OUTLINE FLOOD RISK ASSESSMENT AND SUSTAINABLE DRAINAGE STRATEGY

LAND REAR OF 294/30 ASHBY HIGH STREET & LEOPOLD CLOSE

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The detailed design first element will be agreed at a later age have not formed partition.

1.0 INTRODUCTION

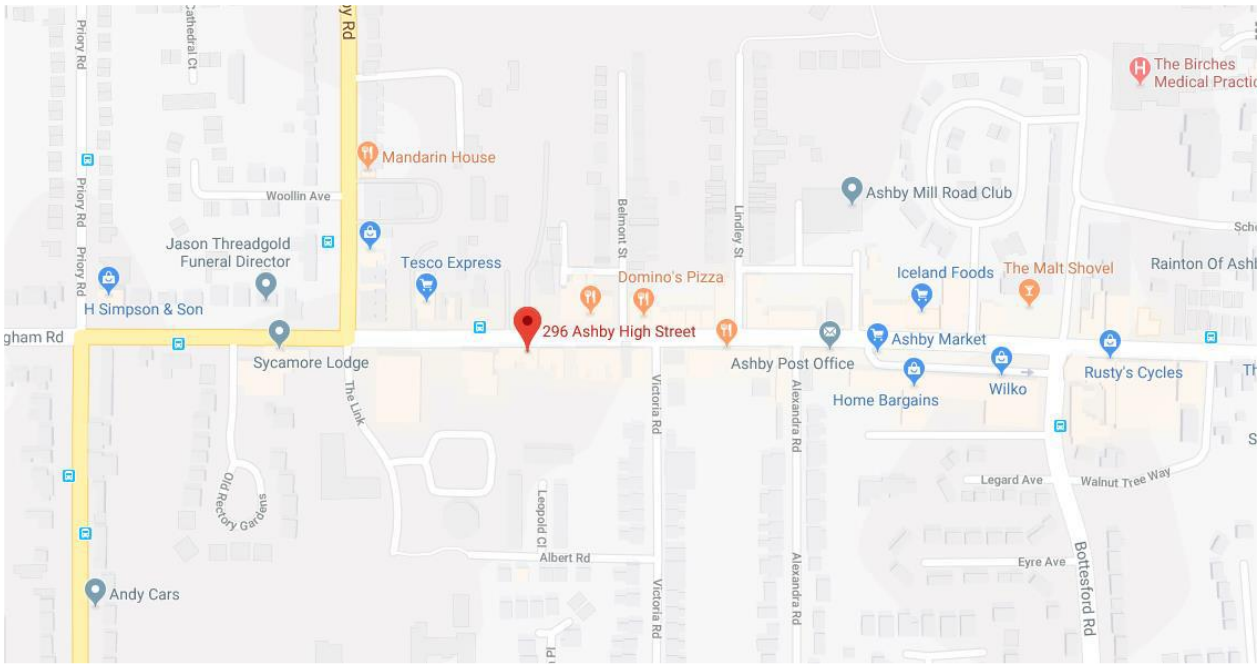
This Outline Drainage Strategy and Flood Risk Assessment has been produced on behalf of Nick Smith client in respect to the re-submission of PA/2019/642, for residential development to the rear of 294 to 300 Ashby High Street and Leopold Close in Ashby.

2.0 DATA USED

Down line drainage structure and flood risk assessment is based on the following information

- British Geological Survey drift and geology maps
- British Geological Survey hydrogeology data
- Severn Trent Water Surface Water and Combined Sewer flood maps

3.0 EXISTING SITE



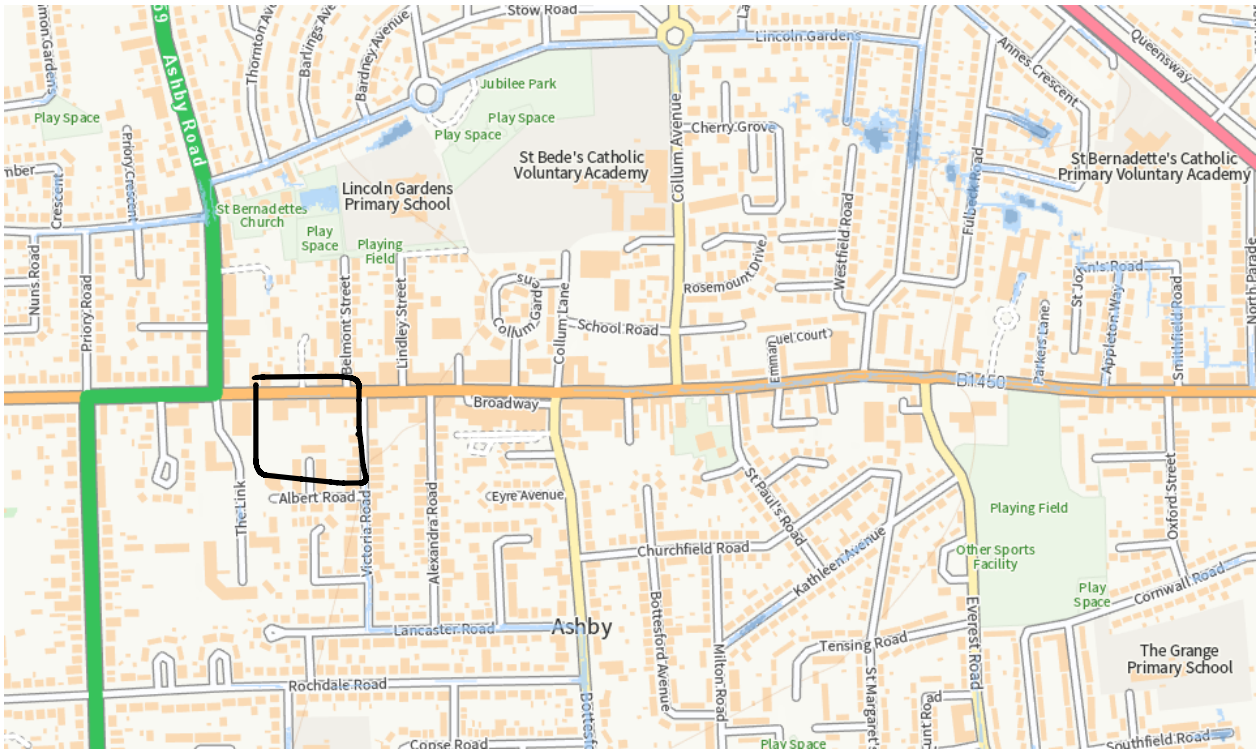
The land is owned by the applicant which is a brownfield site previously used in connection with number 300 High Street the site is close to the centre of Ashby High Street shopping centre which includes a variety of shops, various facilities & schools.

4.0 PROPOSED DEVELOPMENT

The site is in flood zone one and therefore, in terms of fluvial flood risk is safe.

Fig 1 below indicates that the site is not at risk of pluvial flooding.

FIG 1 – ENVIRONMENT AGENCEY SURFACE WATER FLOOP MAPPING



PROPOSALS - SURFACE WATER DRAINAGE

- The proposed development surface water drainage system will be designed to comply with the 100-year plus 40% climate change flood event. It also needs to ensure that it will not cause flood risk to the adjacent & downstream catchment (elsewhere).

- The recommended surface water drainage hierarchy is to utilise soakaways or other infiltration methods as a preferred option, followed by discharge into an appropriate water course or if this not or if this is not available the final option is to an existing public sewer.

INFILTRATION

- The online British Geological Survey maps indicates underlying clay soils and therefore full infiltration is not a feasible surface water drainage solution for this development. For the purposes of this assessment infiltration is not considered feasible. However, this may change during the detailed design phase for the development.

WATERCOURSE

- Site inspections have confirmed there are no available nearby open water courses within the vicinity of the development and therefore this again is not a feasible discharge outfall option for the development.

PUBLIC SEWERS

- Severn Trent water public surface water and combined sewers exist on Leopold close and Ashby High Street respectively. The development site would not appear to have any existing connections into this drainage system. However, the development has, by default an ‘as of rights’ connection into both assets and therefore will be proposing to connect into one or both assets moving forward. The site is brownfield with no existing connections and therefore we will be proposing a new connection at 5 litres / second combined discharge rate into one/both these assets.

OUTLINE PROPOSALS & ADOPTION MEASURES

- The total area of the units is **1,500m2**. Most of the brownfield site will be hard paved and buildings with 4No property rear gardens in soft landscaping **(200m2)**
- For the purposes the design we have assumed the **1,300m2** in the calculations.
- The depth of rainfall for the worst-case event of 100-year event, 6hr duration is 35mm.
- This would result in a volume of water of 1,300m2 x 0.035m = 46m3 + 40% CC = **64m3**.

- For the purposes of this assessment, we propose:

- Lined permeable paving system with 100mm diameter underdrain for all hard paved areas (800m2 * 0.05) less 30% voids = **28m3**.TO BE ADOPTED BY MANAGEMENT COMPANY

- Additional crated storage or oversized pipes will be provided prior to connection into the Severn Trent Water Surface Water/Combined Sewer. For example, 25 linear metres of 900mm diameter pipe provides the required **36m3** of storage. TO BE ADOPTED BY MANAGEMENT COMPANY

- Roof water to discharge into underdrain, underneath the sealed permeable paving system - TO BE ADOPTED BY SEVERN TRENT WATER.

- Rainwater Butts to be provided at all roof-water outfall locations – this will encourage water reuse by the development and its occupiers.

- It is assumed at this stage that excavation within the vicinity of the retained trees (TPO1 & TPO2) is limited, and this should reflect the detailed surface water drainage design.

- The above proposals are indicative only for the purposes of this strategy and will be confirmed at detailed design stage.

PROPOSALS - FOUL WATER DRAINAGE

Seven Trent water Combined & Foul sewer assets exist on Ashby High Street and Leopold Close respectively and are both viable foul water drainage outfalls for this development. To be agreed at detailed design stage with the water company.