new masterplan is presented in Figure 2 below:

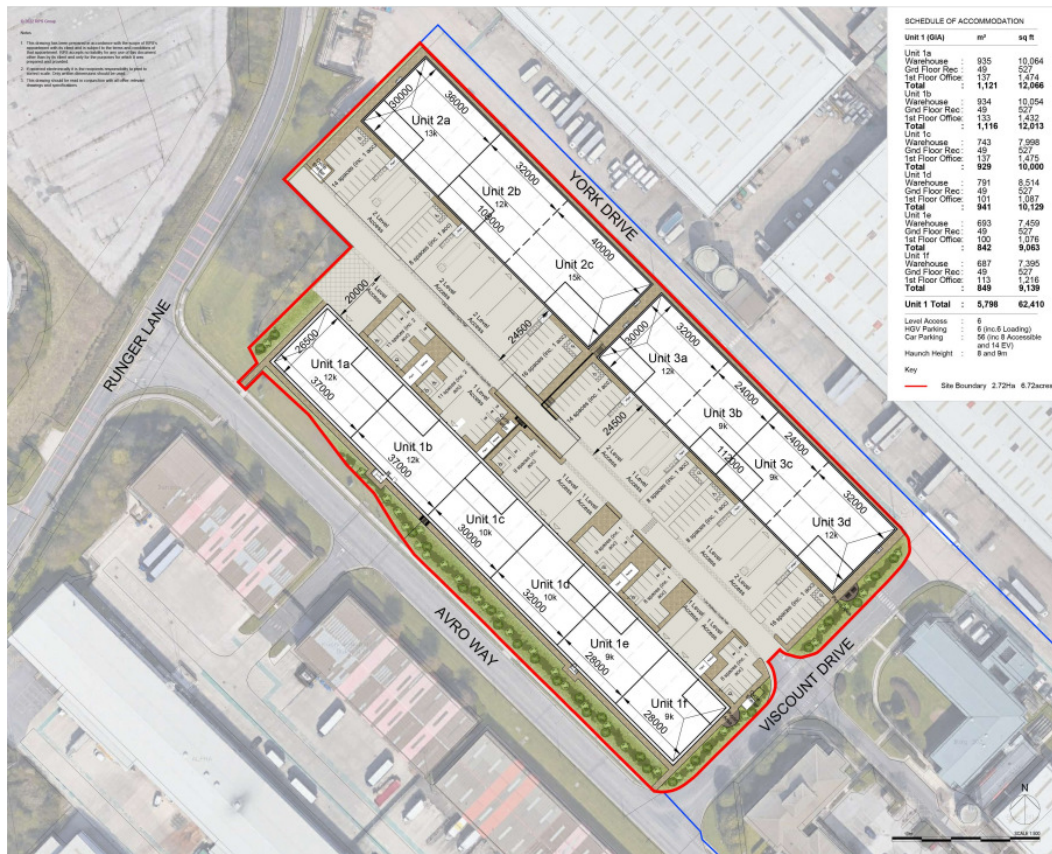


Figure 2 – Original Argosy Drive scheme

The purpose of this addendum report is to highlight that the key principles of the original strategy are being maintained and to confirm where amendments are being made to suit the change in masterplan. It is also the intention to phase the development by delivering Unit 1 ahead of Units 2+3. Further amendments to the original strategy are proposed to reflect the requirements of the phasing.

The design changes of the redevelopment of Argosy Drive require the utilities strategy to be adjusted to suit the new phasing of the scheme. The initial phase of the construction of Unit 1 is still to be constructed, Units 2 & 3 will follow on at a future stage rather than as one scheme. The first building to be constructed, unit 1, has also been altered from 8No. terrace units to 6No. terrace units to provide units with a larger usable space while maintaining the same overall building footprint.

The following report outlines the amendments to the original strategy and verifies where the critical elements of the strategy such as discharge rate remain the same.

2 UTILITIES STRATEGY

The following utilities strategy addendum has been prepared based on the following maximum areas for each unit associated with the Argosy Drive Development:

Unit 1 - 65,000sqft of building footprint

Unit 2 - 46,000sqft of building footprint

Unit 3 - 33,000sqft of building footprint

The overall square footage of developed building remains as per the original Aecom utilities strategy.

DEMAND CALCULATION

Demand calculations have been prepared in line with the CIBSE guidance assuming warehouse and office use with 10% of unit 1 area being allocated as Office space, and 10% of Unit 2 and unit 3 footprints allocated as office space.

The demand loadings have been updated in this addendum report to reflect the calculated actual figures from Unit 1 based on the current Stage 3 design. The figures for Unit 2+3 have been amended as projections more in line with those of the Unit 1 actual figures.

A 20% additional demand has been assumed within the power load for future EV charging requirements. The following demand loads are estimated for the proposed Argosy Drive development:

Unit 1

Power = 750kVA

Gas – N/A - calculated at 44m³ /hr if required.

Water = 3.81 l/s Foul = 0.852l/s

Unit 2

Power = 530kVA

Gas – N/A - calculated at 32m³ /hr if required.

Water = 2.24 l/s Foul = 0.546 l/s

Unit 3

Power = 380kVA

Gas – N/A - calculated at 23m³ /hr if required

Water = 1.62 l/s Foul = 0.565 l/s

POWER

MAG Utilities have advised that there is insufficient capacity on the existing HV ring that currently supplies the area to serve all three proposed units. Therefore, it will not be possible to power all three units from the existing networks. As such an alternative approach needed to be established.

There is capacity to serve Unit 1 only from the existing HV network. MAG and ENWL have identified that a future supply for all units can be established via the new offsite primary sub-station located near Thorley Lane. A new HV supply cable will need to be brought in from the primary to the new site sub-station to power the full development.

The power strategy is therefore proposed to be delivered in two phases summarised as follows:

Phase 1 - Breach joint from existing ring

During the first phase, Unit 1 will be constructed along with a new substation proposed to the northwest of the phase 1 development.

It is proposed that each individual tenanted unit within the building(s) will have its own incoming Low Voltage supply from the substation (6 No.). The Low Voltage supplies will be routed through a pit and duct system to the front of the units.

The initial phase of HV diversion will require a breach joint off the existing ring within the site and temporarily provide power to the phase 1 area via the new substation.

The new sub-station will be owned and operated by MAG/ENWL.

Phase 2 – supply from existing sub station

The second phase will require abandonment and diversion of the existing HV network within the proposed development area. To facilitate this a further diversion of the ring will be required to take the existing airport ring from beneath the proposed Unit 2+3 terraces outside of the site boundary.

In phase 2 a new offsite supply will be constructed to provide alternative power to the onsite sub-station constructed during Phase 1. The sub-station will then have sufficient power to supply Units 2+3 at Low Voltage alongside maintaining the existing supply to Unit. Additional HV infrastructure will need to be installed within the sub-station to facilitate this. Full details of this arrangement will need to be agreed with Electricity Northwest during the future phases of development.

GAS

There is an existing gas supply pipe in Avro Way adjacent to the proposed site which serves existing units in the vicinity of the proposed works. The existing main currently runs through the proposed development, the phase 1 works proposes to abandon and divert the main that runs through the site.

The network is part of the airport owned Prime 2 network. Charles Andrews are appointed by the airport as network guardian. A scheme for the diversion has been submitted and approved by Charles Andrews and MAG.

The phase 1 diversion proposes to divert around the perimeter of the development and connect back into the existing prime 2 network to the rear of the buildings. An additional diversion will be required during Phase 2 to resupply the existing remaining Units to the North.

The existing supplies to Buildings 311, 304 & 303 will be abandoned during the Phase 2 works.

WATER

The water strategy will be delivered in two phases summarised as follows:

Phase 1 – Unit 1 Supply

During the first phase the proposed Unit 1 will be provided with a new potable water connection from the existing potable MAG supply main in Avro Way. A new ring will be installed off the main with individual connections to each unit provided.

Two hydrants will be installed initially connected to the existing MAG hydrant main within the site. Connections back to the proposed potable ring will be provided although these will be isolated during Phase 1 via valve sets.

Phase 2 – Unit 2+3 Supply / Diversions + UU Connection

Phase 2 will see the potable supply ring main extended to run in front of the proposed units providing direct supplies into each unit for potable water.

A separate application has been submitted to United Utilities to supply the site from their network in Runger Lane. Should this connection be deemed acceptable then the Argosy network is to be resupplied via the United Utilities network with all connections back to the MAG mains isolated by the proposed valve sets.

In the event that United Utilities reject the application for supply then the connection is to remain from the MAG system. In this scenario the hydrant main will need to be resupplied via a diversion around the perimeter of the building as the existing hydrant main runs beneath building 311.

During Phase 2, Building 311, 304 & 303 will be demolished meaning the existing MAG supply mains to the buildings will need to be abandoned.

There is an existing supply main that runs to the rear of Building 303 which is cited under the proposed Unit 3 footprint. This will need to be diverted prior to demolition to provide onward supply to Building 307 & 309.

COMMS

Existing BT Infrastructure is present to the South of the site adjacent to Avro Way. This run along the verge will be maintained in the proposals via a new landscaping strip created along this façade of the site. The BT Infrastructure continues along Viscount Drive and enters the site to the North of Argosy Drive to serve Buildings 303, 304 & Building 311.

The Comms delivery for the site will be delivered in two phases summarised as follows:

Phase 1 – Unit 1 Supply

During the first phase the existing Comms serving the existing on-site buildings will be maintained and protected. A new pit and duct network will be installed to serve the Phase 1 area. A connection will be made to the existing BT owned pit and duct system in Viscount Drive however no formal application for connection to the units will be made. Each future tenant will be required to apply for and arrange their own connections.

Phase 2 – Unit 2 & 3

The second phase of the project is to deliver the new Units 2 + 3. To facilitate this will require the demolition of Buildings 303, 304 & Building 311.

The existing BT network that serves the existing units to be demolished will need to be disconnected and abandoned however there is an onward supply from this network that continues to serve other units that are to remain in the north. A diversion will therefore be required from the network in Viscount Drive around the building and into York Drive to connect back into the existing network. An application for this diversion will need to be submitted to BT as part of the Phase 2 works.

A new pit and duct network will be installed to serve Units 2 & 3. A connection will be made back to the Phase 1 network and to the existing BT network in Viscount drive to provide resilience.

A connection will be made to the existing BT owned pit and duct system in Viscount Drive however no formal application for connection to the units will be made. Each future tenant will be required to apply for and arrange their own connections.

SMALL POWER + LOCAL FEEDS

There are several existing small power and local communication feeds to CCTV columns and other infrastructure within the site. These are all privately owned services and will either be abandoned or diverted as required. During detailed design for both phases GPR scan will be undertaken to inform the detailed design.

APPENDIX A – AECOM UTILITIES STRATEGY

Original planning submission strategy document prepared by Aecom.

Argosy Drive

Utilities Strategy

60663052-ACM-ArA2-XX-RP-BS-00001

Threadneedle Curtis Ltd

18 March 2022

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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1. Introduction

Threadneedle Curtis Ltd (Legal Entity) also known as Columbia Threadneedle Investments (CTI) have commissioned AECOM to prepare a utilities strategy for a proposed logistics development on the site of Argosy Drive, west of Viscount Drive. Along Argosy Drive there is an empty Building 305 that has been approved for demolition, a car park, Building 311, Building 304 which contains pumping station 6 control panel on the Argosy Drive side and 4 freight and logistics units on the York Drive side, and Building 303.

An outline masterplan for the site has been provided by RPS, ref 020867-RPS-SI-XX-DR-A-9039, showing three new units:

Unit 1 comprises a 65,000sq ft warehouse building which is split into 8 units with individual integral office Space. Office space is assumed to comprise of 15% of the overall gross internal floor area GIFA for the purpose of this Utilities Strategy.

Unit 2 comprises a 46,000sq ft warehouse building which is split into 4 units with individual integral office Space. Office space is assumed to comprise of 10% of the overall gross internal floor area GIFA for the purpose of this Utilities Strategy.

Unit 3 comprises a 33,000sq ft warehouse building which is split into 3 units with individual integral office Space. Office space is assumed to comprise of 10% of the overall gross internal floor area GIFA for the purpose of this Utilities Strategy.

This initial assessment will be undertaken on the basis of demand for the building as a whole. A 5% uplift allowance will be made in the demand calculations with the assumption that there may be nominal increases for the individual units based on tenant requirements.

CTI have been assigned utilities capacity by MAG to be services from the existing MAG networks as part of the land sale agreement. An assessment will be made of expected demand against committed capacity.

2. Site Location

Argosy Drive Developments are located on Argosy Drive within the global logistics area at Manchester airport. The site is bound by York Drive to the north, Viscount Drive to the east, Avro Way to the south and Runger Lane to the west. The Site is situated within a predominately urban area and comprises industrial units, offices and roads

3. Utilities Strategy

The following utilities strategy has been prepared based on the following maximum areas for each unit associated with the Argosy Drive Development:

Unit 1 - 65,000sqft of building footprint

Unit 2 - 46,000sqft of building footprint

Unit 3 - 33,000sqft of building footprint

3.1 Demand Calculations

Demand calculations have been prepared in line with the CIBSE guidance assuming warehouse and office use with 15% of unit 1 area being allocated as Office space, and 10% of Unit 2 and unit 3 footprints allocated as office space.

A 20% additional demand has been assumed within the power load for future EV charging requirements.

The following demand loads are estimated for the proposed Argosy Drive development:

Unit 1

Power = 577kVA

Gas – N/A - calculated at 44m³/hr if required

Water = 0.83 l/s

Foul = 0.852l/s

Unit 2

Power = 316kVA

Gas – N/A - calculated at 32m³/hr if required

Water = 0.49 l/s

Foul = 0.546 l/s

Unit 3

Power = 233kVA

Gas – N/A - calculated at 23m³/hr if required

Water = 0.35 l/s

Foul = 0.565 l/s

3.2 Power

MAG Utilities have advised that there is insufficient spare capacity on the existing HV ring that currently supplies the area. Therefore, it will not be possible to connect the new substation into the existing ring on site. As such a new ring, or an alternate approach will need to be established. This solution has not yet been agreed and may be subject to a separate project to increase capacity in the area.

The power supply to the Argosy development will be delivered in 3 phases.

Phase 1 - Divert HV to avoid new unit 1 construction

In the first phase, unit 1 of the development will be constructed, and a new substation also constructed to the north end of the site. Units 1, 2 and 3 are proposed to be served from the new substation, and sufficient space will need to be allowed to supply all 3 buildings.

It is proposed that each individual tenanted unit within the building(s) will have it's own incoming Low Voltage supply from the sub station (8 No.). The Low Voltage supplies will be routed through a pit and duct system to the front of the units.

The existing HV ring that is currently routed along Argosy Drive will be within the boundary of the new site, and as such will need to be diverted. This will need to be considered along with the proposal to provide access to the rear of the existing buildings.

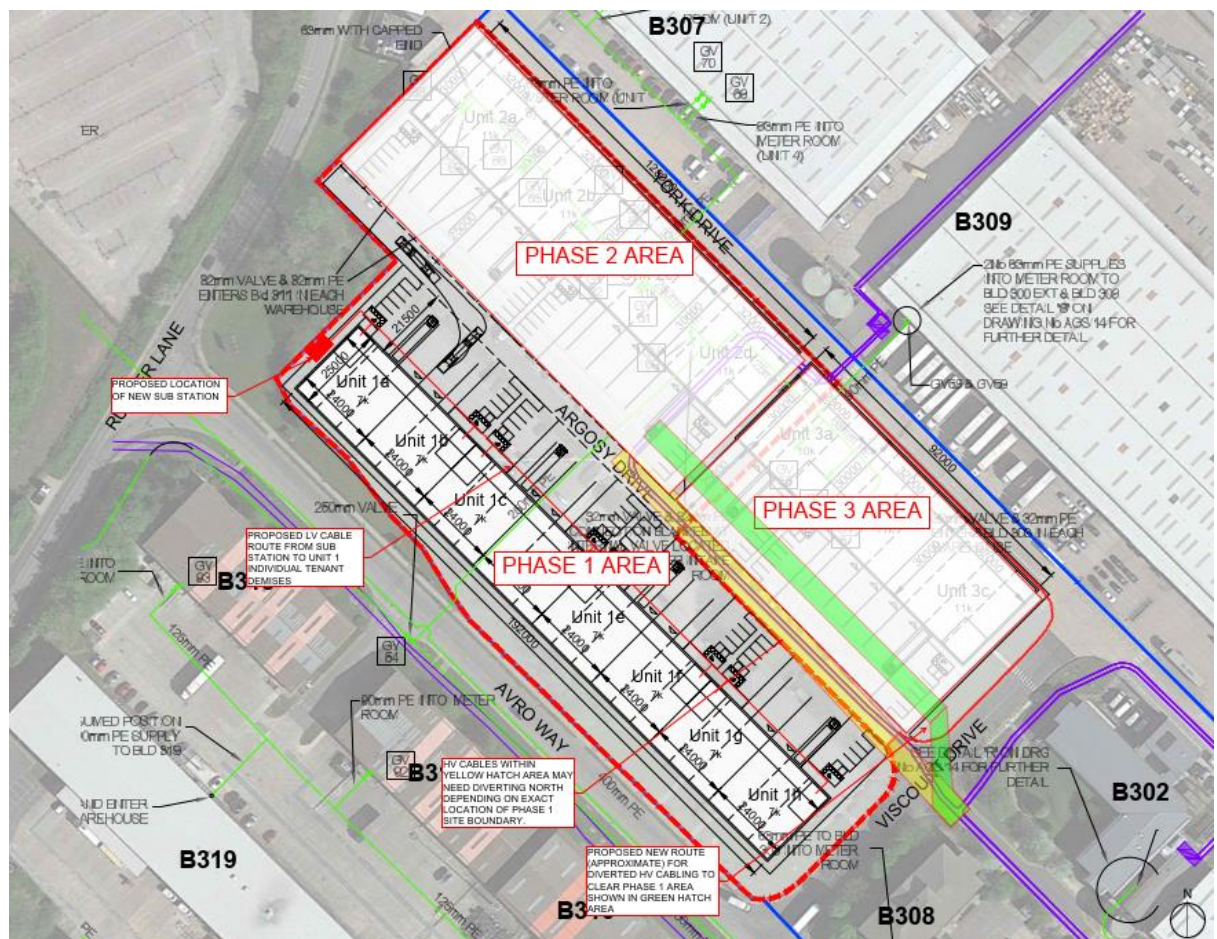


Figure 1 - Phase 1 Proposed HV supply

Phase 2 - Divert HV to avoid new unit 2 construction

The second phase of the works will involve the demolition of EXISTING buildings to make way for the new unit 2. The new unit will also be fed at Low Voltage from the new sub station, with individual feeds to each tenants demise, a total of 4 No. for unit 2.

The existing HV ring will need to be diverted as unit 2 is currently proposed to be built on the HV route. It is proposed to create a new route through the phase 3 site, which will then connect to the HV route already diverted under phase 1 of the works along argosy drive.

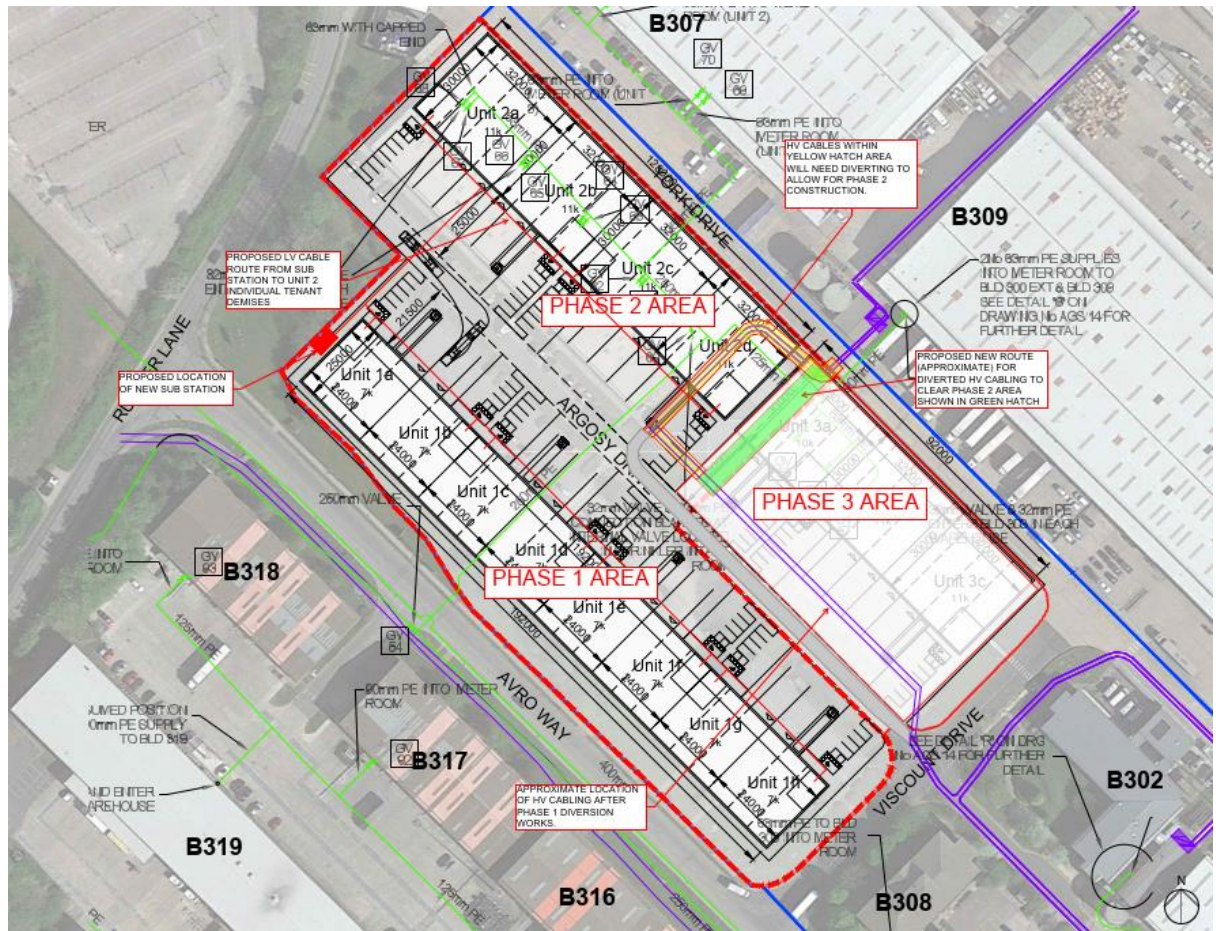


Figure 2 - Phase 2 Proposed HV supply

Phase 3 - Divert HV to avoid new unit 3 construction

The Third phase of the works will involve the demolition of further buildings, to make way for new unit 3. The new unit will also be fed at Low Voltage from the new sub station, with individual feeds to each tenants demise, 3 No. for unit 3.

The existing HV ring will need to be diverted as unit 3 is currently proposed to be built on the HV route. This will require diversion of the HV ring cables along York drive to the junction of Viscount drive, where it can be jointed in the verge adjacent to building 302. Further joints will be required at the junction of Viscount Drive and Argosy drive to complete the existing ring circuit.



2 No. 1MVA transformers will be provided in the new sub-station and this will provide the supply to the new facilities. The estimated load for the new development, i.e. units 1, 2 and 3 is 1,690kVA

For the purposes of this report, it is assumed that the warehouse will be unheated and that the offices will be provided with all electric heating systems. The market is currently moving away from gas fired heating to electric, via various heating systems such as Ground source heat pumps, air source heat pumps, etc. This is to align with the Net Zero carbon aspirations set out by the government. In the event that the Warehouse does need to be heated, then this will significantly increase the electrical load for the building.

3.3 Gas

Phase 1 - Divert to avoid new unit 1 construction

Gas is to be provided to the development via Manchester Airports Prime 2 Gas Network. There is an existing gas supply pipe in Avro Way adjacent to the proposed site which serves existing units in the vicinity of the proposed works. The existing gas is routed through the proposed unit 1 location so will need to be diverted to allow for construction works to take place. As such it is proposed to provide a new diverted gas route from the gas main in Avro way, through Viscount drive and then Argosy way to serve the existing units which will remain in situ during phase 1 of the works. This main will need to be suitably size to cater for Phases 2 and 3 of the development, as described later.

The existing gas pipework route can then be stripped out to allow the construction to take place during phase 1. It is proposed to install a valved connection point to the gas main for potential future gas requirements on the site, though currently there is no intention to supply gas to the units.

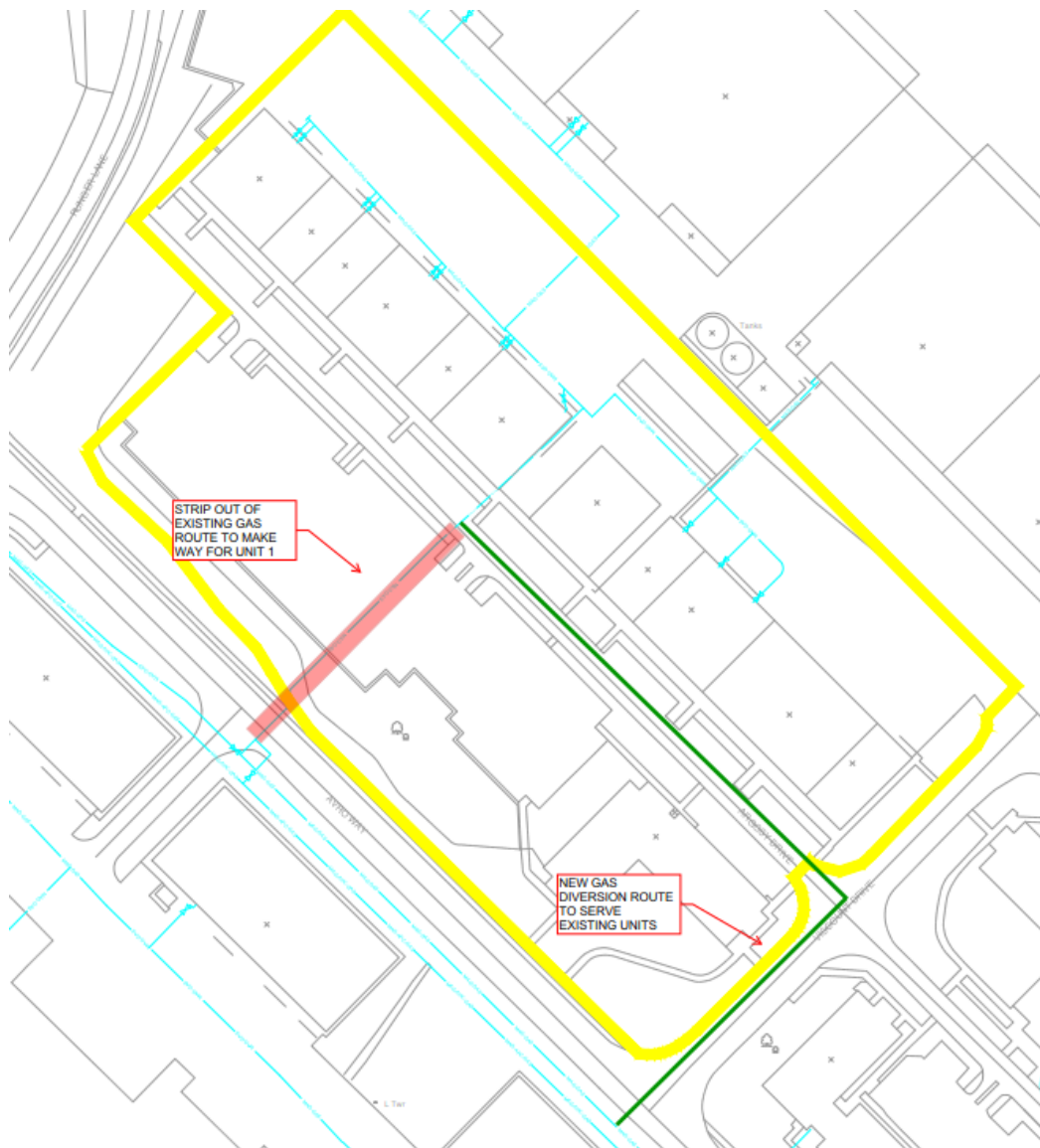


Figure 4 – Phase 1 Proposed Gas supply

Phase 2 – Divert around unit 2

In phase 2 a further section of existing gas pipework will need to be stripped out to make way for the proposed construction of units 2 (& 3). In this phase the diversion route would be needed to be extended further through Viscount Drive and then down York Drive to re-serve retained existing units to the rear of the development.

The recently installed gas main in Argosy way could then be retained for potential use by any Argosy way tenants who require gas in future. It is proposed to install a valved connection point to the gas main for potential future gas requirements on the site, though currently there is no intention to supply gas to the units.

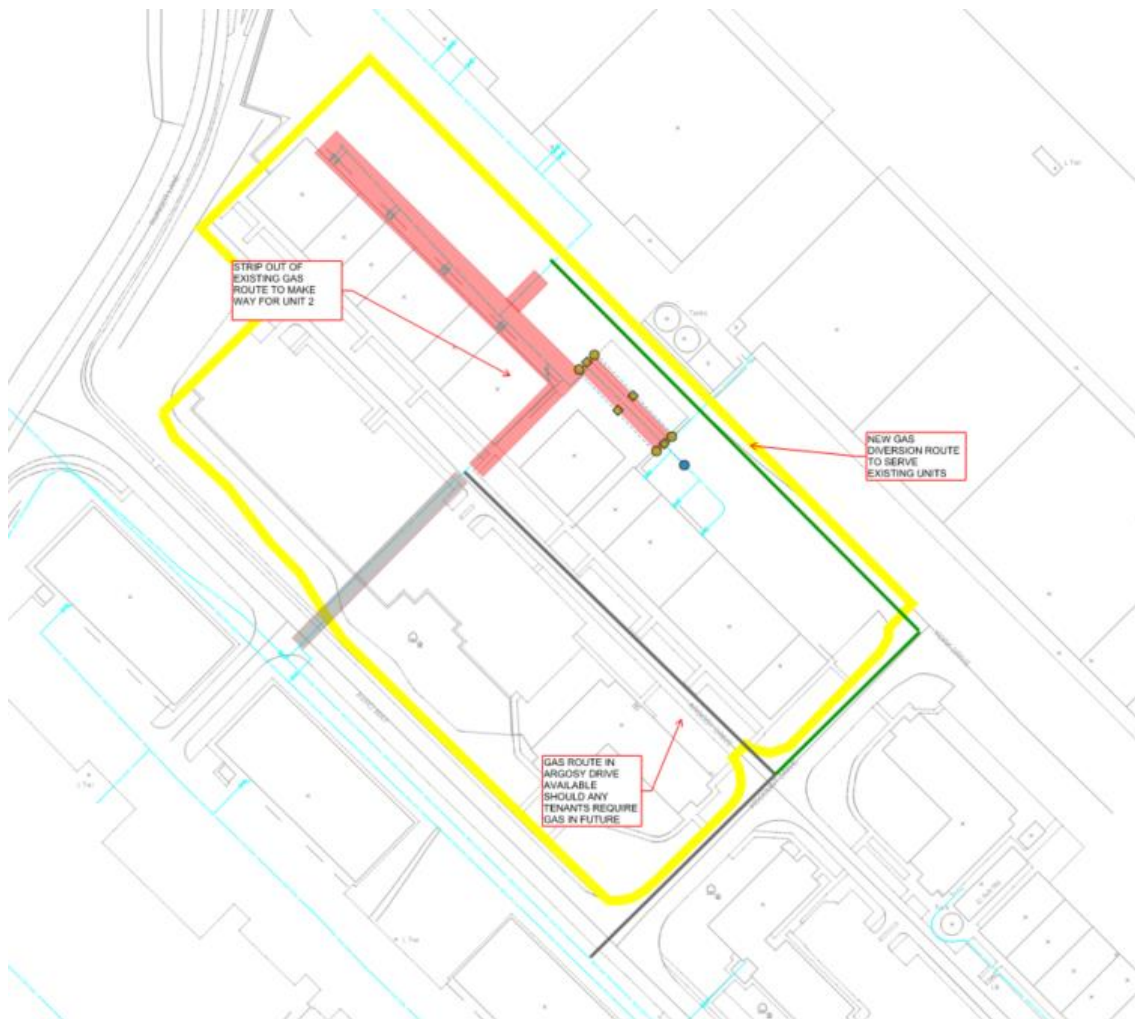


Figure 5 – Phase 2 Proposed Gas supply

Phase 3 – Remove existing redundant Gas amins

In phase 3, further sections of the existing gas pipework will need to be stripped out to make way for the proposed construction of unit 3. There is no requirement for further diversion works, as this was undertaken in Phase 2.

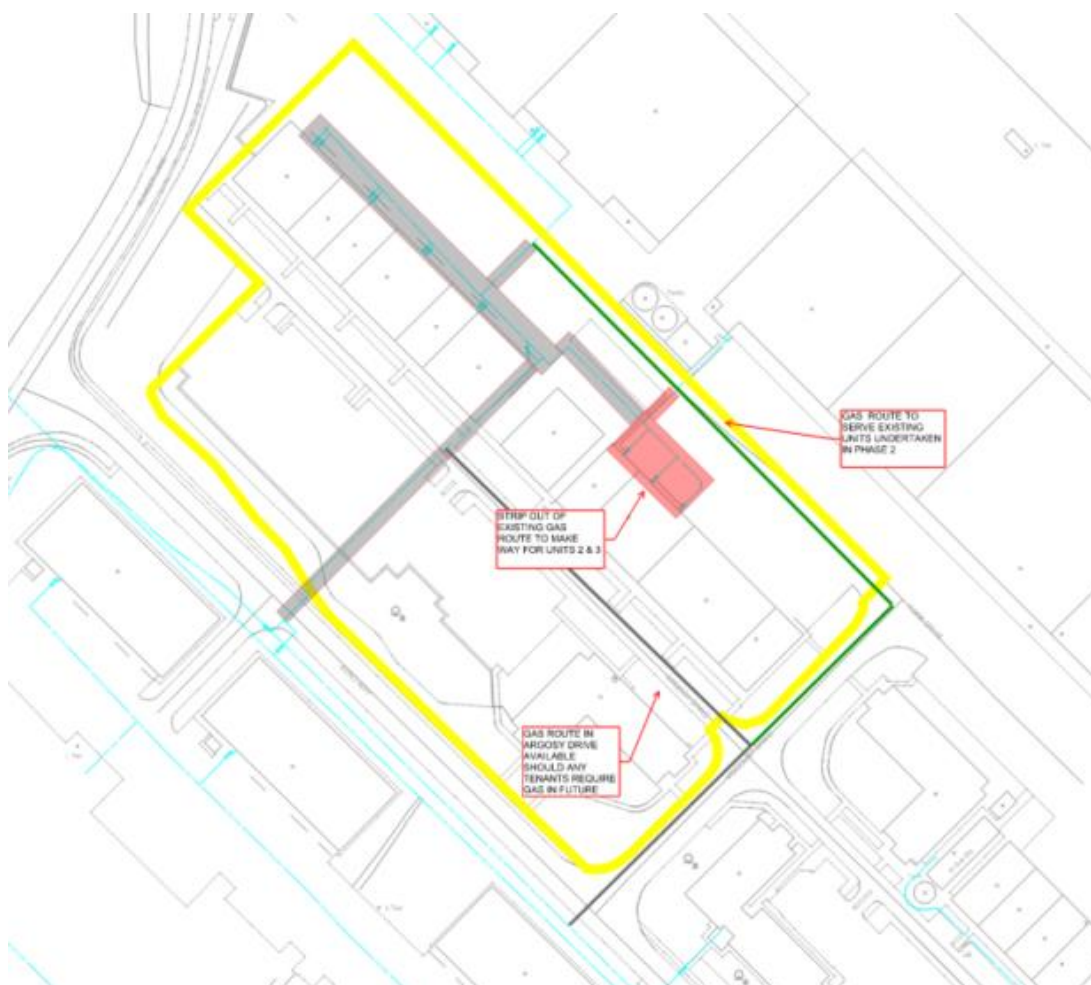


Figure 6 – Phase 3 Proposed Gas supply

3.4 Water

Phase 1 – Water supplies to Unit 1

An existing potable water supply from MAG Utilities is available adjacent to the site located in Avro Way. A section of water pipework is located in the area of the proposed unit 1 construction so will need to be stripped back as part of the demolition works but this doesn't appear to serve other areas. It is proposed to provide water to the new unit 1 development from the existing water main in Avro way, this will need to be routed through Viscount Drive and then through Argosy way where it can branch to serve connections to each of the tenanted units as part of unit 1.

This new ring main will need to be sufficiently sized to serve units 2 & 3 in future as described later.

The existing site is not currently serviced by fire hydrants. To meet current standards and the safeguarding requirements of the airport it is expected that new hydrant provision to the proposed development will likely be required. It is proposed that a new hydrant main is installed from the existing MAG main distribution main in Avro Way. To meet the requirements of the MAG Asset standards this will need to be installed as a ring main connection with the main starting and terminating at the distribution main in Avro Way.

The location for the proposed connection points are shown below.

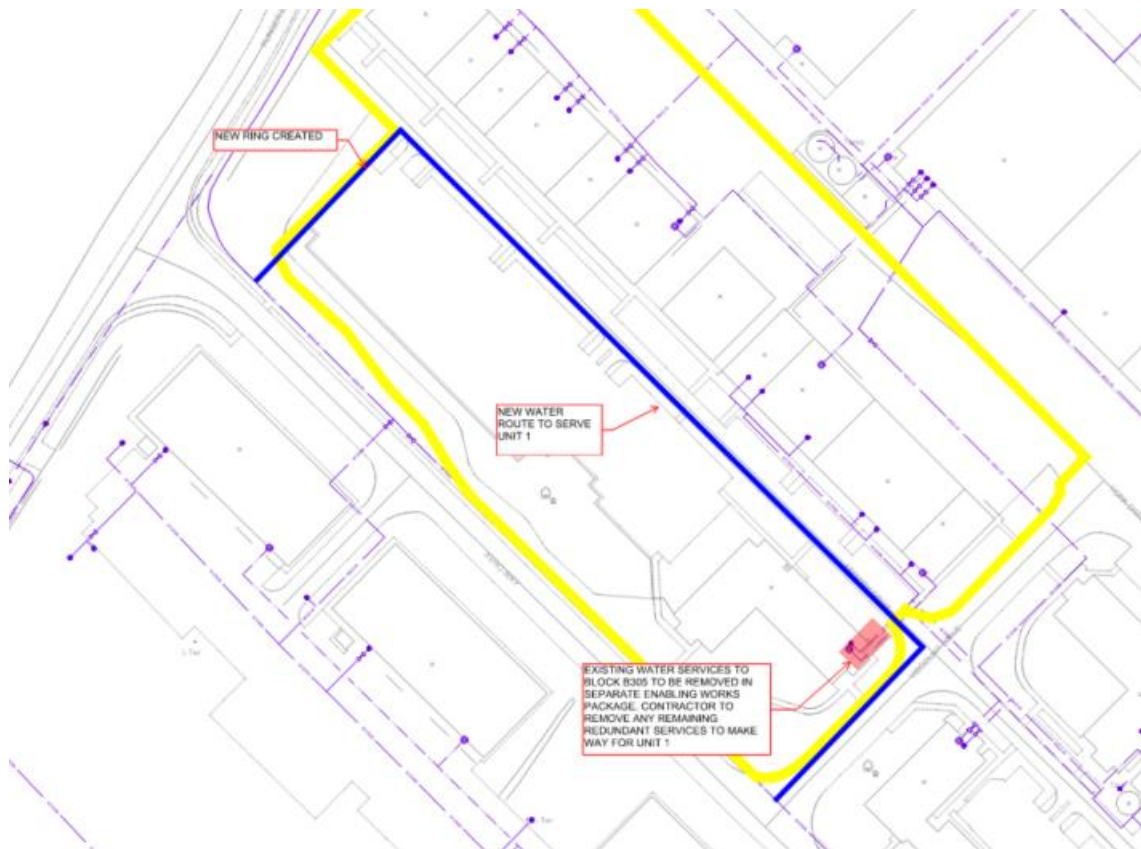


Figure 7 – Phase 1 Proposed Water supply

Phase 2 – Water supplies to Units 2

The new potable water supply along Argosy way installed as part of Phase 1 works can then be utilised to make new connections to serve the proposed Unit 2 tenanted units.

Existing redundant water mains serving the buildings to be demolished in Phase 2 will need to be stripped back to the nearest branch connection. No dead legs are to be left on the system.

To meet current standards and the safeguarding requirements of the airport it is expected that new hydrant provision to the proposed development will likely be required and this is proposed to be served from the new ring main to the site installed under Phase 1 works

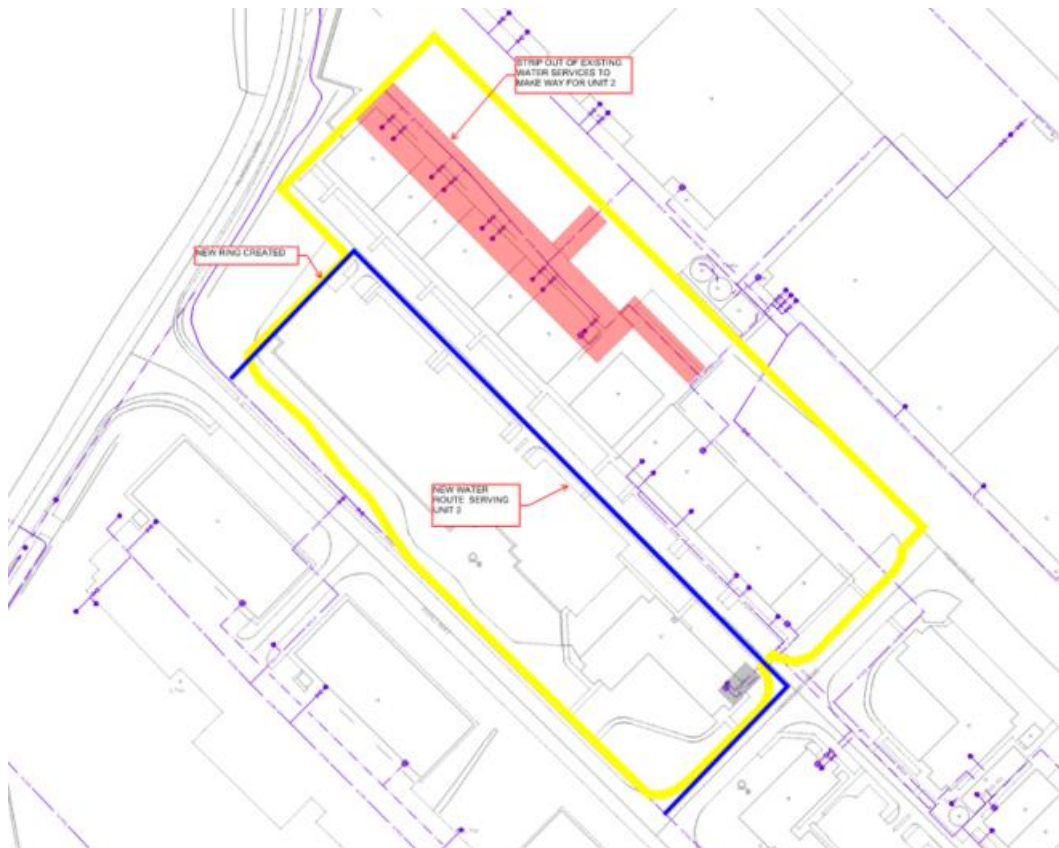


Figure 8 – Phase 2 Proposed Water supply

Phase 3 – Water supplies to Unit 3

The new potable water supply along Argosy way installed as part of Phase 1 works can be utilised to make new connections to serve the proposed Unit 3 tenanted units.

Existing redundant water mains serving the buildings to be demolished in phase 3 will need to be stripped back to the nearest branch connection. No dead legs are to be left on the system.

A further pipeline in this area goes onto serve other areas of the site and would need to be relocated outside of the boundary of the site to continue to serve the existing supply. This proposed diversion would take place in York Drive as shown below.

To meet current standards and the safeguarding requirements of the airport it is expected that new hydrant provision to the proposed development will likely be required and this is proposed to be served from the new ring main to the site installed under Phase 1 works

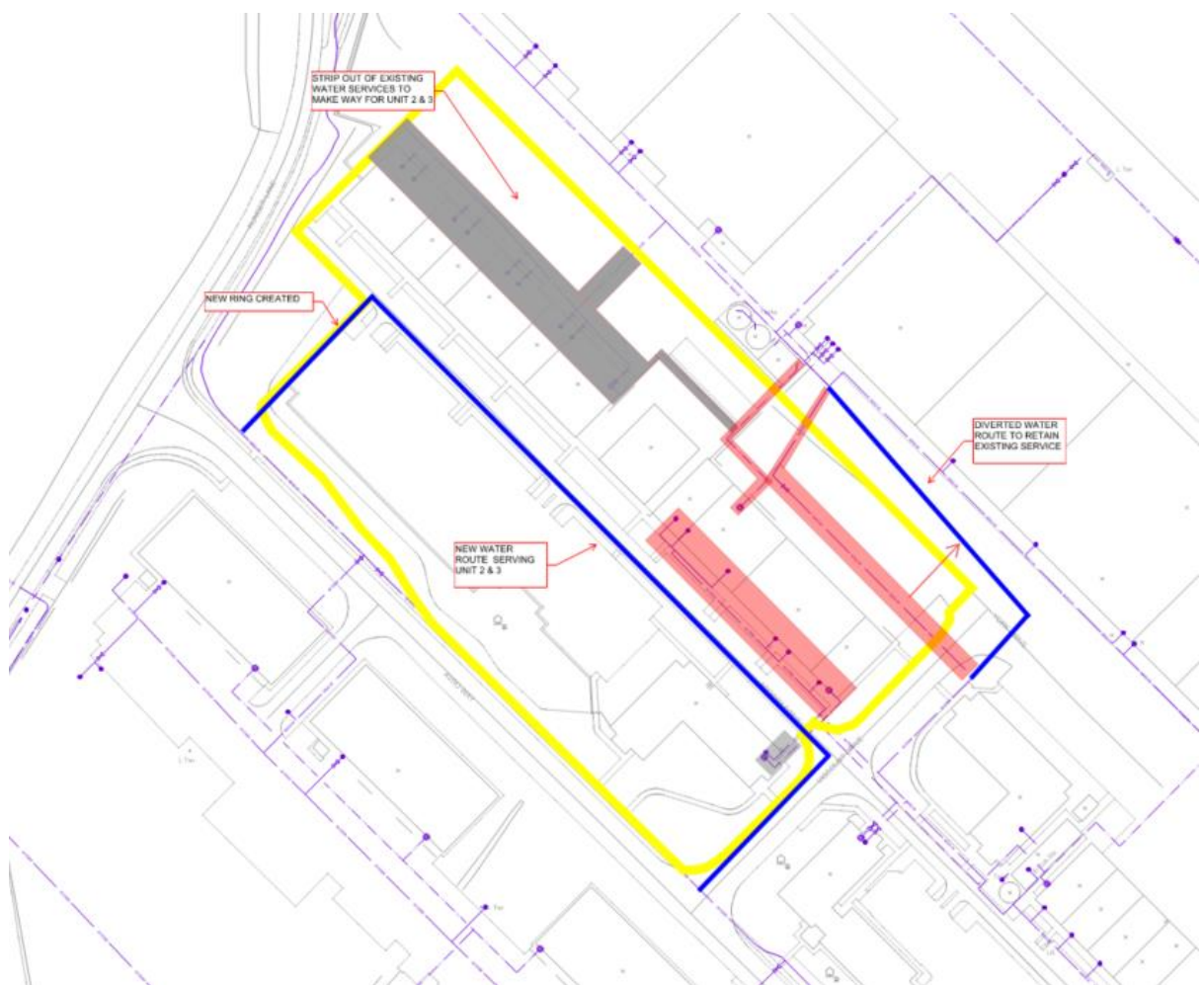


Figure 9 – Phase 3 Proposed Water supply

3.5 Comms

Comms provision will need to be provided via the BT network in Avro Way and Viscount Drive. A pit and duct system is present on Avro Way within the existing verge, and this branches into Viscount Drive. An application will need to be made to BT for the connection. It is anticipated that the applications will be made by the future tenants. Note that, depending on tenant requirements, it may be necessary to provide two diverse comms connections points into the site. This is to be confirmed later in the design stages.

There is a Virgin Media service available in Avro Way, also located in the verge alongside the BT route.

Phase 1 - New Infrastructure to supply new unit 1.

For Phase 1 of the works, it is proposed to install a new connection from the BT chamber located in Viscount Drive. The duct route will extend along the full length of Unit 1 with connections to each tenants demise. There should be no requirement to divert any existing services, assuming that the demolition works for 305 remove the service to this building.

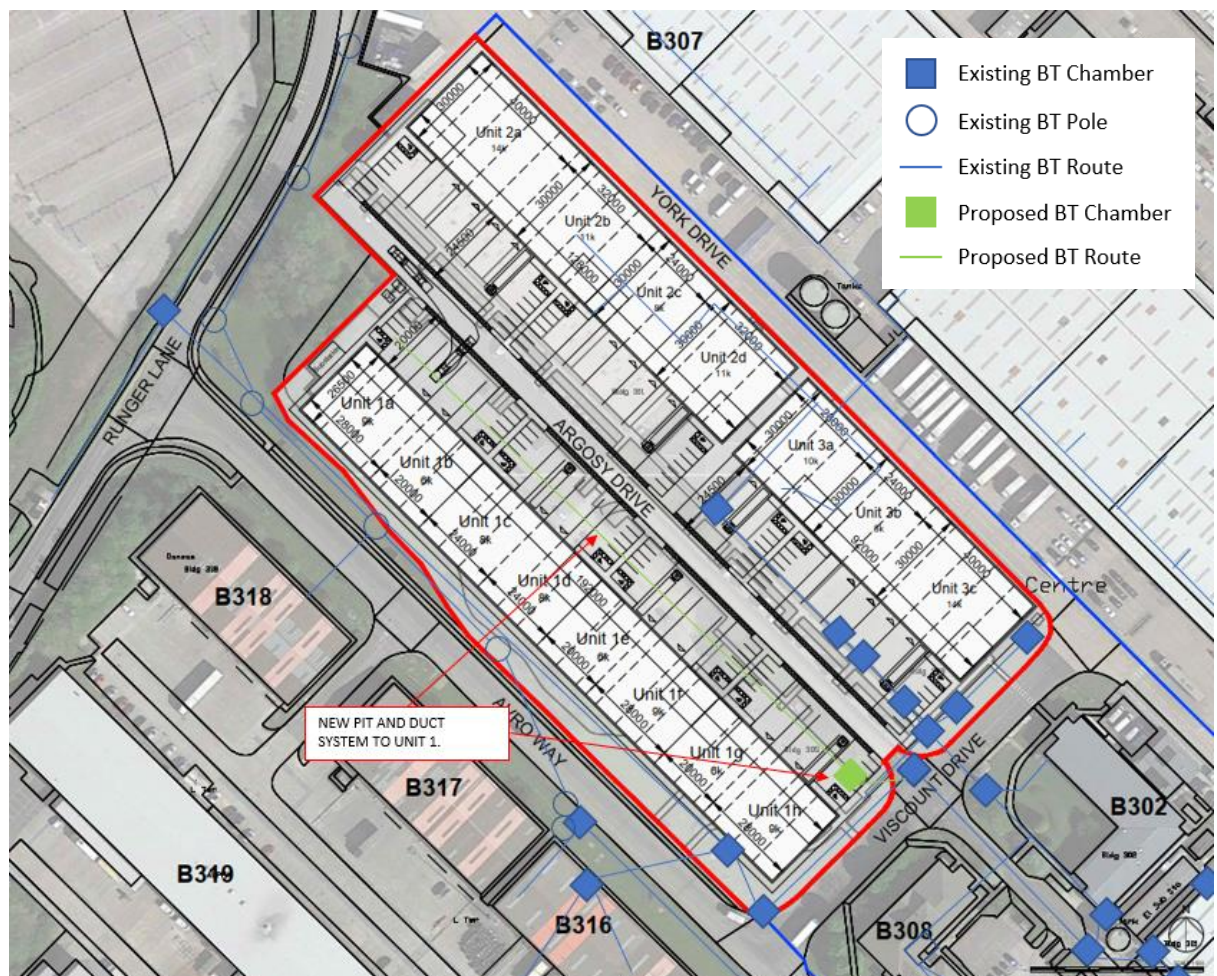


Figure 10 – Phase 1 Proposed Comms Supply

Phase 2 – Provide new and remove redundant BT services for unit 2

For phase 2, it will be necessary to remove some of the existing BT services currently serving the existing (to be demolished) buildings. To serve unit 2, a new pit and duct route will be required, along the frontage of the new unit with connections to each tenants demise.

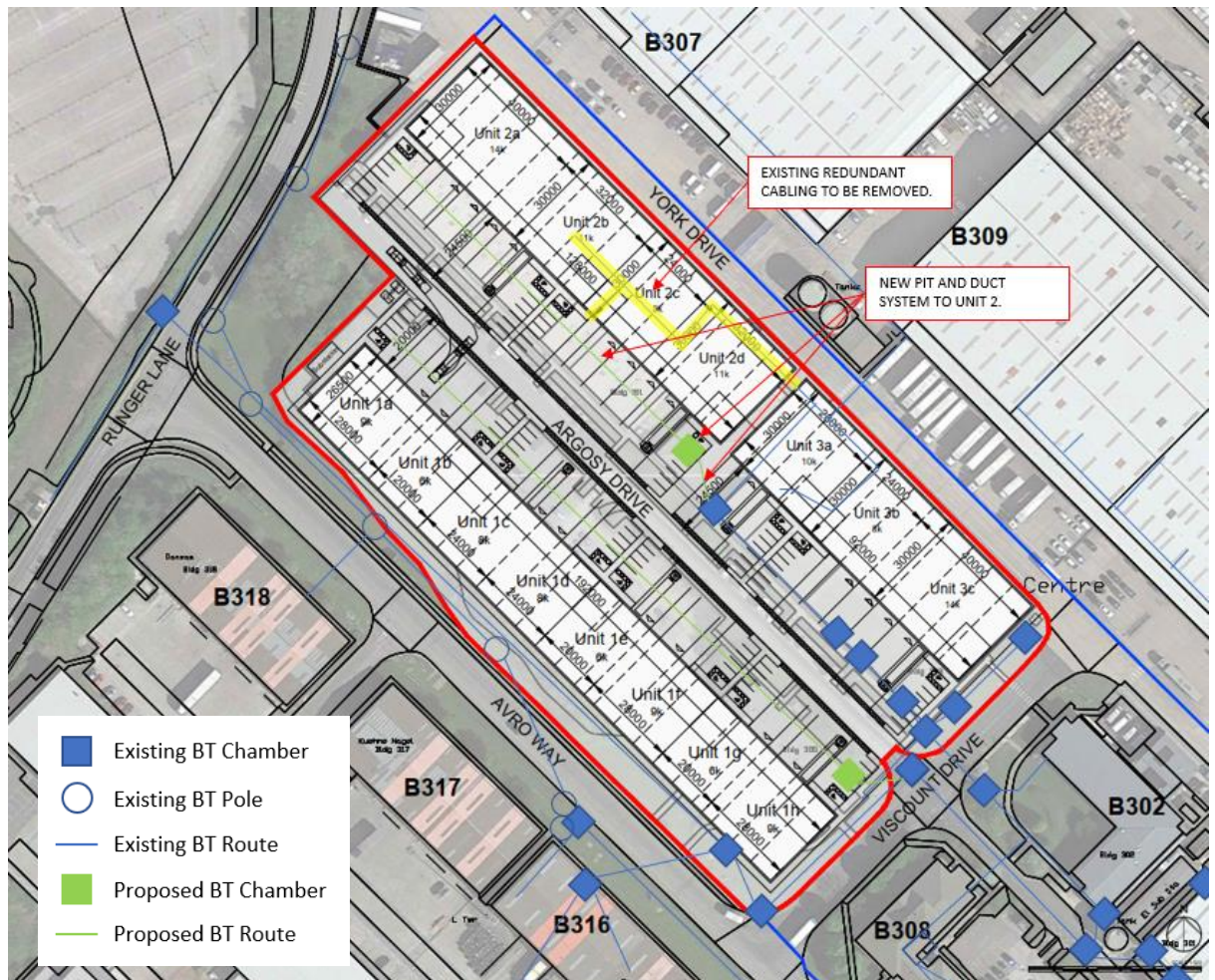


Figure 11 – Phase 2 Proposed Comms Supply

Phase 3 – Provide new and remove redundant BT services for unit 3

For phase 3, it will be necessary to remove some of the existing BT services currently serving the existing (to be demolished) buildings. To serve unit 3, a new pit and duct route will be required, along the frontage of the new unit with connections to each tenants demise. It will also be necessary to create a new duct route along York Drive to link into existing retained Buildings on York drive.

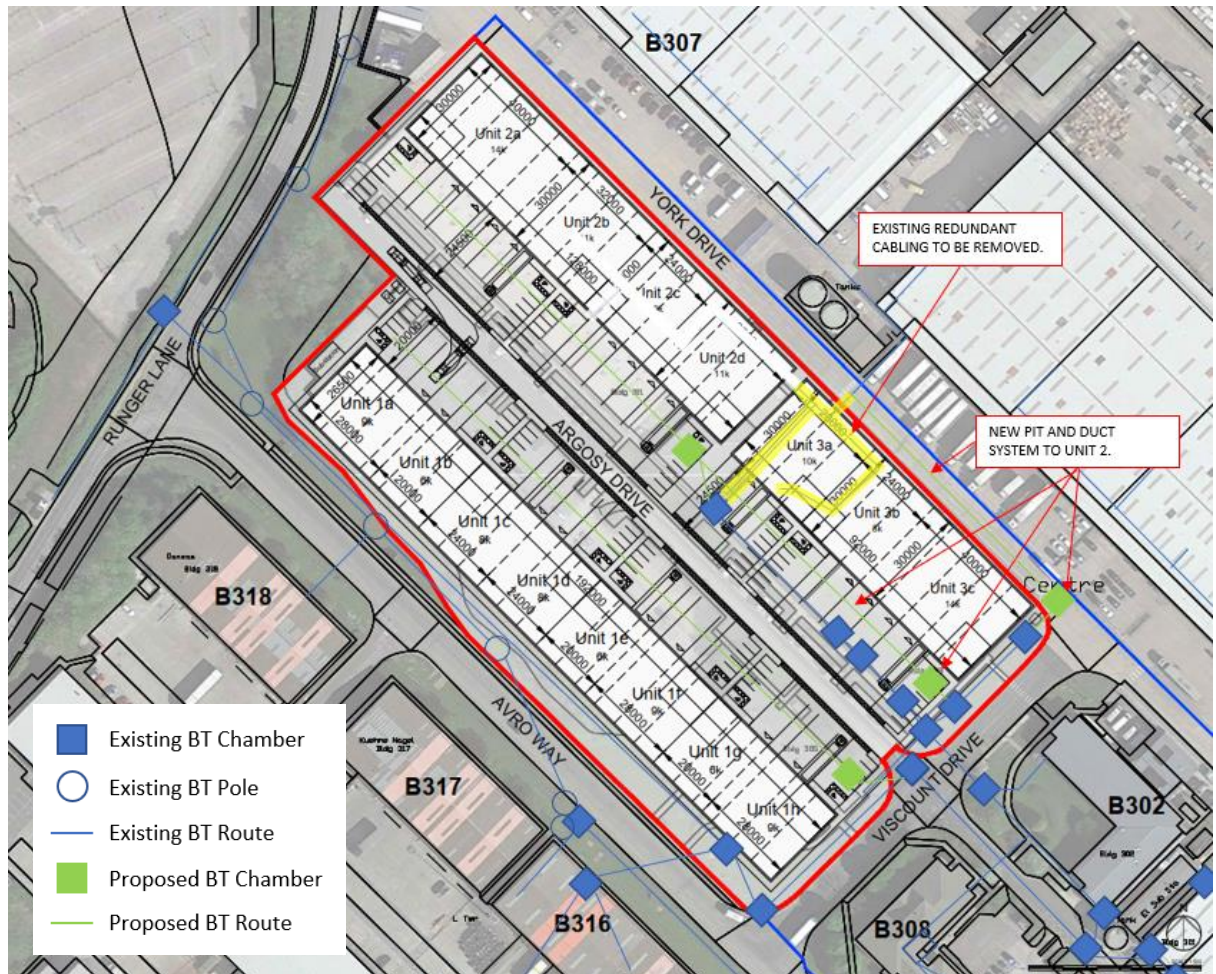


Figure 12 – Phase 3 Proposed Comms Supply

3.6 Existing Utilities

The site is currently fully serviced with all utilities from the adjacent existing networks. Drawings indicating the existing utility service locations are included in appendix A.

A summary of all services serving the existing site is provided as follows:

Low Voltage (LV supplies)

The existing buildings have low voltage supplies from an internal panel supplied from the existing HV transformer at Cargo 3 Substation. It is assumed at this stage that all LV supplies will be isolated and removed as part of the demolition works package. There are a number of external LV supplies to the High Mast Lighting, etc that are potentially fed from the existing sub station or from the existing buildings, which will be retained or removed accordingly.

High Voltage (HV) electric

There are existing HV ring cables from Cargo 3 sub station which will need to be diverted as part of the scope for constructing the new buildings.

Gas

An existing gas supply is present within the site from the Prime 2 network along Avro way as previously detailed. This is to be retained and diverted as required to service the proposed development.

The proposed Unit 1 construction will be located over the gas main to this area in Phase 1 and then Units 2 & 3 in Phase 2, hence the main will need to be diverted through Viscount Drive and subsequently York Drive to avoid the proposed construction site phases. All works must be agreed with MAG Utilities prior to

commencement on site. Protection or diversion works may also be required to existing services affected by the works.

Water

The existing buildings are serviced from the MAG Utilities water main from the airfield side. This supply is to be retained and amended in phases as required to retain services to existing buildings outside of the proposed phases of works.

Comms

An existing comms supply is provided via the MAG network in Avro Way and extending up Viscount Drive. This branches off along Argosy drive and also York drive. It will be necessary to divert some of the existing services and allow for disconnections of the demolished buildings

Appendix A – Existing Utilities Drawings

A.1 Existing Water Main Services



PROJECT

BUILDING ARGOSY -
MANCHESTER
AIRPORT

CLIENT



CONSULTANT

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KEY

Existing Potable Water Supply
from Proposed 401 Building
Utilities

ISSUE/REVISION

P1	07/02/2022	FOR PLANNING
I/R	DATE	DESCRIPTION

ISSUE PURPOSE / SUITABILITY

S3

PROJECT NUMBER

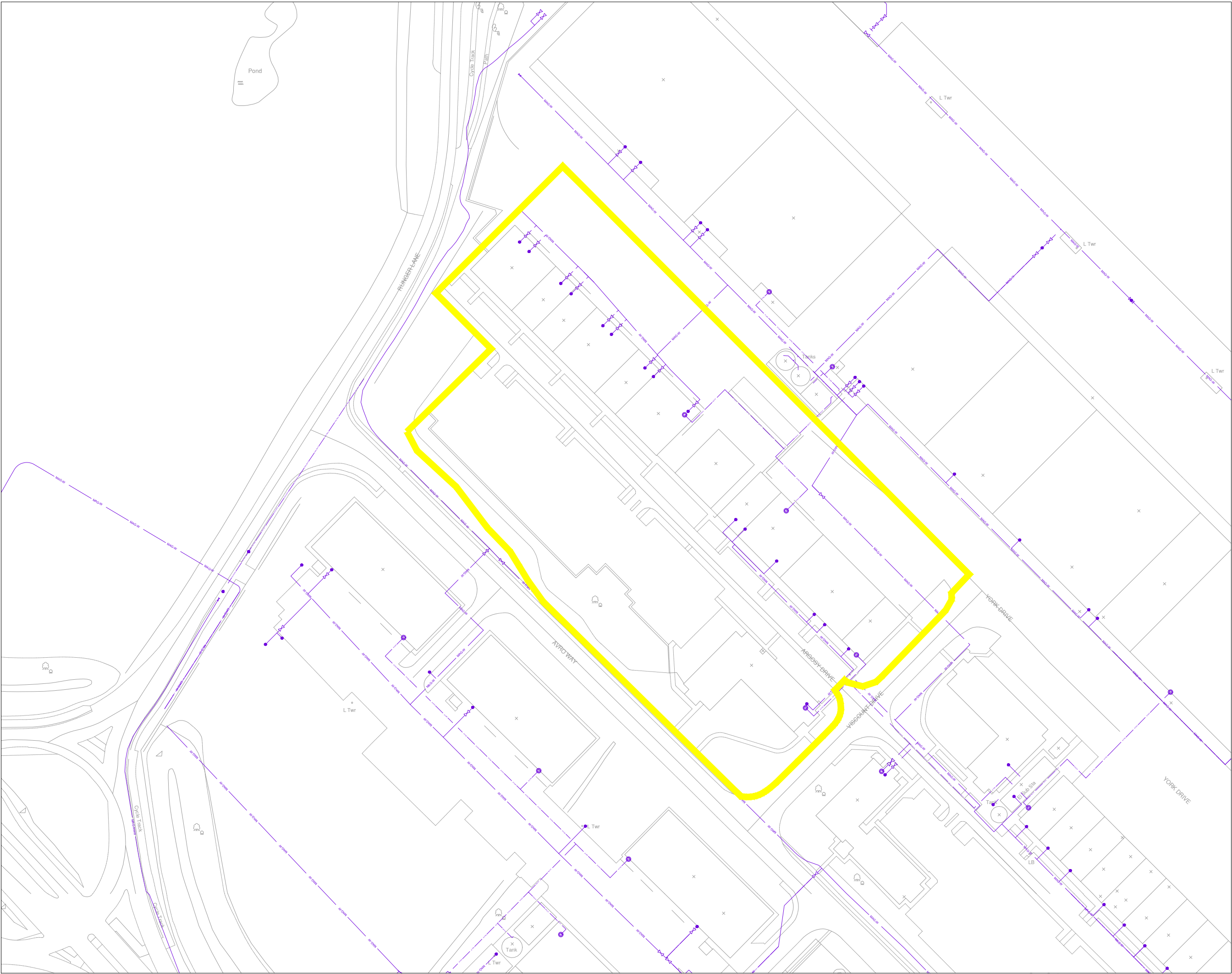
60663052

SHEET TITLE

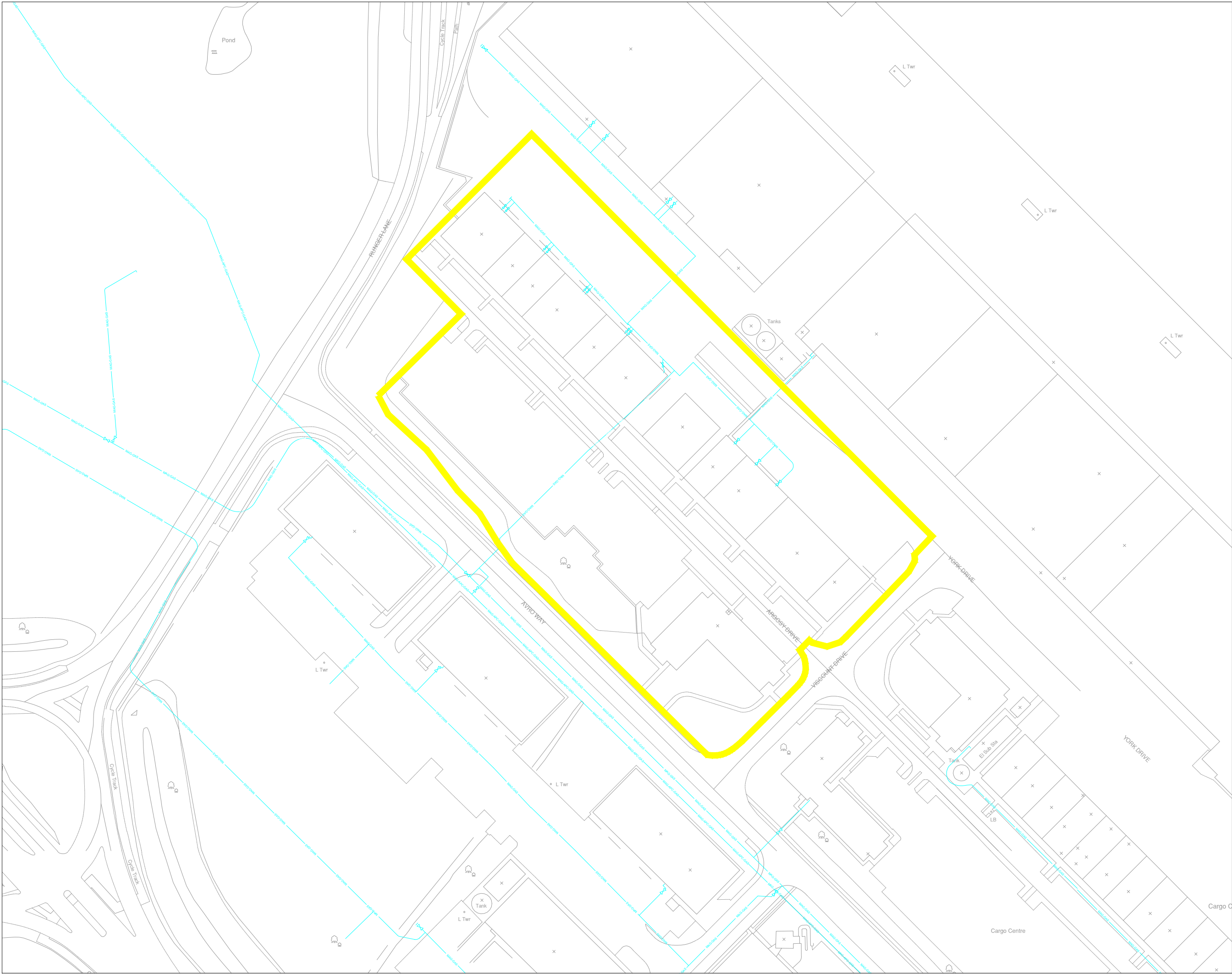
MAG Argosy Building
Existing Service Layout - Potable Water

SHEET NUMBER

60663052-ACM-ARA-XX-DR-M-10002



A.2 Existing Gas main services



PROJECT

BUILDING ARGOSY -
MANCHESTER
AIRPORT

CLIENT



CONSULTANT

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www.aecom.com

NOTES

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE RELEVANT DRAWINGS AND SPECIFICATIONS.
2. IF RECEIVED ELECTRONICALLY, IT IS THE RECIPIENT'S RESPONSIBILITY TO PRINT TO THE CORRECT SCALE. ONLY WRITTEN DIMENSIONS SHALL BE USED.
3. ALL DIMENSIONS IN METERS UNLESS STATED OTHERWISE.

KEY

Existing Gas Supply from
Proposed 401 Building Utilities

ISSUE/REVISION

P1	07/02/2022	FOR PLANNING
I/R	DATE	DESCRIPTION

ISSUE PURPOSE / SUITABILITY

S3

PROJECT NUMBER

60663052

SHEET TITLE

MAG Argosy Building
Existing Service Layout - Gas

SHEET NUMBER

60663052-ACM-ARA-XX-DR-M-10003

A.3 Existing HV cable Distribution



PROJECT

BUILDING ARGOSY -
MANCHESTER
AIRPORT

CLIENT



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3. ALL DIMENSIONS IN METERS UNLESS STATED OTHERWISE.

KEY

Existing HV Supply from
Proposed 401 Building Utilities

ISSUE/REVISION

P1	07/02/2022	FOR PLANNING
I/R	DATE	DESCRIPTION

ISSUE PURPOSE / SUITABILITY

S3

PROJECT NUMBER

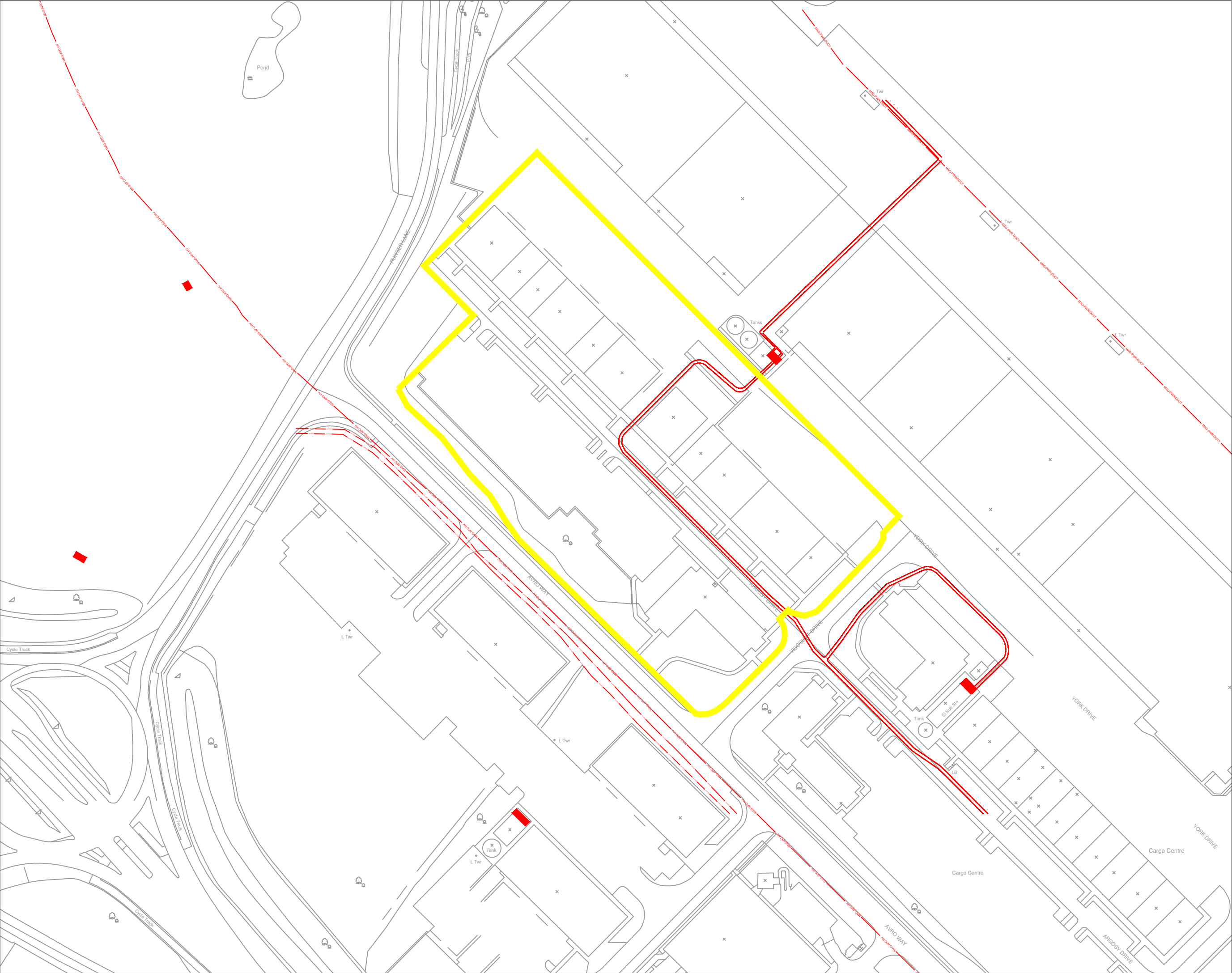
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SHEET TITLE

MAG Argosy Building
Existing Service Layout - HV

SHEET NUMBER

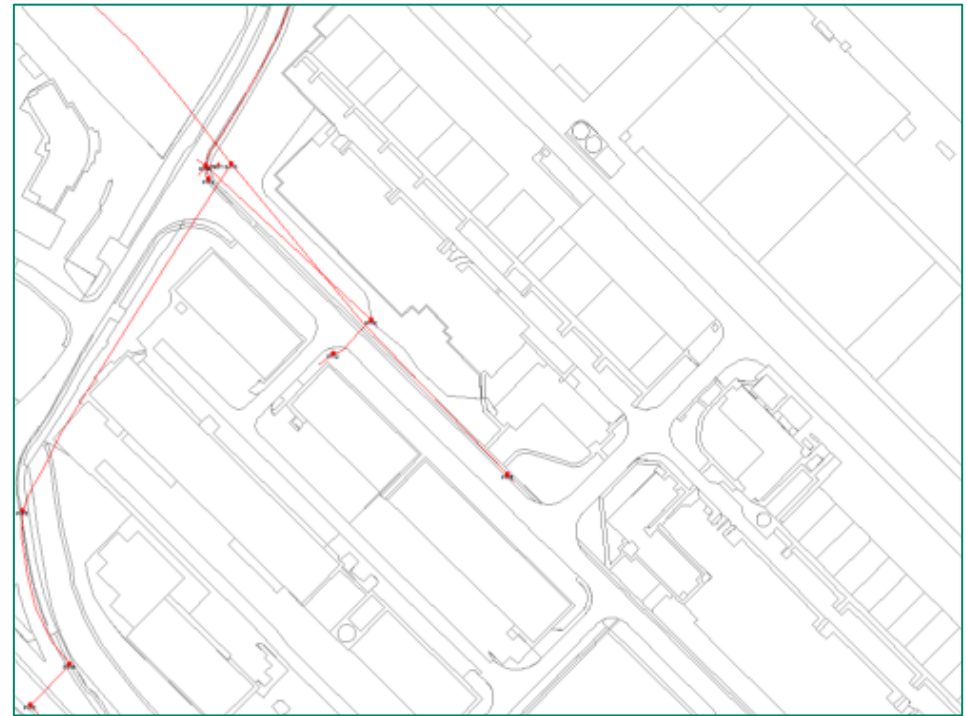
60663052-ACM-ARA-XX-DR-E-10001



A.4 Existing Comms / IT cable distribution

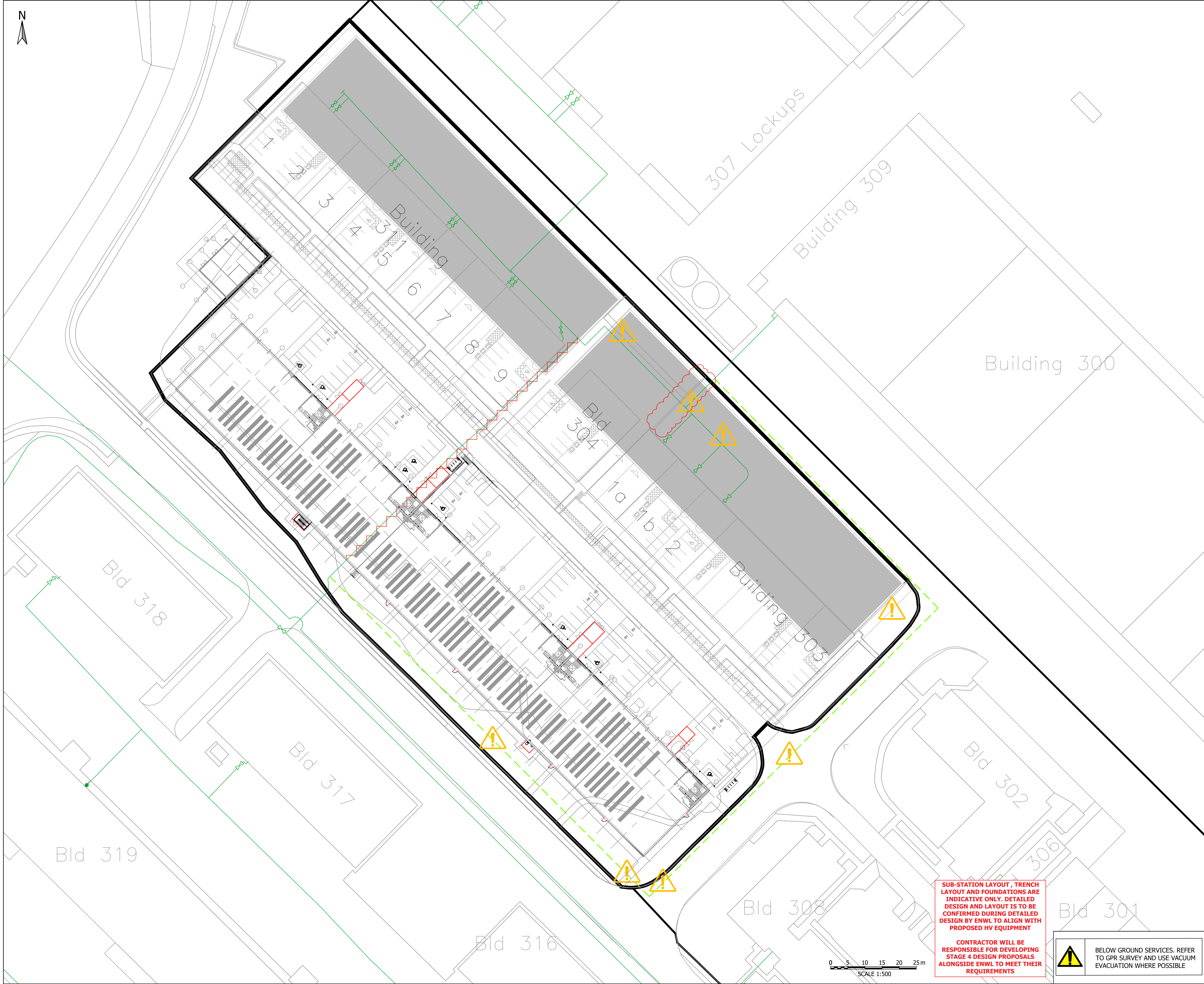


Existing BT Duct routes



Existing Virgin Media Duct routes

APPENDIX B – UTILITIES STRATEGY DRAWINGS



SUB-STATION LAYOUT , TRENCH LAYOUT AND FOUNDATIONS ARE INDICATIVE ONLY. DETAILED DESIGN AND LAYOUT IS TO BE CONFIRMED DURING DETAILED DESIGN BY ENWL TO ALIGN WITH PROPOSED HV EQUIPMENT

CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING STAGE 4 DESIGN PROPOSALS ALONGSIDE ENWL TO MEET THEIR REQUIREMENTS



BELOW GROUND SERVICES, REFER TO GPR SURVEY AND USE VACUUM EVACUATION WHERE POSSIBLE

NOTES

- THIS DRAWING TO READ IN CONJUNCTION WITH ALL RELEVANT CIVILS, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE SPECIFICATION.
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED. LEVELS ARE IN METRES A.O.D
- ALL DIMENSIONS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
- THIS DRAWING DISPLAYS INDICATIVE LOCATIONS ONLY. TETRA TECH DOES NOT GUARANTEE COMPLETENESS OR ACCURACY OF SERVICES SHOWN.
- THIS PLAN SHOWS THE LOCATIONS OF KNOWN UNDERGROUND SERVICES IN THE AREA OF THE PROPOSED INVESTIGATION AND IS BASED ON INFORMATION SUPPLIED BY UTILITY COMPANIES. THE INFORMATION ON THE PLAN IS GIVEN WITHOUT WARRANTY AND ITS ACCURACY CANNOT BE GUARANTEED. NO LIABILITY OF ANY KIND WHATSOEVER IS ACCEPTED BY TETRA TECH FOR ANY ERROR OR OMISSION. SAFE DIGGING PRACTICES IN ACCORDANCE WITH HSG47 MUST BE USED TO VERIFY ESTABLISHMENT THE ACTUAL POSITION OF BURIED SERVICES BEFORE ANY MECHANICAL PLANT IS USED. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THIS INFORMATION IS PROVIDED TO ALL PERSONS WORKING ON OR NEAR BURIED SERVICES. THE INFORMATION ON THIS PLAN SHOULD NOT BE REFERRED TO BEYOND A PERIOD OF 28 DAYS FROM THE DATE OF ISSUE. THIS DRAWING IS PROVIDED FOR THE INFORMATION AND IN THE EVENT OF ANY DOUBT THE CONTRACTOR SHOULD REFER TO THE CURRENT PLANS PROVIDED BY THE UTILITY COMPANY.
- THE INSTALLATION NEEDS TO BE INSTALLED TO: THE IGE RELEVANT DOCUMENTS PARTICULARLY, IGE/TD/4 EDITION 4; MAG ASSET STANDARD - FUEL GAS - DOC REF:- XXXXXXXX-MAG-XXX-XXX-AS-M-831-000001, LATEST ADDITION; THE GAS SAFETY (INSTALLATION AND USE) REGULATIONS 1998.
- ALL PIPE WORK WILL NEED TO BE PURGED AND PNEUMATICALLY PRESSURE TESTED TO 3BAR AND NOT TO 350MBAR IN LINE WITH IGE/UP/1.
- THE PROPOSED PIPEWORK IS TO BE 250mm OD MDPE SDR17.6.
- BEFORE ANY CONTRACTOR CARRIES OUT WORK ON MANCHESTER AIRPORT'S GAS SERVICES NETWORK, THEY MUST ENSURE THAT THEY HAVE OBTAINED FULLY APPROVED METHOD STATEMENTS, RISK ASSESSMENTS, PERMIT TO WORK, SECURITY ID PASS AND IF NECESSARY, A RESTRICTED ACCESS PERMIT ALL IN ACCORDANCE WITH CURRENT MAG PROCEDURES. ALSO, THE CONTRACTOR MUST SUBMIT FULLY COMPLETED NON-ROUTINE OPERATIONAL PROCEDURE (NRO) DOCUMENTATION FOR MAG APPROVAL PRIOR TO MAKING CONNECTIONS INTO MANCHESTER AIRPORT'S GAS NETWORK.

KEY

- EXISTING GAS MAIN
- PROPOSED GAS MAIN DIVERSION
- GAS MAIN TO BE ABANDONED
- EXISTING GAS VALVE
- GAS VALVE TO BE ABANDONED
- PROPOSED GAS MAIN CROSSING EXISTING UTILITIES

LENGTH OF MAIN TO BE DIVERTED = 95m

LENGTH OF NEW DIVERSION = 382m

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	30.11.2022	DO	TK	NM
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Document Control

Issuing Office
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Client



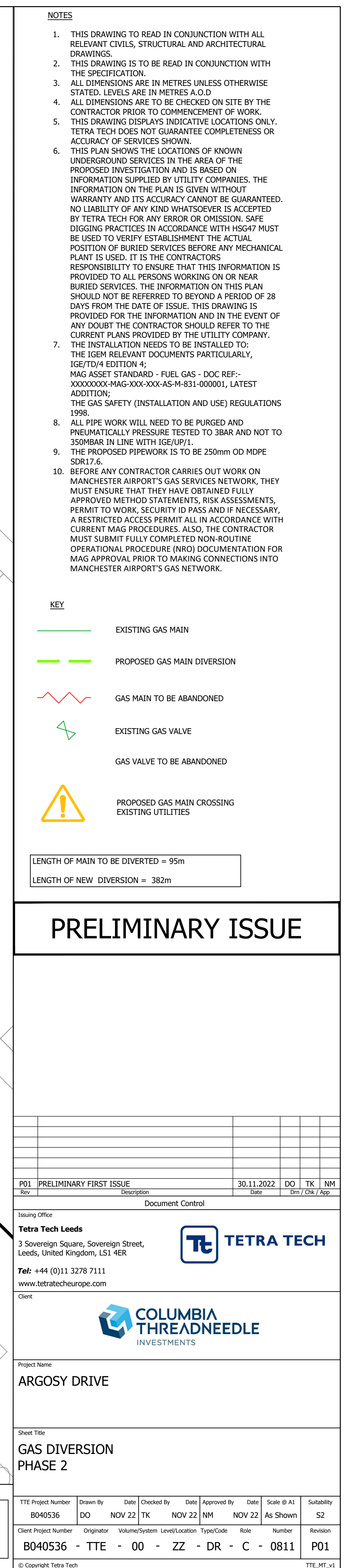
Project Name
ARGOSY DRIVE

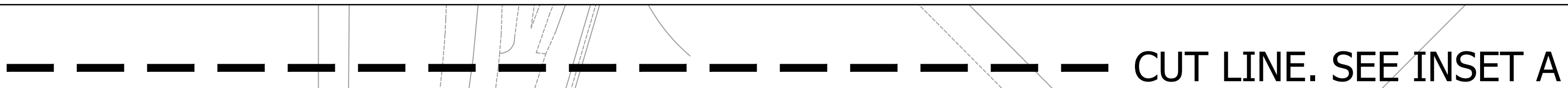
Sheet Title
GAS DIVERSION
PHASE 1

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Subsidiary
B040536	DO	NOV 22	TK	NOV 22	NM	NOV 22	As Shown	S2
Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision	
B040536	- TTE	- 00	- ZZ	- DR	- C	- 0810	P01	

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INSET A
SCALE: 1:250

CUT LINE. SEE INSET A

NOTES

1. THIS DRAWING TO READ IN CONJUNCTION WITH ALL RELEVANT CIVILS, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
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3. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED. LEVELS ARE IN METRES A.O.D
4. ALL DIMENSIONS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
5. ALL DUCTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE HIGHWAYS CONSTRUCTION DETAILS 12 - TYPE A
6. ALL DUCTS ARE TO BE POLYPIPE RIGI DUCT COLOR CODED FOR THE RELEVANT UTILITY IN ACCORDANCE WITH THE NJUG GUIDELINES.
7. SPACING OF ALL DUCTING IS TO BE IN ACCORDANCE WITH THE NJUG GUIDELINES.
8. ALL CHAMBERS AND PITTS ARE TO BE STAKKA BOX FORTRESS CHAMBERS WITH D400 COVERS AND FRAMES. ALL CHAMBERS ARE TO BE SUITABLE FOR CARRIAGEWAY LOADING.
9. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ELECTRICAL SERVICE DRAWINGS AND SPECIFICATIONS.
10. ALL TERMINATIONS TO BUILDINGS ARE TO BE IN ACCORDANCE WITH ARCHITECTS AND MEP ENGINEERS DRAWINGS.

KEY

-  NEW 600x600mm COMMS PIT
-  NEW 600x600mm LV PIT
-  COMMS DUCTING
-  EXISTING BT DUCTING
-  PROPOSED COMMS DIVERSION
-  PROPOSED BT DIVERSION
-  TO BE ABANDONED

SUB-STATION LAYOUT, TRENCH LAYOUT AND FOUNDATIONS ARE INDICATIVE ONLY. DETAILED DESIGN AND LAYOUT IS TO BE CONFIRMED DURING DETAILED DESIGN BY ENWL TO ALIGN WITH PROPOSED HV EQUIPMENT

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PRELIMINARY ISSUE

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Rev	Description			Date	Dm / Chk / App				
Document Control									

Issuing Office

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Project Name	
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ARGOSY DRIVE

Sheet Title

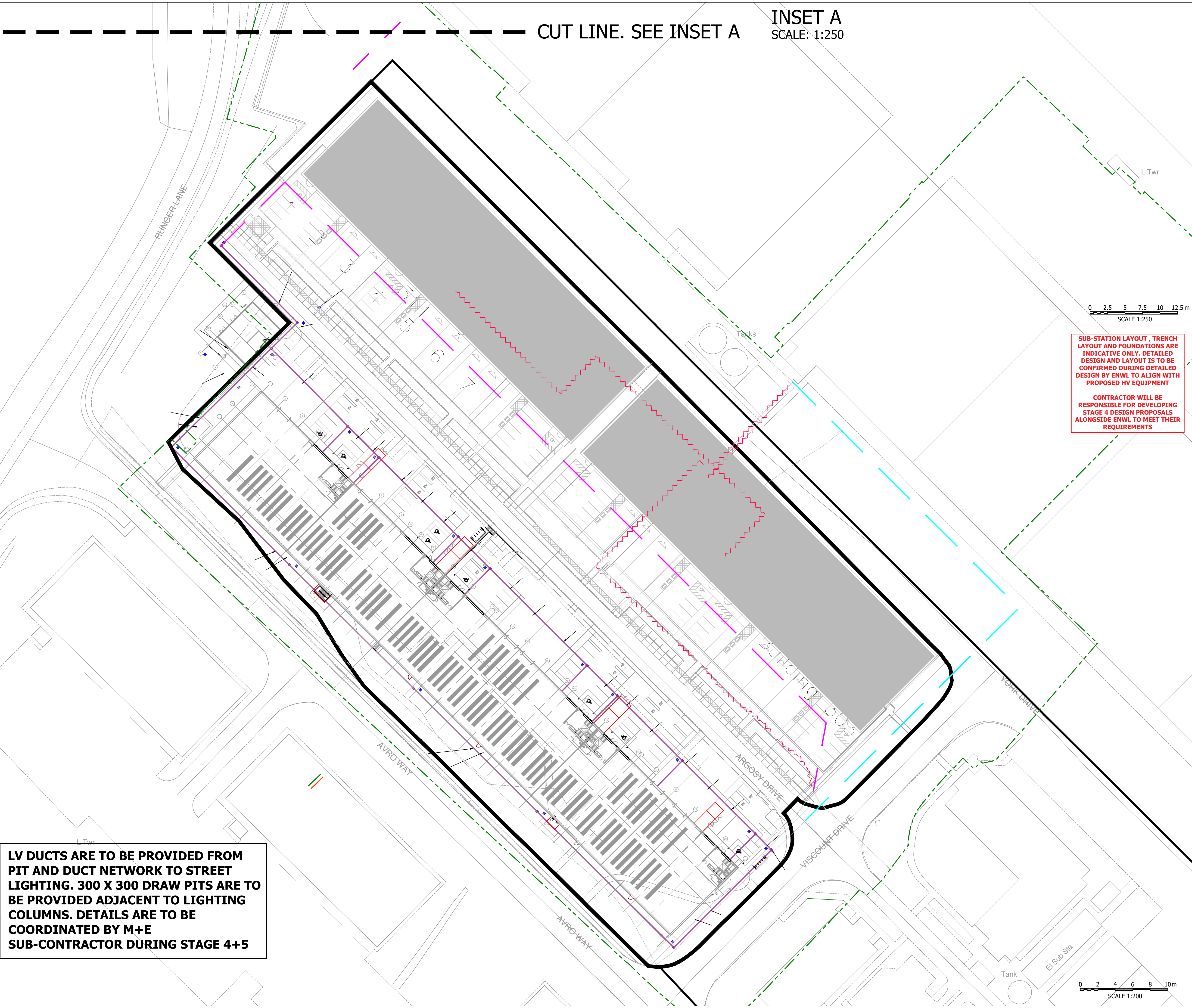
COMMS DIVERSION
PHASE 1

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Suitability
B040536	DO	NOV 22	TK	NOV 22	NM	NOV 22	As Shown	S2
Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision	
B040536	- TTE	- 00	- ZZ	- DR	- C	- 0812	P01	

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**LV DUCTS ARE TO BE PROVIDED FROM
PIT AND DUCT NETWORK TO STREET
LIGHTING. 300 X 300 DRAW PITS ARE TO
BE PROVIDED ADJACENT TO LIGHTING
COLUMNS. DETAILS ARE TO BE
COORDINATED BY M+E
SUB-CONTRACTOR DURING STAGE 4+5**



INSET A
SCALE: 1:250

**LV DUCTS ARE TO BE PROVIDED FROM
PIT AND DUCT NETWORK TO STREET
LIGHTING. 300 X 300 DRAW PITS ARE TO
BE PROVIDED ADJACENT TO LIGHTING
COLUMNS. DETAILS ARE TO BE
COORDINATED BY M+E
SUB-CONTRACTOR DURING STAGE 4+5**

- NOTES**
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 6. ALL DUCTS ARE TO BE POLYPIPE RIGI DUCT COLOR CODED FOR THE RELEVANT UTILITY IN ACCORDANCE WITH THE NJUG GUIDELINES.
 7. SPACING OF ALL DUCTING IS TO BE IN ACCORDANCE WITH THE NJUG GUIDELINES.
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KEY

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 NEW 600x600mm LV PIT
 COMMS DUCTING
 EXISTING BT DUCTING
 PROPOSED COMMS DIVERSION
 PROPOSED BT DIVERSION
 TO BE ABANDONED

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Client



Project Name	
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ARGOSY DRIVE

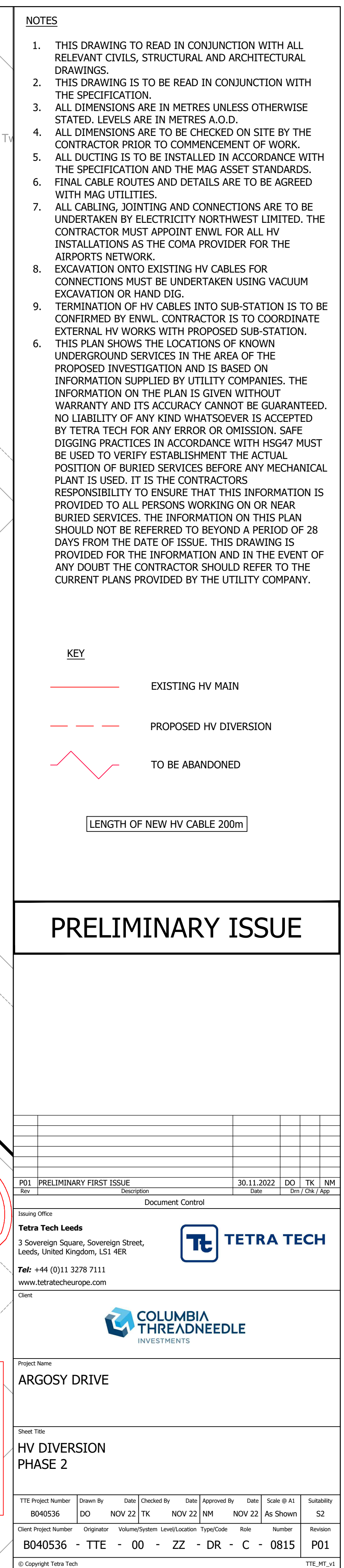
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COMMS DIVERSION PHASE 2

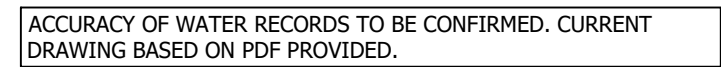
TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Suitability
B040536	DO	NOV 22	TK	NOV 22	NM	NOV 22	As Shown	S2
Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision	
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- KEY



P01	UPDATED PROPOSED HYDRANT CONNECTION	25.01.2023	MA	TK	NM
P01	PRELIMINARY FIRST ISSUE	30.11.2022	DO	TK	NM



ARGOSY DRIVE

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Suitability
B040536	DO	1AN 22	TK	1AN 22	NM	1AN 22	As Shown	S2

B040536 - TTE - 00 - ZZ - DR - C - 0816	P02
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