Temple Park Centre, South Shields

Remediation Statement

South Tyneside Council

3 November 2017

Notice

This document and its contents have been prepared and are intended solely for South Tyneside Council's information and use in relation to the preparation of a Remediation Statement for the Temple Park Centre redevelopment.

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1. Introduction

1.1. Background

Atkins Limited (Atkins) has been appointed by South Tyneside Council (the Client) to prepare a Remediation Statement for the proposed redevelopment works at the Temple Park Centre in South Shields (Appendix A - Figure 1). The location of the site is shown in on drawing AD5069/001R (Appendix A).

The site redevelopment proposed includes demolition works; filling of the old swimming pool; construction of a new gable wall and new boiler house; landscaping and construction of new service corridors. The site layout is presented on drawings AD5069/004 and AD5069/006 (Appendix A).

The findings of this report are based on and incorporate the findings of the previous third party ground investigations / risk assessments carried out at the site between 1973 and 2012. Pertinent information from these investigations have been summarised in the Temple Park Centre, South Shields Phase 1 Land Contamination Assessment prepared by Atkins October 2017. The Phase 1 Report should be read in conjunction with this Remediation Statement.

1.2. Aims and Objectives

This Remediation Statement has been prepared as requested by South Tyneside's Environmental Protection Officer (Michelle Hogg) in support of the planning application to allow the Temple Park Leisure Centre in South Shields, to be redeveloped.

The following Information has been reviewed and relevant information summarised in this Remediation Statement:

- Temple Park Centre, South Shields, Phase 1 Land Contamination Assessment. Atkins, October 2017 including the following relevant third-party reports:
- Temple Memorial Park, Contaminated Land Investigation Report, Sirius, October 2009 (ref: C2621);
- Temple Park, Ground Gas Risk Assessment, Sirius, Letters February, June, July, August & September 2011 (ref: A2621B); and,
- Temple Park Leisure Centre, South Shields Site Investigation Report, Solmek, July 2012 (Ref: S120505).

The findings of the desk based review (included the assessment of previous ground investigations and Part 2A assessment have been used to prepare a Remediation Statement for the mitigation and management of potentially unacceptable risk to identified sensitive receptors with respect to the redevelopment proposals. The statement also includes the site controls and validation that will be undertaken during construction to confirm that the unacceptable risks have been reduced to an acceptable residual level.

The Remedial Statement has been prepared in accordance with CLR11 and the Yorkshire and Lincolnshire Pollution Advisory Group Technical Guidance for Developers, Landowners and Consultants, February 2017.

1.3. Limitations

For the purposes of this Remediation Statement it should be noted that the ground conditions encountered and discussed are based on the information supplied by the Client. The exploratory holes sampled or analysed represent a fraction of the ground being investigated and variations may occur between sampling points. Therefore, conditions may vary between sampling points. Furthermore, observations made at the time of investigations and during monitoring visits may be subject to variation because of atmospheric, seasonal or other effects.

This Remediation Statement is based on the conclusions of a review of previous ground investigation reports with respect to outline design of the proposed demolition works; construction of new gable wall; new boiler house; landscaping works and construction of new underground service corridors.

The assessment of soil and groundwater conditions summarised within the following document are based on the supplied data available at the time of writing. The opinions and recommendations presented in this report are based upon documents provided by third party sources. Atkins has not been able to verify independently all third-party information and for the purposes of this assessment has assumed that such information is accurate and complete. Therefore, whilst this report and the opinions contained herein are accurate to the best of Atkins' knowledge and belief, Atkins cannot guarantee the completeness or accuracy of any descriptions or conclusions based on supplied third party information.

Atkins accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known other than within the terms of the contract.

In addition, in accordance with Atkins' procedures and because of insurance restrictions, this report does not advise on measures to deal with asbestos. Detailed advice should be sought from a specialist contractor/consultant, where necessary.

Atkins have been unable to confirm the presence and/or condition of the existing gas alarm system / gas protection measures within the leisure centre building. This report pertains to the demolition and construction works proposed and in terms of ground gas risk, that these do not impact or create migration pathways which would increase the ground gas risk posed only.

2. Site Characterisation

The site was characterised in the Atkins Phase 1 Land Contamination report 2017, pertinent information is summarised in Table 2-1 below.

Table 2-1 Summary of Site Setting

Location & Description	The site is located to the south of John Reid Road (A1300) in South Shields, NE34 8QN (Appendix A – Figure 1). The 3.1 ha site comprises a leisure centre (partially derelict) surrounded by Temple Memorial Park. The leisure centre buildings are surrounded by grassed areas (some mounded) to the south, west and north; with electricity lamp posts and tarmac paths. An internal inspection of the buildings that will be impacted through the redevelopment works was undertaken. The buildings inspected comprised a swimming pool, boiler room. plenum room, battery room, filter room, storage rooms, corridors and changing rooms. Storage of chemicals and asbestos warning signs of asbestos containing materials present in the building was observed.
Historical Land Use	Historically, the site was agricultural land, part of a golf course, then part of the Memorial Park until development of the southern part of the current leisure centre c.1980's with the northern extension by the early 1990's. Between the 1950's and 1990's the site and the surrounding area has been subject to licensed landfilling. The South Shields area is located in an UXO high risk area. A pre-desk study UXO assessment undertaken by Zetica has indicated that the site is at low risk.
Ground Conditions	Previous investigations have reported between 0.5m and 2.4m of Made Ground with potential for domestic waste type material present prior to construction of the leisure centre and surrounding it. The site is underlain by Made Ground, Pelaw Clay Member (possibly absent), Glacial Till and bedrock of the Pennine Middle Coal Measures at depth. Coal seams are present to the east of the site and at depth beneath the centre of the site.
Mining	The site is located in a Coal Mining Reporting Area with the eastern periphery of the site located in a High-Risk Development area associated with coal seams and potential shallow workings. No mine entries are reported to be present at or within 20m of the site boundary.
Hydrogeology	The underlying superficial deposits are of an unknown classification due to the landfilling activity. The Pelaw Clay is considered to be Unproductive Strata, Glacial Till as a Secondary (undifferentiated) Aquifer and the bedrock as a Secondary A Aquifer. The site is not located in a groundwater Source Protection Zone and there are no groundwater abstractions located within 1km of the site. Previous investigation reported the limited presence of shallow groundwater. Where observed, shallow groundwater was generally at the base of the Made Ground.
Hydrology	Historically, a watercourse was located immediately east of the site which may have been culverted or infilled. There are no other significant surface waters located in proximity to the site. The nearest surface watercourse being an un-named stream located approximately 200m west of the site.

3. Previous Investigations

Several ground investigations have been undertaken on and in proximity to the site between 1973 and 2013. A detailed review of the investigations undertaken is given in the Atkins Phase 1 Land Contamination Report 2017. The location of previous investigations and key findings are illustrated on Figure 2 (Appendix A).

3.1. Summary Ground Conditions

A summary of the ground conditions encountered during previous investigations are summarised in Table 3-1 where they are associated with the area of proposed redevelopment (swimming pool building and service runs).

Table 3-1 Summary of Ground Conditions Encountered for the Redevelopment Area

Stratum	Thickness (m)	Description	Comments/ detail
Dunelm Drilling (1973): 6 no. boreholes			
Made Ground	2.1 - 2.4	Hardcore, soil, domestic waste, clay and ash.	Water noted at base of made ground
Pelaw Clay / becoming Glacial Till (clay) at depth	2.4 - 12.0	Soft and firm grey silt and sandy clay, locally with occasional thin layers of gravel.	Water noted at 5.0m bgl in one location.
Solmek (2012): 3 no. boreholes			
Made Ground	0.5 - 1.35	Gravelly Clay, sandstone, brick, limestone, occasional glass fragments and slag and fabric.	Made Ground was found to be thickest to the east of the leisure centre
Glacial Till	7.4 - 13.1	Firm to stiff thinly laminated Clay.	No groundwater observed
Pennine Middle Coal Measures	> 0.4 - >1.15	Weathered sandstone (yellow brown gravelly Sand)	No groundwater observed

3.1.1. Ground Gases

Gas monitoring was carried out during the 2009, 2011 and 2012 investigations both on and in proximity to the site. A summary of the findings of these investigations are presented below.

- **2009** – Work undertaken by Sirius determined there was a ground gas risk from landfill materials in the east and south of the wider Temple Memorial Park site but no significant gas sources in the central or western parts the Temple Memorial Park site which includes the area of the leisure centre.

- **2011** - supplementary window sample boreholes with monitoring wells were installed by Sirius followed by ground gas monitoring. The site was divided into three gas zones (Zones 1 to 3) for assessment, with the leisure centre being on the boundary of Zones 1 and 2. Peak gas concentrations were recorded for Zone 1 (72% methane, 27% carbon dioxide, 4.2ppm VOCs) and a maximum flow for Zone 2 (11l/h). Assessment by Sirius was undertaken using the NHBC traffic light system for the risk of offsite migration to adjacent residential properties, which was determined to be red (high risk) for Made Ground to Amber 1/Green associated with pathways in the natural strata for Zones 1 and 2. The leisure centre as a receptor was discounted from the assessment due to the assumption that it contained existing acceptable gas protection measures.

- **2012** - Solmek undertook additional ground investigation works and subsequent gas monitoring. The report did not identify significantly elevated ground gases during the monitoring period (max. methane <0.1%, carbon dioxide 0.7%) with no significant flows of gases recorded. They concluded that the site was classified as Characteristic Situation 1 (CS1) very low risk and no precautionary measures were required. However, this conclusion is based on a limited amount of gas monitoring data and for the purpose of these works, the gas situation should be considered as per the 2011 situation.

3.1.2. Land Contamination Risk Assessment

The following section summarises the findings of the risk assessments undertaken by others to determine if the site development poses a significant risk to human health, the environment and / or property.

3.1.2.1. Redevelopment Area

Chemical data provided in the 2012 Solmek report, rescreened by Atkins, for a residential without plant uptake end use (as a conservative estimate) did not highlight any exceedances of potential contaminants of concern analysed. Asbestos was also not identified in the soil samples analysed.

3.1.2.2. Surrounding Area

The 2009 Part 2A investigation and assessment by Sirius concluded the following for the Temple Memorial Park area:

- There is a potential risk to human health associated with PAHs (benzo(a)pyrene) and asbestos within shallow soils;
- No significant risk to controlled waters or ecological receptors;
- Asbestos was present associated with imported soils for the playground area; and,
- Potential risk to structures/utilities from aggressive ground conditions and hydrocarbon contamination.

It should also be noted that the findings of the Shadbolt Environmental investigation in 2013 of the adjacent sports pitch (southeast of the redevelopment area) identified asbestos and the report recommended the works be undertaken with awareness of the presence of asbestos. Hydrocarbon staining within the Made Ground was also noted. The proposed new service runs are proximal to this area.

4. Remediation Statement

4.1. Overview of Development Works

It is understood that the proposed redevelopment works will follow the steps detailed below:

- Demolition works and removal of surface hard standing including old foundations, ground slabs and roadways as shown on Drawing AD 5069/010 – July 2011 (Appendix A);
- Crushing and screening of all brick and concrete with sorting for reuse in the main works;
- Infilling of the old swimming pool with suitable site won materials and imported material (if required);
- Construction of new boiler house, 5161453-ATK-DR-S-100 (Appendix A);
- Undertake ground re-profiling works including excavation, screening and sorting of excavated materials. Place into specific stockpile types and designate for appropriate reuse in the works subject to suitability of geotechnical and environmental grounds;
- Piling with construction of new gable wall as per Drawing AD 5069/033 – 6/09/12 (Appendix A);
- New services corridors as shown on Drawing AD 6167 (5) 01 – Oct 17;
- Development of required gas mitigation requirements for incorporation within the proposed new wall and service trenches as detailed on Drawing AD 5069/033 – 6/09/12; and,
- Associated landscaping works and Drawing AD 5069/033 – 6/09/12.

4.2. Summary of Unacceptable Risks

A review of the available information and development of the Conceptual Site Model (CSM) and preliminary risk assessment (PRA) as reported in the Atkins Phase 1 Land Contamination report 2017, indicates that the following are considered as potential constraints to the proposed development without mitigation to reduce residual land contamination risks to low and risks that require management during the works so that the development does not increase from the level determined currently:

1. Asbestos both within the existing structures and Made Ground (Moderate Risk);
2. Risk to human health associated with the presence of contaminated ground associated with landfilling activities and past historical site use; including hydrocarbons (Moderate/Low Risk); and
3. Ground Gas and soil vapours associate with presence of Made Ground across the site (Moderate Risk).

Details of the activities where the above risks need to be managed are presented below.

4.3. Demolition Works and Asbestos Management

During the site walkover and inspection of the buildings proposed for demolition, it was noted that areas of the buildings were fenced off and marked as containing asbestos. Prior to undertaking demolition works, there is a requirement for the client or client's representative to employ the services of an asbestos specialist to provide advice and management to produce an effective asbestos management plan.

It is the responsibility of the client or the appointed contractor to ensure that the appointed asbestos specialist is suitably qualified and certified to manage any asbestos removal works and to provide advice to the contractor during all earth works activities on the site. The measures proposed must be robust to protect site workers as well as members of the public including any site visitors during the works.

Following safe removal of asbestos contamination from the structures, the demolition works can commence in accordance with the appointed demolition contractor's method of works. All works will be managed and supervised by the Principal Contractor for the project.

All demolition materials will be crushed and stockpiled to be assessed for suitability for reuse in the works. All materials will comply with the reuse criteria as presented in Appendix B. Any materials considered unsuitable for reuse in the scheme will be analysed and classified for disposal to a suitably licenced waste facility.

4.4. Contaminated Ground and Construction Workers

4.4.1. Service Corridors

New services are associated with electricity and gas diversions. It is not anticipated that creation of new potable water pipelines will be undertaken.

Although, significantly elevated potential contaminants of concern were not reported from the 2012 investigation, due to the potential to encounter domestic type material and hydrocarbons, it is recommended that new services should be placed in service trenches surrounded by clean validated material.

The excavated material in the service trenches will be and assessed for suitability for reuse elsewhere within the development. All materials will comply with the reuse criteria as presented in Appendix B. If no suitable reuse is possible, materials will be analysed and classified for disposal to a suitably licenced facility.

4.4.2. Piling

It is Atkins understanding that the proposed development will incorporate a piled foundation. Presently, the piling specification has not been finalised and the following proposed remediation preparatory works may be subject to change. Initial piling proposals are shown on drawing AD5069/033 (Appendix A).

Based on the current proposals, at each pile position the existing foundation will be demolished and broken out to a minimum of 830mm below final formation level and backfilled with fully compacted to Highways Agency Specification Type 2 hardcore. Engineered fill will be compacted in maximum of 150mm layers.

The Clients chosen Piling Contractor will be required to carry out a piling risk assessment, to ensure that no preferential pathways for potential contamination within the Made Ground are created to the underlying Coal Measures aquifer, due to the piling work. Guidance for undertaking this assessment is provided in the following:

- Environment Agency, May 2001. Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention. National Groundwater & Contaminated Land Centre report NC/99/73; and

- Environment Agency, February 2002. Piling into contaminated sites. ISBN 1 85705 803 8.

4.4.3. Cover System and Landscaping

The proposed landscaping has two primary functions; firstly, to prevent contact/exposure pathways to future site users for the change from hardstanding/building to soft landscaping, and secondly, to create an aesthetically pleasing aspect to the finished ground re-profiling works in addition to providing a suitable medium to allow plant growth.

Based on the design shown on Drawing AD 5069 032 Proposed External Works Section A-A (Appendix A), on completion of the infilling of the swimming pool with demolition arisings, it is proposed that the soil cover system is to comprise a minimum of 300 to 400mm depth of clay subsoil and 300mm of topsoil. A geotextile will be placed beneath this cover to act as a marker layer to delineate reused site won materials and field drains will prevent the area becoming waterlogged.

It is recommended that a 300mm topsoil soil cover layer be extended as required to provide coverage of the landscaped areas subject to reuse of site won soil and/or service trenches.

Reuse and imported material/soils used within the above design will be subject to verification and compliance with the Engineering Specification (by others).

See Section 5 for the verification of soils during construction. Based on the requirements of Sections 4.3 and 5, it is not considered that asbestos containing materials would be present beneath the proposed verified soil cover. However, if asbestos is found additional thickness of cover would be required in consultation with the specialist asbestos contractor and agreed with the Council's Environmental Health Officer.

4.4.4. Protection of Workforce and Neighbours

Due to the presence of identified contaminants of concern within Made Ground underlying the site, a short-term risk could exist to construction and ground workers involved in the redevelopment. The client's contractor should carry out their own risk assessments prior to starting work to ensure the adoption of good hygiene and working procedures and suitable Personal Protective Equipment (PPE) to minimise the risks posed by exposure to such soils.

4.5. Gas Protective Measures

4.5.1. Foundation Design

The Part 2A assessment undertaken in 2009 indicates that a significant ground gas risk is present at the site and that migration of significant concentrations of methane and carbon dioxide is likely to occur. However, recent (2012) ground gas monitoring within the proposed development area recorded lower concentrations of ground gases.

The current leisure centre foundation incorporates gas protection mitigation measures including a bespoke gas membrane and gas alarm, although this hasn't been verified by Atkins. A plan for the leisure centre, dated 1975 illustrated that a visqueen 1000 dpm is likely to be present.

So that the demolition of the swimming pool building and construction of the new gable wall does not create additional migration pathways for ground gases and/or impact on the existing in-built gas protection system, a gas membrane will be incorporated and joined to the existing and tied into the new gable wall.

The proposed slab general arrangement including gas protection and details for the new gable are shown in drawing AD 5069 033 (Appendix A).

Although the presence of hydrocarbons have been identified within the wider Temple Memorial Park, previous investigations within the proposed building development area have not. As such, it is not considered that vapours would pose a significant risk and therefore a vapour membrane is not required.

4.5.2. New Services

Given the potential for ground gases to be present on site, incorporation of "Clay Stanks" or equivalent, should be included where services are shown to run through areas of Made Ground to prevent creation of preferential migration pathways for ground gas.

All building penetrations (services and piles etc) should include appropriate top hats/membrane lapping and taping so that they do not provide a pathway for ground gases into the building.

Based on the general construction of field drains, it is considered that ground gas would not accumulate within the pipes and as such, additional ground gas mitigation would not be required.

4.5.3. New Boiler House

The design and construction of the new boiler house will also need to take into consideration the potential for ground gases to be present on site. Similar gas mitigation measures as detailed in 4.5.1 and 4.5.2 will need to be incorporated into the foundation design for the boiler house to ensure that there are no significant gas risks to maintenance workers and others who may require access to this structure.

4.5.4. Protection of Workforce

The Client's Contractor should carry out their own risk assessments associated with ground gases prior to starting work to ensure the adoption of appropriate working procedures and suitable Personal Protective Equipment (PPE) to minimise the risks posed by ground gases.

4.6. Unexpected Contamination

Where additional unexpected contaminated materials and/or previously unidentified materials are encountered during the remediation and construction works, works should be temporarily ceased to enable inspection (and testing if necessary) by a suitably qualified geo-environmental engineer. The area shall then be fenced off and made safe until the South Tyneside Council and the Environment Agency have been contacted and a strategy for dealing with the contamination agreed. This is required if domestic waste is identified during the construction works.

The Contractor shall employ a suitably qualified person to carry out a watching brief on completion of demolition works to determine the presence of contamination beneath the former building associated with use for chemical storage and any leakage from boiler/plant rooms.

Such unexpected contamination will include but not be limited to:

- Visual or olfactory evidence of organic contamination (hydrocarbons, tar, solvents etc.);
- Evidence of asbestos board, sheet or fibres;
- Highly coloured material or soil;
- Domestic landfill waste;
- Evidence of transformer oil leakage from sub stations;
- Evidence of biological contamination.

Should additional contamination be found the procedure to be followed will be agreed with the Council's Environmental Health Officer. Details of all of the testing will be included within the verification report issued following completion of the works to remove materials considered to pose an unacceptable risk to human health or controlled waters. Details of verification report and the information that will be needed is discussed in section 5.

Details of the location, type and final destination of all previously unidentified materials encountered during the works shall be recorded within the verification report. A copy of all waste classification data and waste disposal tickets will be retained and included in the verification report.

5. Validation Requirements

5.1. Materials Re-use and Importation Specification.

5.1.1. Recycled Aggregates

It is envisaged that site won demolition materials in the form of crushed concrete and brick work will be utilised for the filling of the abandoned swimming pool and for civil engineering works for the redevelopment. The materials from existing subsurface obstructions will be screened and crushed to the client's designer's specifications. It is also recommended that the material is screened for asbestos containing material.

The resulting stockpiled crushed materials shall comply with the WRAP quality protocol to produce aggregate to be used on site. All materials visibly impacted by contamination or odour i.e. materials displaying indications of impact from oil, fuels or solvents shall be removed to a sealed stockpile area tested and removed from site to appropriately licensed facilities. Should there be any shortfall in crushed material available, then additional materials will be sourced to provide WRAP protocol compliant materials.

Guidance produced by Yorkshire and Lincolnshire Pollution Advisory Group (2016). "Verification Requirements for Cover Systems: Technical Guidance for Developers, Landowners and Consultants". Version 3.3. YALPAG sets out minimum validation requirements for site won soils, Validation testing of these materials shall be undertaken at a rate of 1 sample per 1000m^3.

5.1.2. Site Won Soils

To prepare the site for construction of the new gable wall, there is a requirement to undertake a "cut and fill" site re-profiling exercise. Following completion of this re-profiling exercise there will be a quantity of material which will be utilised to construct landscaping areas and general fill to obtain the required ground profile. Where topsoil and Made Ground is proposed for reuse, appropriate cover systems will be required to ensure that no significant risks to human health and the environment will result by its intended use.

All arising's will be stockpiled and assessed for suitability on geotechnical and environmental (as per reuse criteria in Appendix B) grounds for inclusion in the works as construction materials. Guidance produced by Yorkshire and Lincolnshire Pollution Advisory Group (2016). "Verification Requirements for Cover Systems: Technical Guidance for Developers, Landowners and Consultants". Version 3.3. YALPAG sets out minimum validation requirements for site won soils,

In accordance with this guidance materials proposed for reuse must comply with threshold values for public open space. Validation testing of these soils shall be undertaken at a rate of 1 sample per 100m^3 or a minimum of 6 no. tests per source area. All soils shall be free of asbestos and other deleterious and or contaminated materials. The suitability for reuse criteria (open space – parks) is presented in Appendix B.

Where materials pose a significant risk from there intended reuse, they will be either remediated to make them suitable for reuse or stockpiled and disposed off-site to a licensed disposal facility.

The landscape architect is to confirm that any site won soil is suitable, specifically in compliance with BS3882:2015.

5.1.3. Imported Soils

Topsoil shall be to BS 3882 (2015) as appropriate or as specified by the Landscape Architect. Topsoil shall be imported from a topsoil supplier and tested at a rate of 1 sample per 250m^3 or a minimum of 3 no. tests per source. All soils shall be free of asbestos and other deleterious and or contaminated materials. The additional suitability for reuse criteria for the imported topsoil to adhere too (open space – parks) is presented in Appendix B.

Other imported soils shall be chemically validated for use at a rate of 1 sample per 100m^3 or a minimum of 3 no. tests per source. All soils shall be free of asbestos and other deleterious and or contaminated materials. The additional suitability for reuse criteria that all imported soils will adhere to (open space – parks) is presented in Appendix B.

5.1.4. Validation Analysis

Soil for reuse and those which have been imported soil shall be analysed for the following environmental testing suite:

- Metals suite (arsenic, water soluble boron, cadmium, total and hexavalent chromium, copper, lead, mercury, nickel, selenium and zinc);
- pH;
- 2:1 water soluble sulphate,
- Free cyanide;
- Phenol;
- 16 speciated polycyclic aromatic hydrocarbons (PAHs);
- TPH CWG and BTEX – Total Petroleum Hydrocarbons Criteria Working Group;
- Asbestos screen; and,
- Soil Organic Matter (SOM).

Results should be screened against the public open space SSVs reuse criteria as provided in Appendix B. Any material that exceeds these criteria shall be assessed in terms of averaging area for reuse prior to determining if the soil should be removed to a segregation area and isolated from other stockpiles. If required, the soil will then be disposed of off-site to the appropriate permitted facilities.

The site is not located in a sensitive area with respect to the risk to controlled waters and previous investigation did not report a significant risk to these receptors; therefore, leachability testing for reuse or imported soils has not been specified.

5.1.5. Ground Gases

The Contractor is to employ a suitably qualified person to undertake and validate the installation of the gas mitigation measures for the new gable wall and boiler house, including records of inspection and a photographic record to be provided in the verification report.

5.1.6. Materials Reuse

The proposed reuse of excavated soils and recycled demolition materials will require appropriate methodologies and approvals to demonstrate that the materials are not waste. In order to demonstrate this, the Contractor will need to apply either the CL:AIRE: Development Industry Code of Practice (Version 2 2011), or apply for a waste exemption or combination of these to achieve the objective to maximise reuse of materials within the development. Suitable materials for reuse must not result in an unacceptable risk to human health and the environment.

5.2. Verification Report

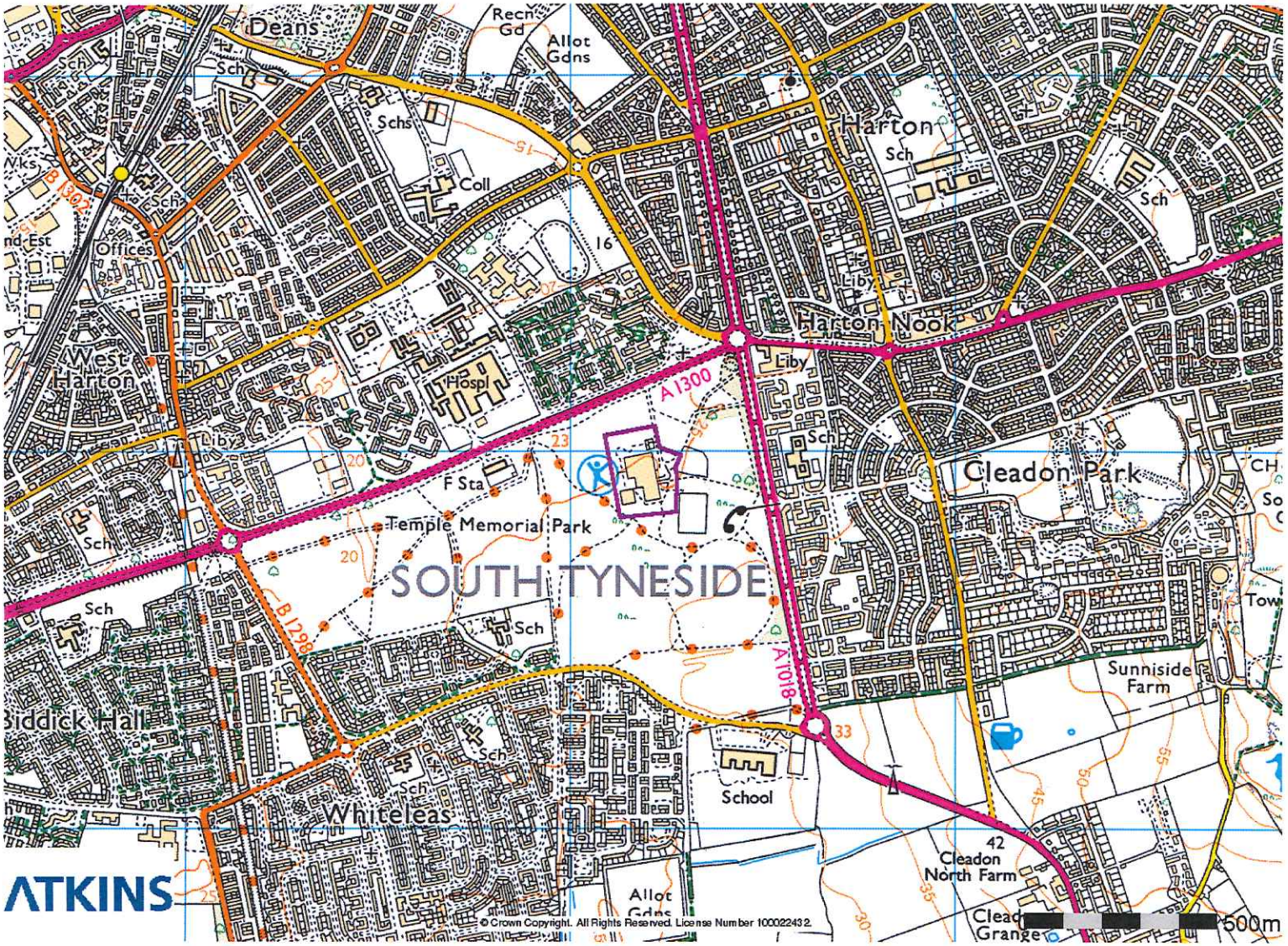
The verification report for the remediation works shall be prepared in accordance with CLR11 to show compliance with remediation objectives and criteria during the site preparation phase. The verification report shall provide a complete record of the remediation activities on site and the data collected. It shall include detailed descriptions of the remediation works with associated as built drawings.

The verification report shall include:

- Background information – project and site details, Employer's requirements and remediation objectives;
- Remediation – design, techniques, methodology, programme, chemical and physical testing results, priority contaminants,
- Record of asbestos removal;
- Record of new service trench and pipe construction;
- Third party contacts – correspondence and approvals/agreements from regulators, site visits, statutory guidance, third party agreements;

- Supporting information – plans, as–built drawings, progress photographs and reports, analytical results, Health and Safety, Quality Assurance, environmental monitoring, (if further is required), method statements, copies of WAC testing, waste classification and consignment notes;
- Details of the watching brief and any unexpected contamination encountered;
- Details/QA/QC information of the installation of the ground gas precautions within the buildings on site;
- Details of the verification testing for topsoil and sub soil imported for completion of the landscaped areas on the site; and,
- Final site conditions i.e. an account of the state of the site following completion of the site remedial works.

Appendix A. Figures and Drawings



ATKINS

CLIENT
South Tyneside Council

PROJECT
Temple Park Centre

LEGEND

Site boundary

TITLE

Figure 1
Site Location Plan

GYMNASTICS BLOCK

LINK CORRIDOR TO LEISURE CENTRE ABOVE

Ref. Changing

Ref. Showers

Ref. Changing

Showers disused

Football Changing

Showers

Corridor

Lobby

Calorifier

Store

VOID

RAMP UP TO POOL LEVEL

RAMP

STORAGE

Store

Store

Store

F.F.A. DUCT

SCREEN

SCREEN

FILTER ROOM - BASEMENT

Pool

DIVING POOL

Boiler Room

Store (CO2 Bottles)

Bar Cellar

Vending machine store

ROLLER SHUTTER

Corridor

Lobby

Dis. WC

Dis. WC

Dis. Changing

Shower Room

Disabled Changing (not used)

Dis. Changing

Shower Room

Lobby

Assessment Suite

LMR

Cln

Male WC

Cln

Lobby

Admin. Storage

Shower Room

Male Changing

Shower Room

Staff Changing

Female Changing

Female WC

Shower Room

Female WC

Male WC

Lobby

Wash Room

Administration (6 Staff)

Store

Servery

Electrical Switch Room

Battery Room

Freezer

Store Room

Lobby

Entrance

Plant Room

Corridor

Sports Hall

Electric cupbd

Electric cupbd

Electric cupbd

Smoke Extract

Courts 1,2,3 & 4

Sports Hall Courts 5, 6, 7 & 8

Ancillary Hall Courts 9 & 10.

Bar Counter

Temporary Bar

Store

Office

Lobby

Bodywise Gym

Rev	Date	Description	Chkd

South Tyneside Council
Economic Regeneration

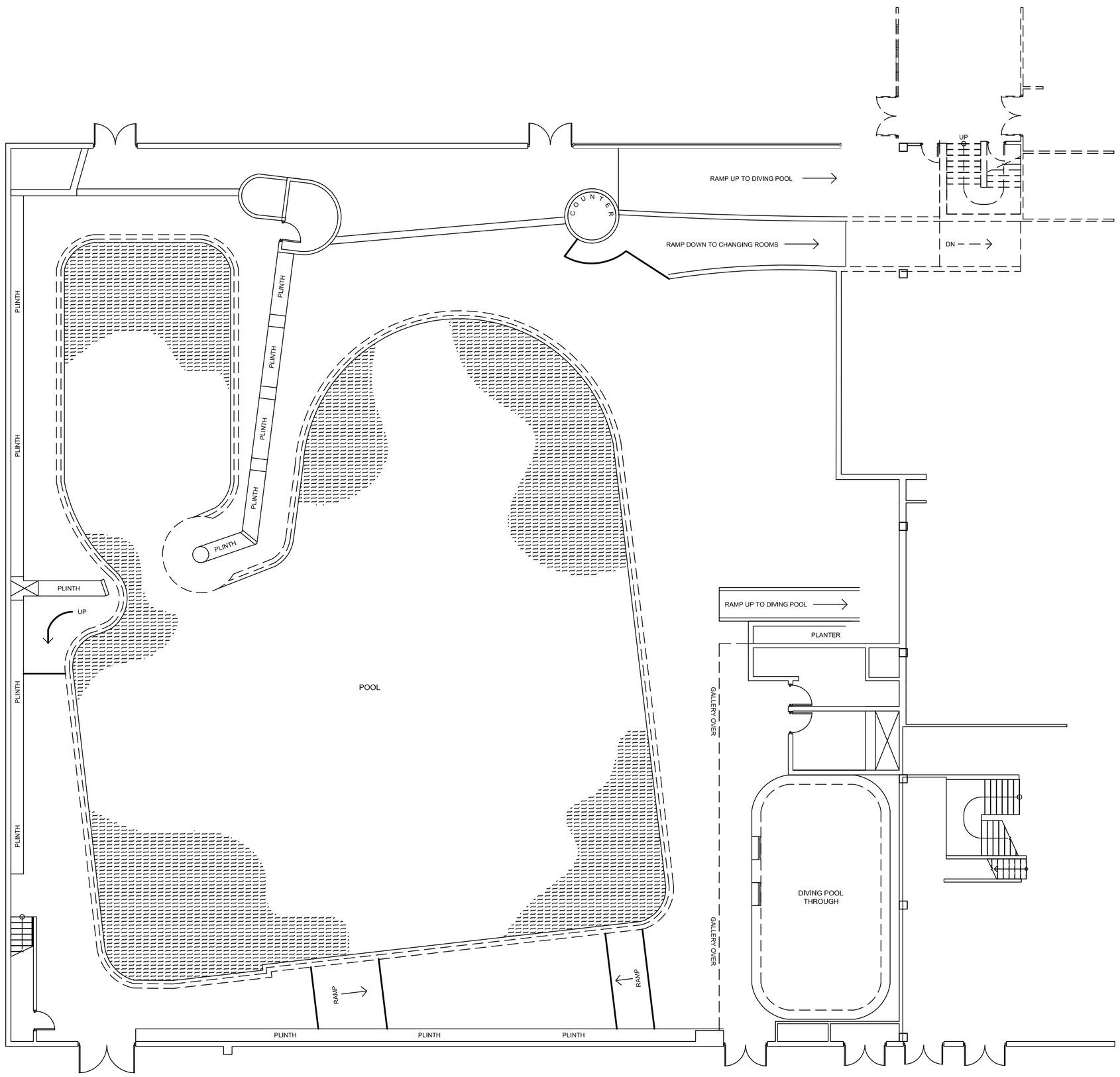
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Project
Remodelling of:-
Temple Park Leisure Centre
South Shields

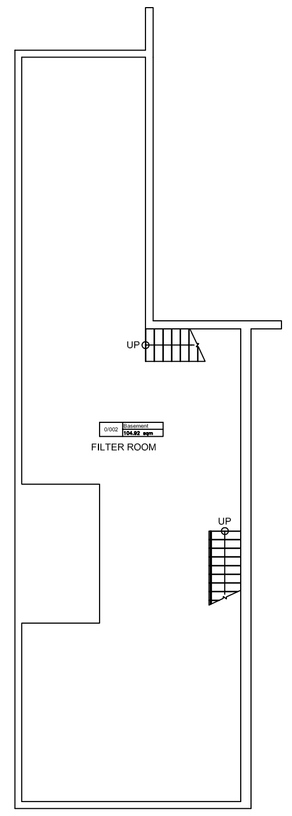
Drawing Title
Existing G/Floor Block Plan-Level 1

Drawn by	XX	Date	July 2011
Checked by	XX	Date	dd/mm/yy
Scale	1:125	Size	A0

Project Code	Drawing Number
AD 5069	004



POOL AREA FLOOR PLAN



BASEMENT FLOOR PLAN

Rev	Date	Description	Chkd

South Tyneside Council
Economic Regeneration

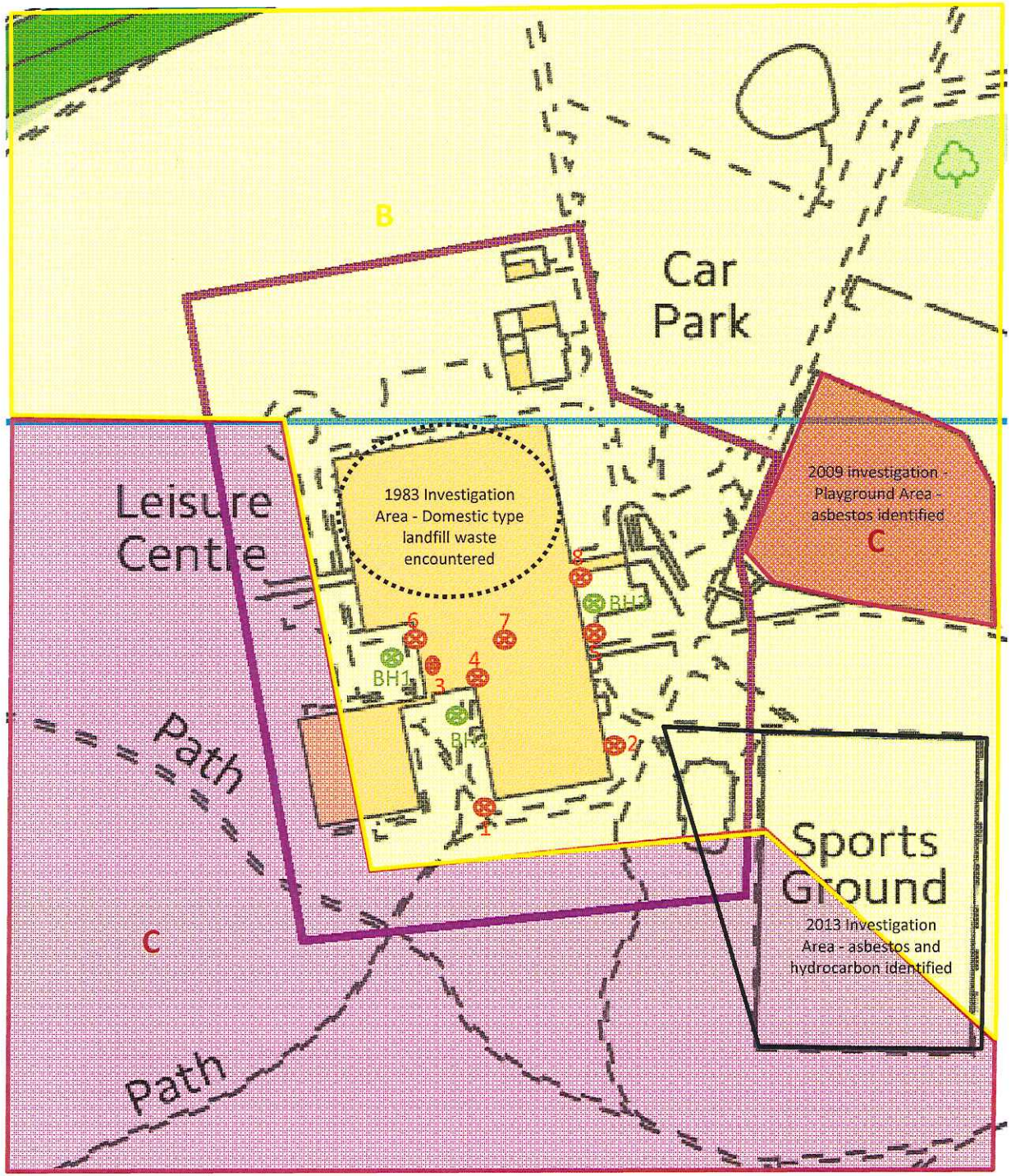
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Project
Remodelling of:-
Temple Park Leisure Ctr.,
South Shields.

Drawing Title
Existing Pool and Basement Plant Room

Drawn by	XX	Date	--/--/--
Checked by	XX	Date	--/--/--
Scale	1:125	Size	A1

Project Code	Drawing Number
AD 5069	006



ATKINS

CLIENT
South Tyneside Council

PROJECT
Temple Park Centre

LEGEND

- Site boundary
- Approx. Location of 1973 Borehole
- Approx. Location of 2012 Borehole
- Area B from 2009 Investigation (topsoil/demolition materials/thin bands of ashy type waste/reworked natural soils)
- Area C from 2009 Investigation (topsoil, demolition materials, ashy waste, thin band reworked natural)

TITLE

Figure 2
Previous Exploratroy Hole Plan

GYMNASTICS BLOCK

Existing Plinth Demolished complete up to door just beyond SW corner of building

Demolish steel fire escape staircase.

Grub up existing tarmac path.

Existing tree removed.

Grub up existing tarmac path.

Demolish concrete landing with brickwork & handrail.

Grub up existing tarmac path.

Ref. Changing

Ref. Showers

Ref. Changing

Football Changing

Showers disused

Showers

Lobby

Corridor

Calorifier

Store

STORAGE

VOID

UP

RAMP UP TO POOL LEVEL

600 1200

P.H. DUCT

SCREEN

Store

Store

Store

Store

Cleaning Chemical Storage

Workshop

Break out strips in filter room floor and all structural and waterproofing layers down to freely draining material below. Backfill opening up to level of base of pool with clean hardcore or crushed concrete, min dia 50mm. Ensure break out area is well clear of pile cap locations (shown dotted).

Break out strips in floor and all structural and waterproofing layers down to freely draining material below. Backfill opening up to level of base of pool with clean hardcore or crushed concrete, min dia 50mm

Break out strips in filter room floor and all structural and waterproofing layers down to freely draining material below. Backfill opening up to level of base of pool with clean hardcore or crushed concrete, min dia 50mm. Ensure break out area is well clear of pile cap locations (shown dotted).

Pool

25.73

24.81

26.13

26.09

24.30

24.73

26.10

26.43

FILTER ROOM - BASEMENT 22.95

3000

1750

600

15000

600

DIVING POOL 24.28

Floor Level 24.56

Plant Room

Boiler Room

2800

1350

8000

8000

1000

600

1000

Lower Ground Floor Level 22.59

Lower Ground Floor Level 22.59

Existing Column part of poolside construction, to be demolished.

For details of breakout and reinstatement of small areas of the existing Phase II slab during foundation works, see Engineer's drawings 5113993 - S - 003 & S - 004. Contractor to take care to avoid damage to existing Gas detection system.

Break out all existing structure in preparation for new piling. For exact locations, see Engineer's drawing 5113993 - S - 001

Break out existing brick paving and expose existing foundations. Build up new brickwork skin from existing foundations and make good to paving, all as shown on drawing AD 5069 040

Carefully break out existing hard landscaping in preparation for new piles and foundations. On completion of below ground works, lay new kerbs and re-lay existing paving as shown on drawing AD 5069 040 For details and positioning of piles and foundations, see Engineer's drawings 5113993 - S - 001 & 002

Carefully take up existing brick paving and keep to one side. Break out concrete Kerb and replace with new kerbs and drop kerbs as shown on drawing AD 5069 040. Re-lay existing brick paving.

Existing retaining wall demolished back to line of new retaining wall. For detail of making good to landscaping, see drawing AD 5069 032.

Break out strips for new drainage in existing tarmac and basecourse, down to freely draining material below. Backfill opening up to a level no higher than 100mm below the Invert Level of the new field drain shown on drawing AD 5069 400 with clean hardcore or crushed concrete, min dia 50mm. See drawing AD 5069 032 for details of new drainage.

Breakout trench widened as necessary to accommodate installation of silt trap. See drawing AD 5069 032 for details of new drainage.

Existing Flue Foundation retained

Line of proposed retaining wall, see drawing AD 5069 032 for details.

New drainage to be fed into existing Manhole

Demolish former Entrance & bridge complete.

Base of diving pool retained. Demolish Diving pool walls completely down to top of base to avoid water collecting in remaining structure below ground.

Take up 600x600mm paving slabs footpath and safety kerb, remove steel tubular handrail grub up sub base.

Demolish/grub up pipe duct with 600x600 concrete paving over.

Demolish wave machine structure with steel palisade fence and shrubs.

Grub up existing tarmac path.

(CO2 Bottles)

Bar Cellar

Vending machine store

Electric cupbd

Electric cupbd

ROLLER SHUTTER

Corridor

Lobby

Dis. WC

Dis. WC

Dis. Changing

Counts 1,2,3 & 4

BENCH

Disabled Changing (not used)

Shower Room

SERVICE DUCT

Dis. Changing

Shower Room

Lobby

Assessment Suite

LMR

Male WC

Cln

Cln

Admin. Storage

Male Changing

Shower Room

Corridor

Sports Hall

Female WC

Staff Changing

Female Changing

Shower Room

Female WC

Male WC

Sports Hall Courts 5, 6, 7 & 8

Electric cupbd

Lobby

Ancillary Hall Courts 9 & 10.

Wash Room

Store

Servery

COUNTER SERVERY

Administration (6 Staff)

Electrical Switch Room

Battery Room

Freezer

Store Room

Bar Counter

Temporary Bar

ROLLER SHUTTER

Store

Office

Lobby

Entrance

Lobby

Bodywise Gym

Voids retained below grubbing up level

Area to be broken out in floor of retained voids to allow drainage

Extent of Diving Pool / lift pit floor and foundation to be retained in situ. Walls of diving pool / lift pit to be demolished down to base to ensure drainage

Area to be demolished complete

Area to be grubbed up.

Area to be grubbed up to a level of 24.90 and all voids filled in with demolished material and covered with Terram 1000 geotextile mebrane.

Area to be grubbed up to a level of 24.50 and all voids filled in with demolished material and covered with Terram 1000 geotextile mebrane.

Area to be grubbed up to a level of 23.69 and all voids filled in with demolished material and covered with Terram 1000 geotextile membrane. Remaining freestanding internal walls in this area to be demolished down to slab level.

Area to be grubbed up to a level of 23.69 and all voids filled in with Type 2 Hardcore and covered with Terram 1000 geotextile membrane.

NB: Pile caps projecting above grubbing out level to be retained and surrounded in fill, up to level 900mm below proposed levels. Report any pile caps less than 900mm below proposed levels to Design team immediately on discovery.

NB: See drawing AD 5069 032 for details of external works, proposed new levels and backfilling materials.

Rev	Date	Description	Chkd
P/T 1	24/10/12	Breaking out for Piling/Foundations shown	

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Project
Remodelling of:-
Temple Park Leisure Centre
South Shields

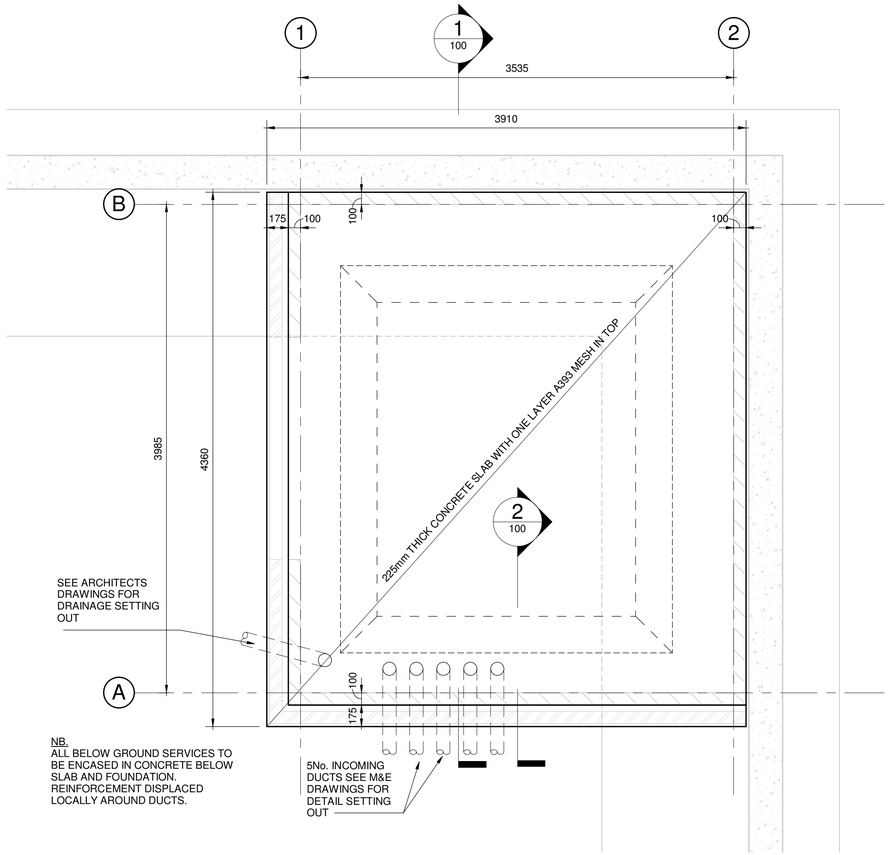
Drawing Title
Area of Demolition Level 1

Drawn by	XX	Date	July 2011
Checked by	XX	Date	--/--/--
Scale	1:125	Size	A0

Project Code: AD 5069
Drawing Number: 010

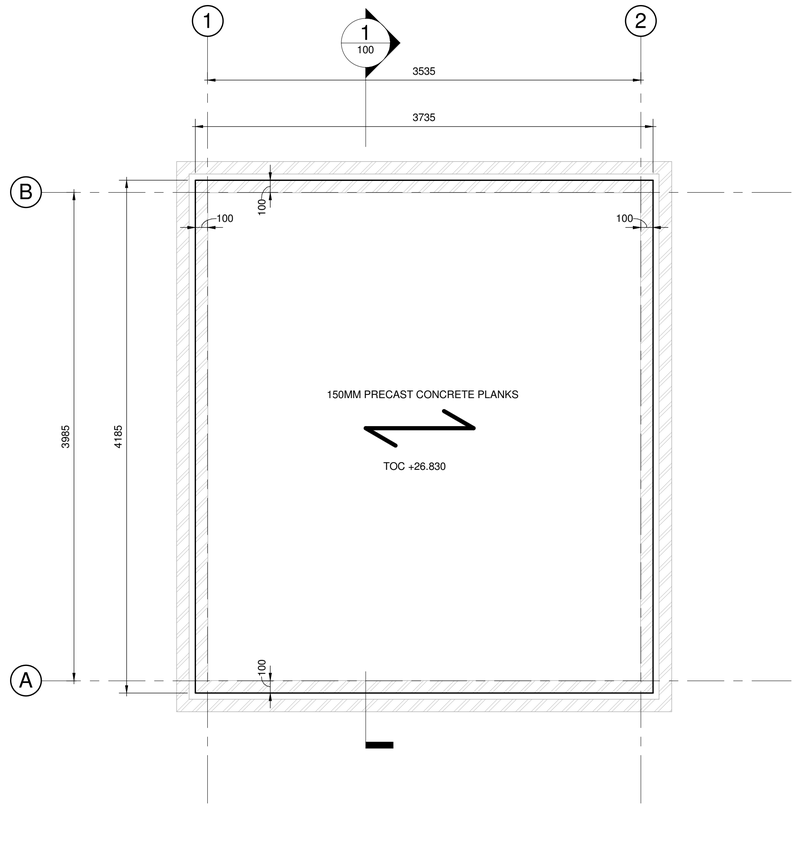
GROUND FLOOR PLAN - LEVEL 1

DO NOT SCALE



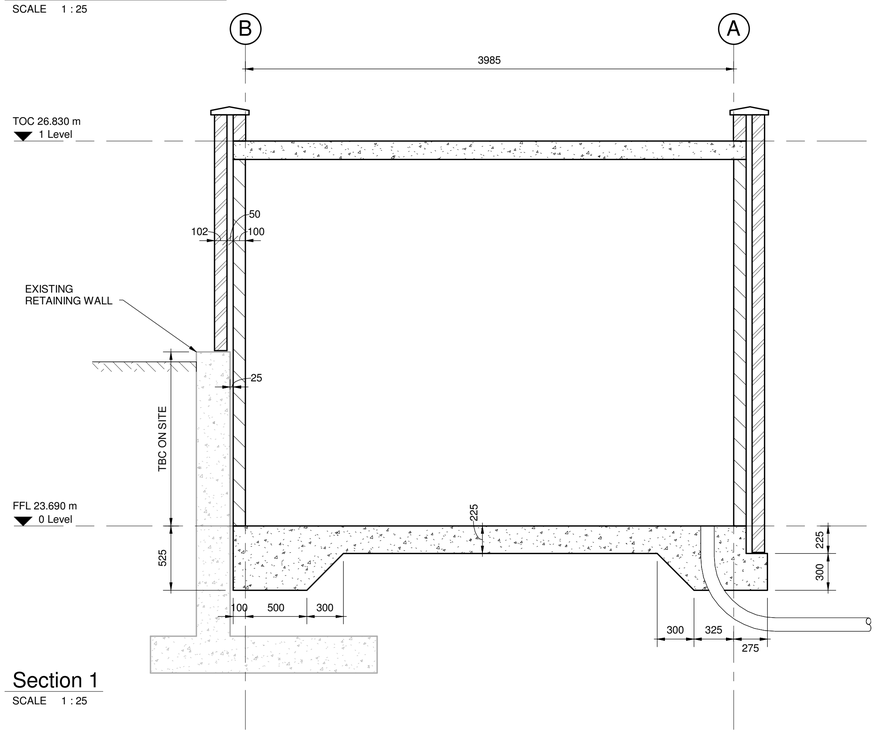
GROUND SLAB PLAN

SCALE 1 : 25



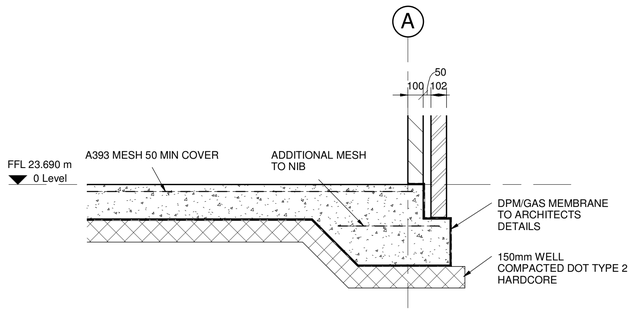
ROOF PLAN

SCALE 1 : 25



Section 1

SCALE 1 : 25



SECTION 2

SCALE 1 : 20

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE
3. ALL LEVELS TO ARCHITECTS DETAILS.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELAVANT DRAWINGS AND SPECIFICATIONS.
5. COVER = 50mm U.N.O.
6. CONCRETE GRADE TO BE A MINIMUM OF RC40.

Rev.	Date	Description	By	Chk'd	App'd
T01	03.11.17	Tender Issue	AMS	AS	SA
P01	01.11.17	Priliminary Issue	AMS	AS	SA

Drawing Status: **TENDER**

Suitability: **A**

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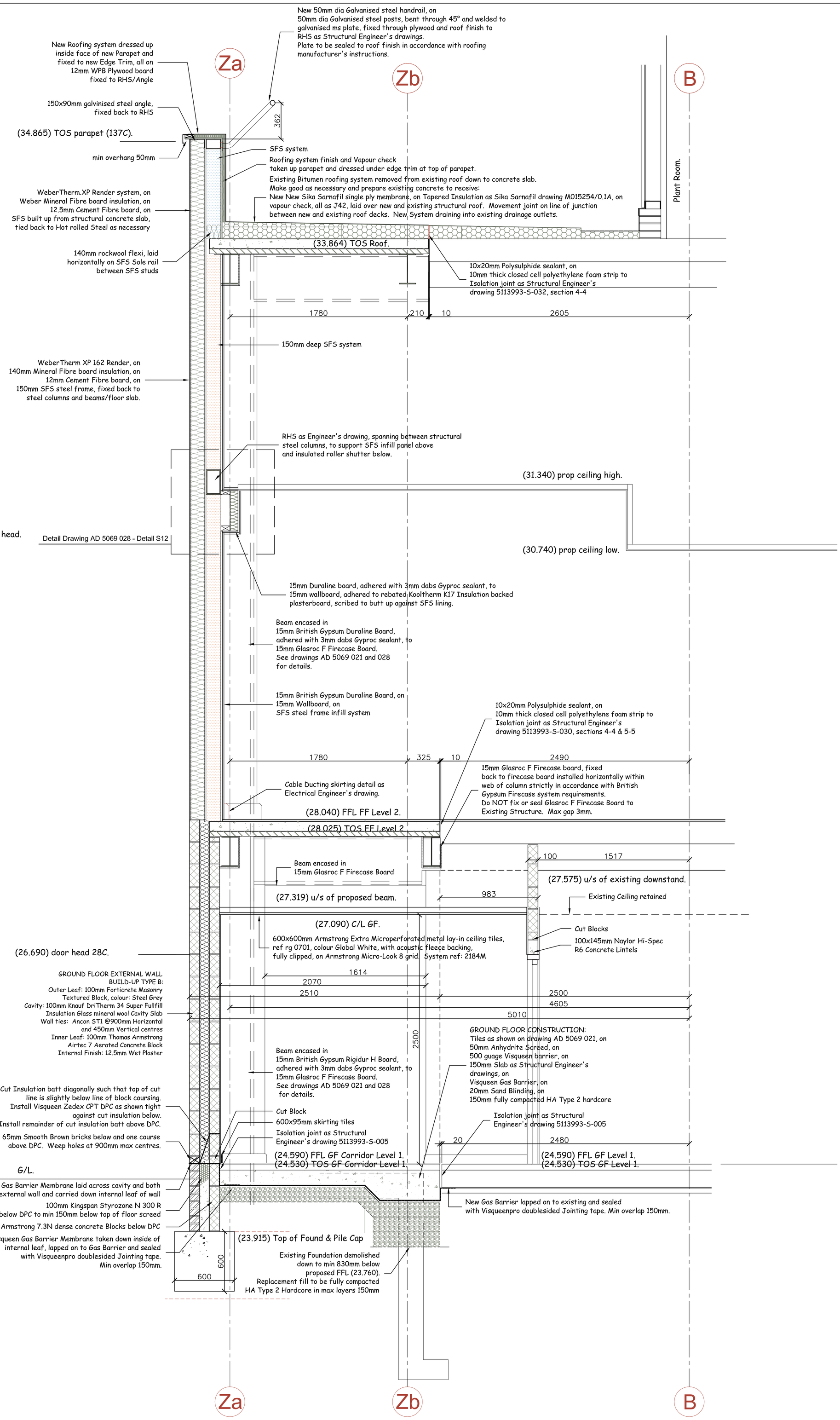
Project Title: Temple Park

Drawing Title: Boiler House GA

Scale	Designed	Drawn	Checked	Authorised
As indicated	AMS	AS	AMS	SA
Original Size: A1	Date: 01.11.17	Date: 01.11.17	Date: 01.11.17	Date: 01.11.17

Drawing Number: 5161453-ATK-DR-S-100

Revision: T01



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Rev	Date	Description	Chkd

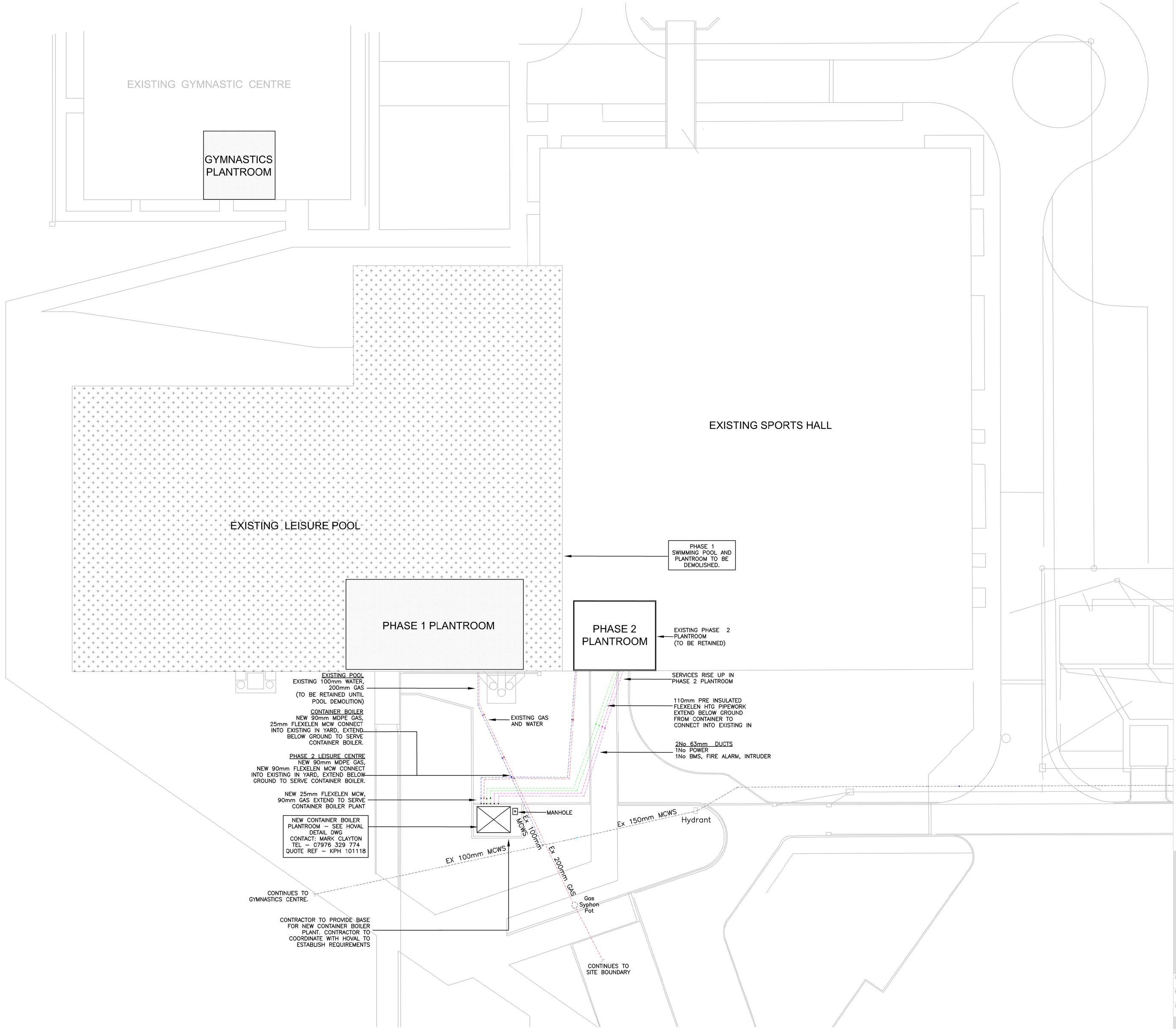
Project
Remodelling of: -
Temple Park Leisure Centre
South Shields

Drawing Title
Proposed External Wall
- Section B1-B1

Drawn by	JM	Date	06/09/12
Checked by	XX	Date	--/--/--
Scale	1:20	Size	A1

Project Code
AD 5069

Drawing Number
033



SITE SERVICES - CONTAINER PLANT

NOTES

ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS, ARCHITECTS DRAWINGS AND STRUCTURAL ENGINEERS DRAWINGS.

THE CONTRACTOR SHALL NOTIFY THE CONSULTANT ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND TO EXIST BETWEEN THE DRAWINGS AND SCHEDULES.

THE INSTALLATION SHALL BE INSTALLED AND COMPLY WITH ALL CURRENT BUILDING REGULATIONS, CIBSE GUIDANCE, IOP GUIDANCE, BRITISH STANDARDS, GAS SAFE REGULATIONS, HSE GUIDANCE AND AS RECOMMENDED BY THE MANUFACTURERS.

THE CONTRACTOR SHALL OBTAIN AND SATISFY THEMSELVES WITH THE REQUIREMENTS OF THE PROJECT BEFORE SUBMITTING THEIR TENDER PRICE.

THE CONTRACTOR SHALL OBTAIN THE ASBESTOS REPORT AND SATISFY THEMSELVES WITH THE LOCATIONS OF ASBESTOS BEFORE COMMENCING THE WORKS.

ALL PIPEWORK THROUGHOUT THE INSTALLATION SHALL BE FULLY INSULATED TO CURRENT STANDARDS. ALL PIPEWORK IN THE BOILER ROOM SHALL BE FINISHED IN A METAL CLAD WRAP. WITH PIPEWORK TO BE CLEARLY IDENTIFIED.

ALL PIPEWORK/FLUES THAT PENETRATE THE BOILER ROOM WALLS SHALL BE SUITABLY FIRE STOPPED USING ROCKWOOL FIREPRO RANGE.

ALL HIGH LEVEL PIPEWORK SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 2200mm AFFL.

Rev	Date	Description	Chkd

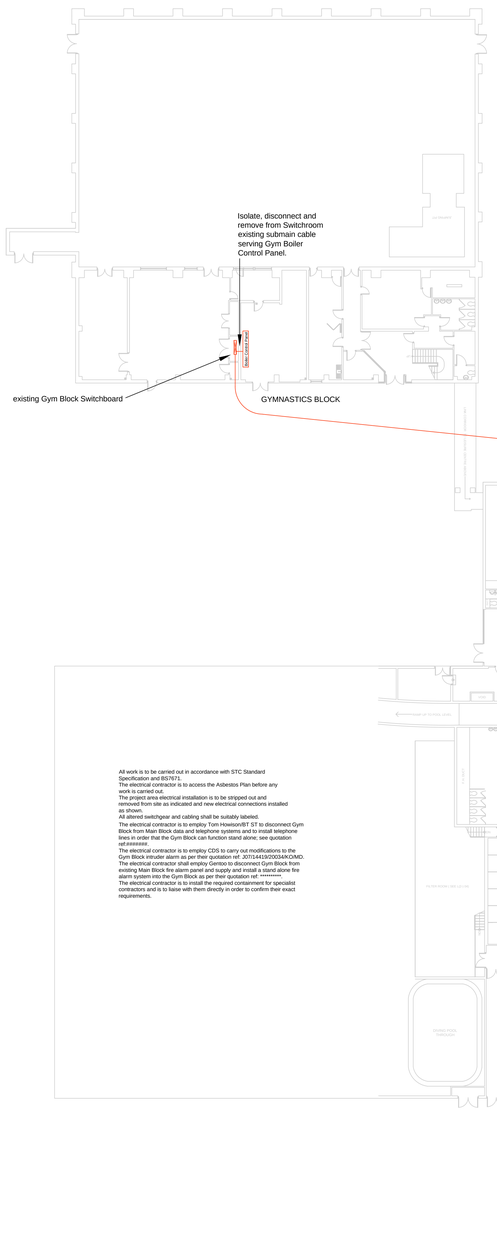
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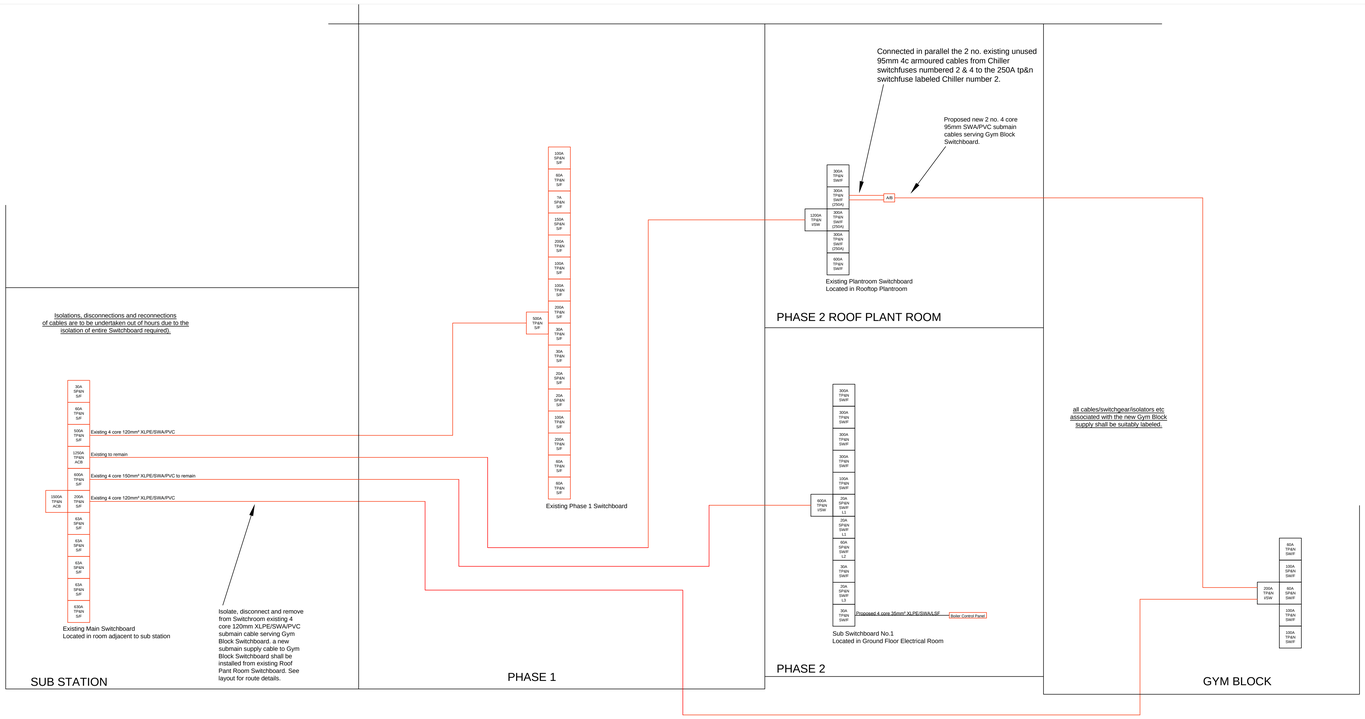
Project
DEMOLITION OF SWIMMING POOL TEMPLE PARK

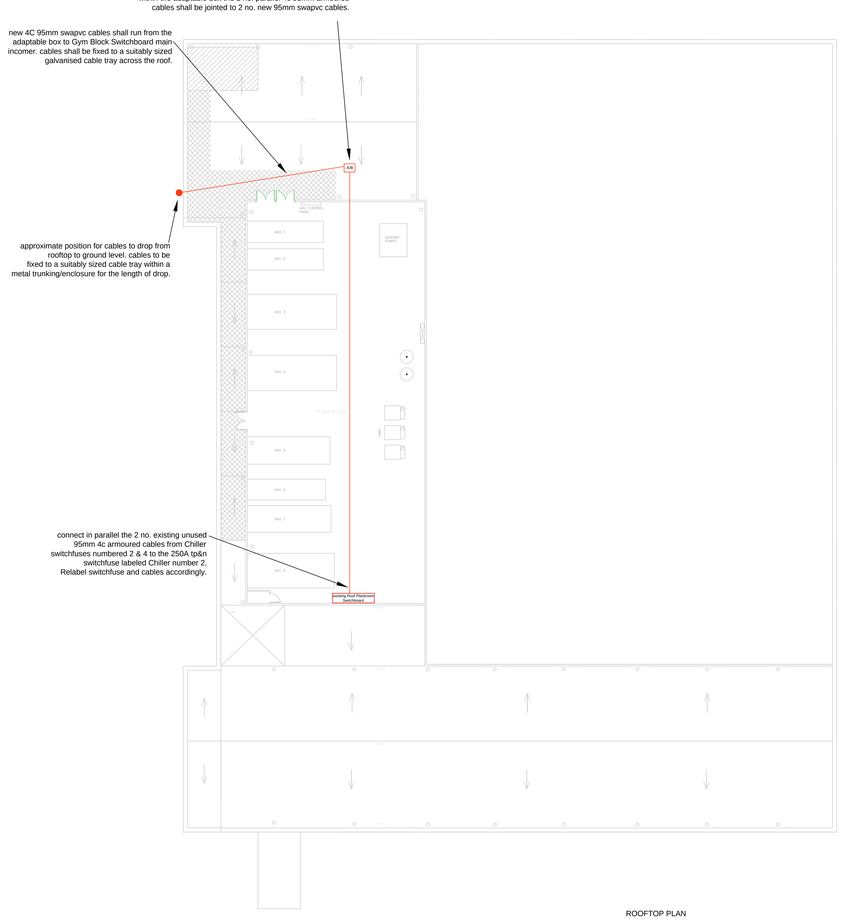
Drawing Title
MECHANICAL SERVICES ENABLING WORKS CONTAINER PLANT SERVICES SITE SERVICES

Drawn by	PD	Date	OCT 17
Checked by	XX	Date	--/--/--
Scale	1:250	Size	A1

Project Code	Drawing Number
AD 6167	(5) 01







TENDER DRAWING

Rev	Date	Description	Chkd

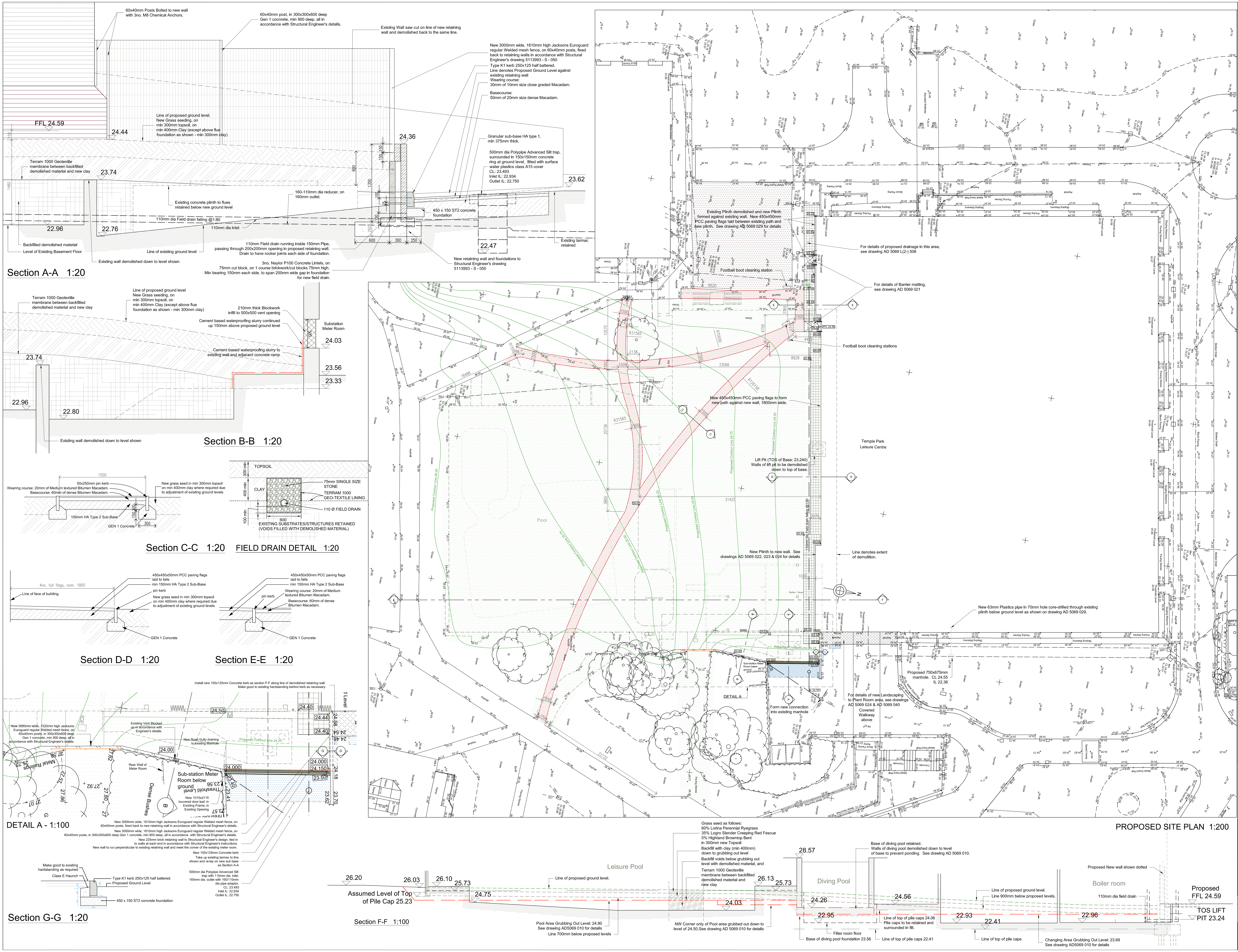
South Tyneside Council
Economic Regeneration
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Project
Pool Demolition
Temple Park Leisure Ctr.,
John Reid Rd
South Shields

Drawing Title
Electrical Enabling

Drawn by	MS	Date	Oct 2017
Checked by	MS	Date	Oct 2017
Scale	1:200	Size	A0

Project Code	Drawing Number
AD 6167	L(69)1



NOTE:
All drainage to comply with B.S. 8301 1985 'Building Drainage' and relevant manufacturers instructions on installation

Legend

Extent of area to be built up to proposed levels with grass seed as note below, in min 300mm new topsoil. Area of demolished structure to be covered by min 300mm topsoil, on min 400mm clay, unless shown otherwise, on Terram 1000 Geotextile membrane.

New Macadam hardstanding as Section A-A

New Macadam paths as Section C-C

Area to be grubbed out on completion of work to a level 300mm below existing levels and reinstated with grass seed as note below, in 300mm new Topsoil such that existing levels are retained.

Note: Grass seed to be as follows:
60% Lorina Perennial Ryegrass
35% Logro Slender Creeping Red Fescue
5% Highland Browntop Bent

24.250 Proposed Level

+24.18 Existing Level

Rev	Date	Description	Chkd

South Tyneside Council
Economic Regeneration

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Project
Remodelling of: -
Temple Park Leisure Centre
South Shields

Drawing Title
Proposed External Works

Drawn by	JM	Date	17/08/12
Checked by	IRS	Date	17/08/12
Scale		Size	A0
Project Code	AD 5069	Drawing Number	032

Appendix B. Reuse Criteria

Compound	Public Open Space (Parks) SOM Sand	1%
Arsenic	mg/kg	168
Cadmium	mg/kg	882
Chromium	mg/kg	83500
Chromium VI	mg/kg	251
Copper	mg/kg	45200
Lead	mg/kg	1340
Mercury	mg/kg	1110
Nickel	mg/kg	804
Selenium	mg/kg	2550
Zinc	mg/kg	201000
TPH aliphatic C5-C6	mg/kg	109000
TPH aliphatic C6-C8	mg/kg	163000
TPH aliphatic C8-C10	mg/kg	9720
TPH aliphatic C10-C12	mg/kg	17700
TPH aliphatic C12-C16	mg/kg	23800
TPH aliphatic C16-C21	mg/kg	864000
TPH aliphatic C21-C35	mg/kg	864000
TPH aromatic C5-C7	mg/kg	139
TPH aromatic C7-C8	mg/kg	69900
TPH aromatic C8-C10	mg/kg	5140
TPH aromatic C10-C12	mg/kg	8260
TPH aromatic C12-C16	mg/kg	10600
TPH aromatic C16-C21	mg/kg	7870
TPH aromatic C21-C35	mg/kg	7870
Acenaphthene	mg/kg	28600
Anthracene	mg/kg	150000
Benzo(a)anthracene	mg/kg	21.4
Benzo(a)pyrene	mg/kg	21.4
Benzo(b)fluoranthene	mg/kg	21.4
Benzo(k)fluoranthene	mg/kg	21.4
Benzo(g,h,i)perylene	mg/kg	21.4
Chrysene	mg/kg	4660
Dibenzo(a,h)anthracene	mg/kg	21.4
Fluoranthene	mg/kg	20200
Fluorene	mg/kg	19600
Indeno(1,2,3-c,d)pyrene	mg/kg	21.4
Naphthalene	mg/kg	623
Pyrene	mg/kg	15100
Phenol	mg/kg	685

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