# TEMPORARY SURFACE WATER MANAGEMENT PLAN

FOR

**COCKLEY HILL, KIRKHEATON**

ON BEHALF OF

**GLEESON HOMES**

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| Temporary Surface Water Management Plan for Cockley Hill, Kirkheaton<br>2386/01r1 | | | |
|---|---|---|---|
| | **Initial Issue**<br>**18th December 2025** | | |
| **Prepared By:** | I Casling<br>MEng (Hons) | | |

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## 1.0 INTRODUCTION

1.1 Gleeson Homes are proposing a residential development for 83 residential dwellings at land to the south of Cockley Hill Lane, Kirkheaton which is referred henceforth as "the site". The planning application number is 2021/62/92527/W.

1.2 ARP Associates have been appointed to prepare a Temporary Surface Water Management plan for the site to satisfy the requirements of the Planning Authority and discharge the associated planning condition 18.

1.3 The report has been initially prepared for the use and reliance of the Client only. The report shall not be relied upon or transferred to any other parties without the written agreement of ARP Associates. For the avoidance of any doubt, where ARP Associates enters into a letter of reliance for the benefit of a third party, that third party will be permitted to rely on the report. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party without ARP Associates consent.

1.5 Attention is drawn to the requirements of the Construction Design and Management Regulations 2015, and in particular, the duties and obligations of the Client.

## 2.0 SITE DESCRIPTION

General

2.1 The site, which is centred on Ordnance Survey Grid Reference 419219, 417988 and is located to the south of Cockley Hill Lane, Kirkheaton, Huddersfield and just south and to the west of the junction of Cockley Hill Lane and Cockley Meadows.

2.2 The site is an irregular shaped piece of land extending to an area of approximately 4.38 hectares (ha), with overall dimensions 335m north-east to south-west and 230m east to west at its maximum width. The site narrows significantly towards the central region of the site then widens and extends to an area to the east before tapering towards Orchard Road to the south.

2.3 A site location plan is presented in **Appendix A**, which shows the application site to which this report refers and the adjacent development sites for reference.

Current Use

2.4 The existing site is greenfield and was formerly subject to mining operations in the past.

Topography

2.5 A copy of the survey plan is included in **Appendix B** for reference. The site has very steep falls, from the north-east corner the site is at its highest point at 149.68m AOD. The site falls from this point directly west/south-west to a level of 122.79m AOD approximately 230m away on the western boundary. The site narrows in a central area to 54m wide at a level of 124m AOD and then drops to the southern boundary approximately 179m away to a level of 107.44m AOD.

2.6 Therefore the northern area of the site sheds west/south-west towards the boundary and residential properties beyond and the southern area of the site sheds directly south/south-west towards Orchard Road and then west a short distance to Shop Lane which is also very steeply falling to the south.

Development Proposals and Phasing

2.8 The proposed development proposals are shown in the Site Layout plan within **Appendix C** and is expected to be carried out in one phase**.**

2.9 The development will comprise of a construction access off Cockley Hill Lane in the north-east corner of the site. There will be a wheel washing facility a short distance in and site compound in the central area with site parking along the eastern boundary to be confirmed by the contractor.

## 3.0 EXISTING SURFACE WATER RUN-OFF

3.1 An existing flood and runoff routing plan is included in **Appendix D** for reference. As there is no hardstanding present on site, the large areas of greenfield will run off as it currently does and migrate south and run-off to low lying areas.

3.2 The greenfield runoff volume for the 1 in 2 year, 6 hour storm was calculated and are included in **Appendix E** for reference, based on the area to be intercepted to allow construction works (3.58 ha). The runoff volume is 436.838$m^3$ based on this greenfield area.

3.3 The volume accounts for the run-off that would occur with the existing greenfield area as shown in the Surface water management plan drawing within **Appendix F.** The rainfall event/run-off volume in the 1 in 2 year, 6 hour period is what the local authority requires managing in the temporary construction phase.

## 4.0 PHASING OF DEVELOPMENT AND TEMPORARY DRAINAGE PROVISION

Existing run-off and drainage provision

4.1 The site has no existing drainage provision and the proposed drainage strategy is to take flows off-site and down Shop Lane into a neighbouring new residential development through a new sewer to a culverted watercourse that is being diverted.

4.2 The construction access, wheel washing facilities, site compound and site parking for both phases has been schematically shown on the surface water management plan included in **Appendix F**.

4.3 The proposed run-off is to be contained within the proposed earth bunds and attenuation basin as shown on the surface water management drawing 2298/03/SK06 in **Appendix F**. The bunds will be a maximum of 500mm high and this will allow water to be channelled into the basin. Silt fencing is also to be incorporated to stop silts migrating out of the bunds and run-off that might exceed it in events greater than the 1 in 2 year, 6 hour rainfall event.

4.4 The volume of run-off calculated in Section 3 is worst case and can be reduced as the proposed drainage network is being constructed and routed through the attenuation basin and flow control, eventually discharging to the watercourse off-site.

4.5 Silt must be removed from run-off that is collected in the base of the basin, excavations or bunded areas that have been formed to contain the run-off. Clean water that has gathered in the basin, excavations or bunded areas can be pumped out to tanker to be taken away or over adjacent ground as long as the land is part of the site and you have permission from the landowner to pump. An indicative location to pump the surface water to through dirt bag / silt socks is shown in Appendix F (near to the proposed flow control and connection to the off-site culverted watercourse). These areas must be verified free from contamination and silt, in the first instance a piped connection/overflow to the flow control manhole is proposed. Subject to site conditions and slope stability assessment the flows may be pumped over ground instead should no contamination or pathways be created.

4.6 During prolonged rainfall or heavy events, when the water level builds up the frequency of emptying to tanker or pump to ground will increase. Some volume will dissipate to ground and evaporate, so de-watering may be infrequent dependent on weather conditions.

4.7 If pumping is to be used, the pump rate must be set to allow water to be quickly absorbed into the ground, and the discharge point moved to prevent ponds forming. Dewatering bags (dirt bags / silt socks) must be used to remove silt from flows. Additionally, water should not be pumped onto land that is already saturated as it can lead to pollution if the water flows overland and into a watercourse. The land must also not have been stripped of vegetation or topsoil as it is likely to pick up high levels of silt and cause pollution.

4.8 All temporary drainage works should be in accordance with CIRIA document C532 – Control of Water Pollution from Construction Sites – Guidance for consultants and contractors and also meet the local authority/LLFA requirements. The temporary drainage, especially if not pumped to tanker must not conflict with any geo-technical assessment findings for example create a pollution pathway or conflict with any proposed remediation strategy.

Construction Phase surface water management and drainage provision

4.9 As the site is cleared and remediated as required, the roads, gullies and sewers will be installed along with the surface water attenuation basin and flow control with connection to the off-site sewer to the south. This will outfall into a surface water drainage system on a new residential development site and into a newly diverted culverted watercourse.

4.10 Mud, silt and debris must not be allowed to enter the existing public sewers – measures must be taken to make sure the proposed foul connections from the site do not allow this during the construction phase. No surface water connections are proposed from the site to an existing public surface water sewer. Silt socks must be installed in gullies and drainage outlets to prevent construction waste and contamination from entering the sewers.

4.11 As the roads and sewers are installed – in particular the surface water drainage, it should be possible to pump clean surface water into the proposed S104 sewers through silt bags which would allow run-off to be contained in the surface water attenuation basin. This would require a temporary bung in place of the flow control, within the downstream manhole of the basin.

4.12 As the construction works progresses and bunds are no longer needed, the completed S104 sewers, basin and flow control manhole can be jetted and cleared, with any residual silt removed from the downstream flow control manhole. Once clear the bung can be removed and the hydro-brake installed. The land drainage consent must be in place prior to making downstream discharges to the downstream sewer into the culverted watercourse. The proposed S104 drainage is shown within **Appendix H**.

Wheel washing

4.13 Jet washes will be provided at wheel wash locations at site entrance locations as described above and moved into site as development progresses. An area of hardstanding will be provided that drains to a closed manhole that will be pumped out and taken off site by tanker as required.

## 5.0 ON-GOING MONITORING AND REPORTING REGIME

5.1 The attenuation basin, bunds, silt fencing and water levels should be monitored daily for any sign of defect or issue. If flows are escaping the bunds, the sizes should be increased and subject to inflow, the frequency of dewatering should be increased.

5.2 The silt fencing should be checked and repaired/re-instated where required on a daily basis. After heavy flows and / or silt build-up, the silt should be removed and stockpiled on site and disposed of in accordance with the geo-environmental assessment or to the appropriate tip as required. The dirt bags/silts socks should be checked and replaced when damaged or full as per the manufacturer guidance.

5.3 As construction progresses, the run-off volume should reduce as the impermeable area decreases, and the development is drained into the proposed surface water network. The levels of water in the bunds and silts should be monitored daily. The bunds can gradually be reduced in size and removed as required to allow remaining plots to be constructed. Prevention measures such as silt socks installed in gullies should be monitored for silt build up and cleared as required to stockpile and then a suitable tip.

5.4 The wheel washing facilities should be monitored daily in terms of silt build up and volume of water in the closed manholes. The silt should be removed to a stockpile and then suitable tip as required with the water pumped out and removed by tanker. The frequency will vary on usage and should be monitored daily.

5.5 As the temporary surface water drainage moves from bunds to using the proposed S104 surface water sewers and basin, regular inspection of silt and water levels should take place daily/weekly subject to weather conditions. The dewatering of the basin and removal of silts should take place as required – when levels have built up and further rainfall is likely. Once silts and construction debris is not likely to enter the sewers and actively prevented, the discharge to the downstream sewer and culverted watercourse can be brought into operation subject to land drainage consent and conditions.

5.6 Regular reporting of the daily inspection of bunds, wheel wash facilities and silt and water levels must be made to the site manager, and corrective action as outlined in this report must be taken to avoid pollution run-off and flooding incidents.

## 6.0 SUMMARY

6.1 This report details the temporary surface water drainage strategy for the development of 83 residential dwellings at land south of Cockley Hill Lane, Kirkheaton, Huddersfield. The proposed development will be served by a separate surface and foul water drainage system.

6.2 Temporary surface water run-off bunds are proposed along the boundaries and to the south of the site near to the attenuation basin.

6.3 It is proposed to dewater the bunds as required by tanker or pumped to the flow control manhole or ground in the existing grassed areas on site, removing silts contained by proposed silt fences to the bunds. The silt should be stockpiled and taken to suitable tip as required.

6.4 As construction progresses, run-off will be drained to the proposed surface water network. The run-off can be contained within the surface water attenuation basin downstream and bunged up in place of the flow control to be installed.

6.5 The run-off contained within the basin can be dewatered by tanker and/or discharge made by pumping to the flow control manhole and downstream sewer with connection to neighbouring new development's sites culverted watercourse to the west of Shop Lane. This would be when the flow control and downstream drainage is completed subject to land drainage consent and all relevant approvals. It may be possible to pump over ground as described above. The surface water drainage system including gullies and attenuation basin etc must be cleared of any silt and debris prior and no construction debris and silt must be allowed to discharge downstream into the watercourse.

6.6 A regular schedule of daily inspection and maintenance of the bunds, wheel washing facilities and silt and water levels is proposed, with regular reporting made to the site manager to ensure any corrective actions are made in a timely manner.

6.7 This report contains a proposed temporary surface water management plan and is subject to all relevant approvals. It is to be implemented by a competent contractor experienced in such works and implemented in line with any remediation strategies, geo-environmental/technical recommendations specific to the site and all applicable construction and health and safety guidance and regulations. Reference to the land drainage consent required for the surface water sewer connecting to the downstream culverted watercourse must be made and adhere to its permission, works outside of and prior to this permission into the watercourse must be made under a separate land drainage consent as required.

6.9 Subject to compliance with the above, and subject to the further approvals of Regulatory Authorities, it is anticipated that the proposed temporary surface water management plan can satisfy the requirements of the planning condition 18 of the decision notice to which this site relates.

# A P P E N D I X  A

## SITE LOCATION PLAN

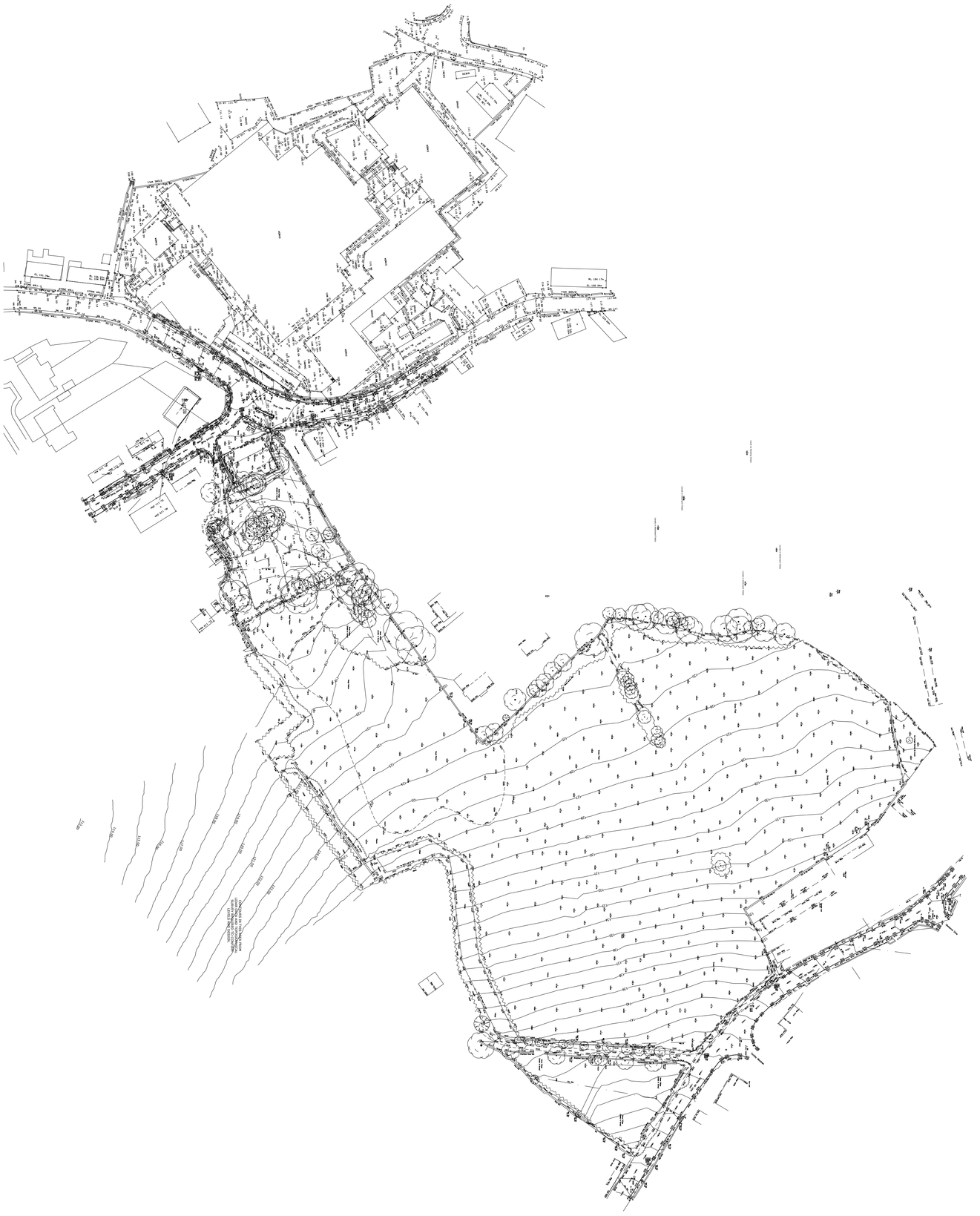
# 2298/03 - Site Location Plan

Cockley Hill Lane, Kirkheaton Huddersfield

Ordnance Survey Grid Reference 419219, 417988 – Nearest Post Code HD5 0HH

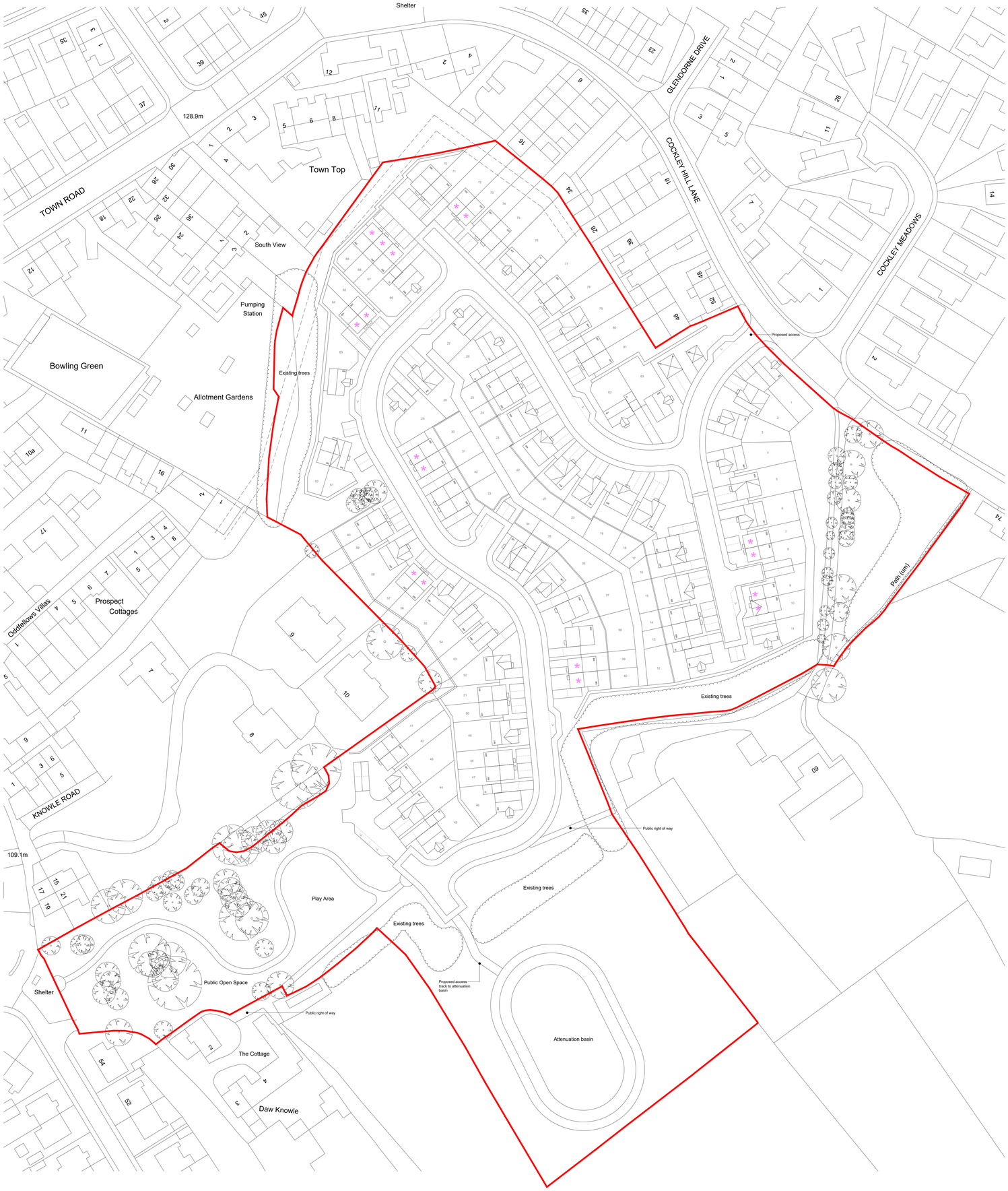
# APPENDIX B

## TOPOGRAPHICAL SURVEY



# A P P E N D I X  C

# DEVELOPMENT PROPOSALS




**Notes:** Sketch schemes may be based on plan information of unknown origin and is subject to verification and survey. Contractors must verify all dimensions on site before commencing any work or shop drawings. Figured dimensions are to be taken in preference to scaling. Drawing to be read in conjunction with Architects Spec. Building areas are liable to adjustment over the course of the design process due to ongoing construction detailing developments. Subject to statutory approvals and survey.

N

**Accommodation Schedule**

| House Type | Mobility M4(2) | Mobility M4(3) | Area (sq.ft) | Quantity | Total Areas (sq.ft) |
|---|---|---|---|---|---|
| **Affordable (denoted with *)** | | | | | |
| **250** 2 bed semi detached | | | 753 | 6 | 4,518 |
| **252** 2 bed semi detached | | | 753 | 3 | 2,259 |
| **350** 3 bed semi detached | | | 904 | 8 | 7,232 |
| | | | **Affordable Total** | **17** | **14,009 sq.ft** |
| **Open Market Sale** | | | | | |
| **250** 2 bed semi detached | | | 753 | 5 | 3,765 |
| **350** 3 bed semi detached | | | 904 | 14 | 12,656 |
| **351** 3 bed semi detached corner | | | 904 | 2 | 1,808 |
| **357** 3 bed semi detached | | | 904 | 7 | 6,328 |
| **359** 3 bed detached corner | | | 984 | 5 | 4,920 |
| **360** 3 bed detached | | | 919 | 2 | 1,838 |
| **361** 3 bed detached integral garage | | | 974 | 9 | 8,766 |
| **450** 4 bed detached | | | 1,156 | 2 | 2,312 |
| **451** 4 bed detached | | | 1,071 | 3 | 3,213 |
| **452** 4 bed detached integral garage | | | 1,211 | 4 | 4,844 |
| **454** 4 bed detached integral garage | | | 1,149 | 8 | 9,192 |
| **455** 4 bed detached corner | | | 1,138 | 5 | 5,690 |
| | | | **Open Market Sale Total** | **66** | **65,332 sq.ft** |
| | | | **Overall Total** | **83** | **79,341 sq.ft** |
| | | | **Net Developable Site Area** | 6.23 Acre | 12,735 sq.ft/Acre |
| | | | **Total Site Area** | 11.91 Acre | |

| Rev | Description | Drawn | Date |
|---|---|---|---|
| E | Sales garage and substation added | CR | 09.07.25 |
| D | Red line amended to suit legal plan | CR | 20.06.25 |
| C | Red line amended | CR | 09.05.25 |
| B | Plot substitutions | LR | 16.08.24 |
| A | Plot numbers reduced to 83 | CR | 06.08.24 |

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Client: Gleeson

Project: Cockley Hill Lane, Kirkheaton

Status: Preliminary — BIM Code: S2

Title: Proposed Site Layout — Drawn: CR — Checked: GE

| Project | Originator | Chapters | Drawing No. | Rev | Date | Scale |
|---|---|---|---|---|---|---|
| 1187 | EA | A | S001 | E | 12.04.24 | 1:500 (A0) |

# APPENDIX D

## EXISTING FLOOD / RUNOFF ROUTING PLAN


# N O T E S

ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015 AND THE DUTIES AND RESPONSIBILITIES CONTAINED THEREIN

## K E Y

Flow direction

Site boundary

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

SURFACE WATER MANAGEMENT PLAN NOTES

1. To be read in conjunction with Temporary Surface Water Management Plan report (reference 2298/03r1).
2. Earth bunds/lagoons/control areas should be continuously reviewed by the site manager. Additional locations/relocation may be required subject to phasing and works required on site.
3. Earth bunding to be constructed along lower boundaries of site to prevent surface water run off leaving the site & to direct it towards the lagoons/ponds/control areas for treatment.
4. Topsoil strip should be kept to a minimum to suit the programme of works.
5. Stockpiles of topsoil should be seeded if intended to be in place for longer than 3 months.
6. To prevent the deposition of silt into newly constructed or existing drainage systems, silt socks shall be inserted into all gully pots. The gully's should be inspected weekly and after each rainfall event. Repairs/replacement should be undertaken as necessary.
7. After each rainfall event temporary lagoons/ponds/control areas shall be drained through a settlement tank and de-silted to ensure they are ready to accommodate the next rainfall event and reduce the chance of overtopping.
8. After periods of heavy rainfall when the lagoons/ponds/control areas are full then it may be necessary to tanker the water away to a suitable facility if there is a risk of overtopping.
9. Dirt bags/silt socks to be emptied periodically and after each rainfall event. Sediment/silt shall be taken to a suitable facility or disposed of in a suitable location on site.
10. Dirt bags/silt socks to be replaced as necessary in accordance with the manufacturers guidance.
11. A permit to discharge will be required for the temporary discharge of surface water.

| Rev | By | Date | Revision | Chk | Apvd |
|---|---|---|---|---|---|
| / | IC | 18.12.25 | Issued for approval | MI | MI |

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TITLE

EXISTING FLOOD / RUN-OFF ROUTING

PROJECT

COCKLEY HILL, KIRKHEATON

CLIENT

GLEESON HOMES

DRAWING STATUS

PRELIMINARY

| Scale | Date | Drawn | Chk. |
|---|---|---|---|
| 1:1000 @ A1 | DEC 25 | IC | MI |

Drg. No. 2298/03/SK05 Rev /

# A P P E N D I X  E

## EXISTING SURFACE WATER RUN-OFF CALCULATIONS

## Greenfield Runoff Volume

FSR Data

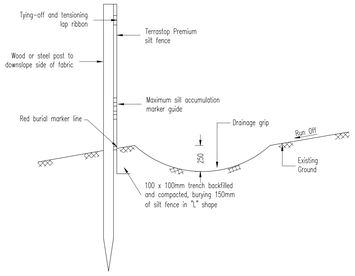
| | |
|---|---|
| Return Period (years) | 2 |
| Storm Duration (mins) | 360 |
| Region | England and Wales |
| M5-60 (mm) | 19.000 |
| Ratio R | 0.350 |
| Areal Reduction Factor | 1.00 |
| Area (ha) | 3.576 |
| SAAR (mm) | 830 |
| CWI | 118.794 |
| Urban | 0.000 |
| SPR | 47.000 |

Results

| | |
|---|---|
| Percentage Runoff (%) | 45.45 |
| Greenfield Runoff Volume ($m^3$) | 436.848 |

# APPENDIX F

# SURFACE WATER MANAGEMENT PLAN




TYPICAL SECTION THROUGH HY-TEX TERRASTOP PREMIUM SILT FENCE
(1:NTS)

PHOTO OF DIRT BAG / SILT SOCK USAGE
(NTS)

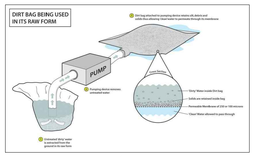
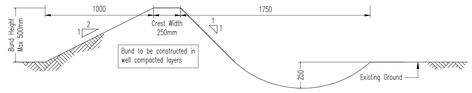
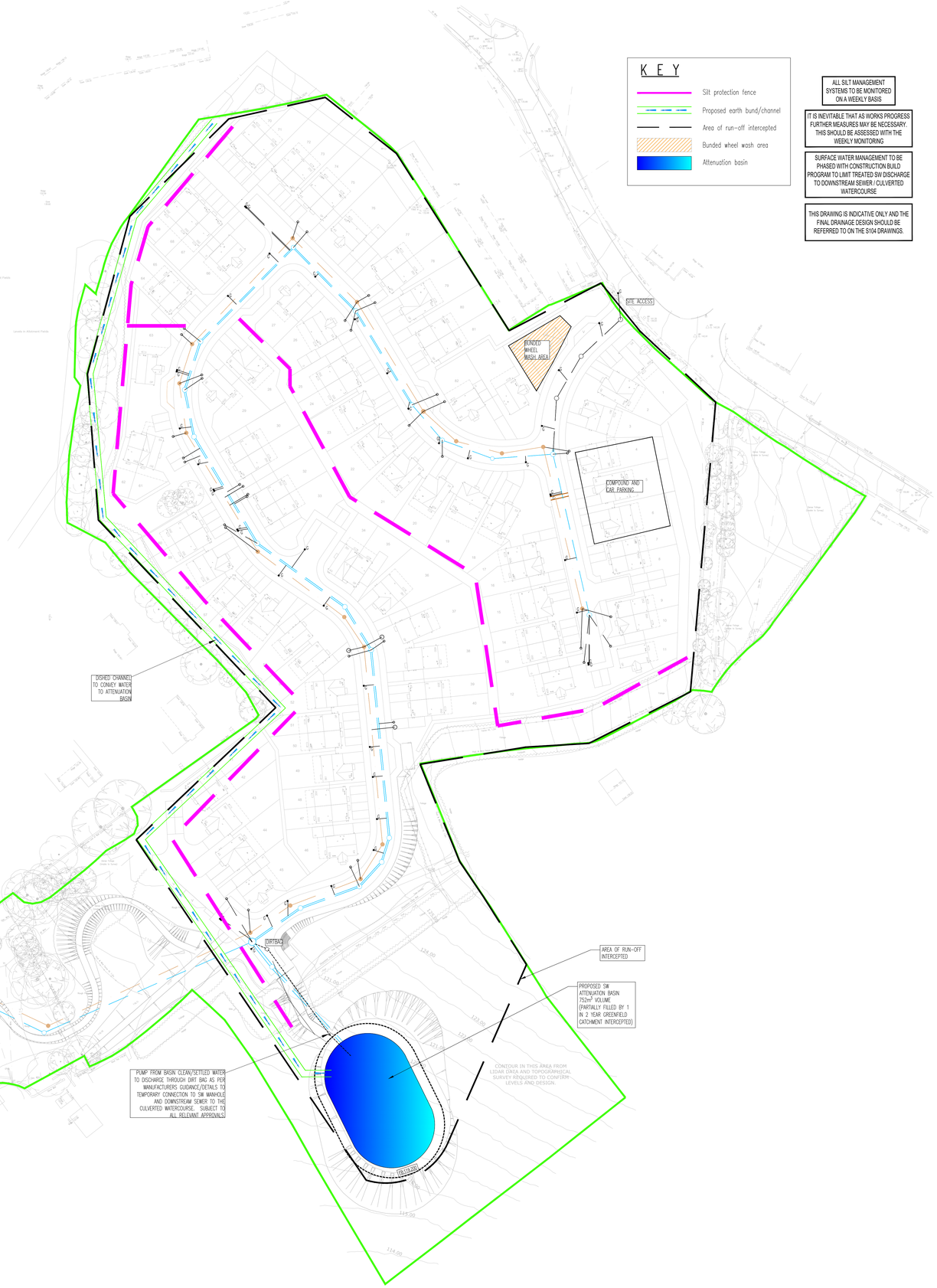



DIAGRAM OF DIRT BAG / SILT SOCK USAGE
(NTS)




TYPICAL SECTION THROUGH PROPOSED TEMPORARY EARTH BUNDING / DISHED CHANNEL
(NTS)




## N O T E S

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ALL DESIGNS ARE SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

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11. A permit to discharge will be required for the temporary discharge of surface water.

| Rev | By | Date | Revision | Chk |
|---|---|---|---|---|
| / | IC | 18.12.25 | Issued for approval | MI |

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