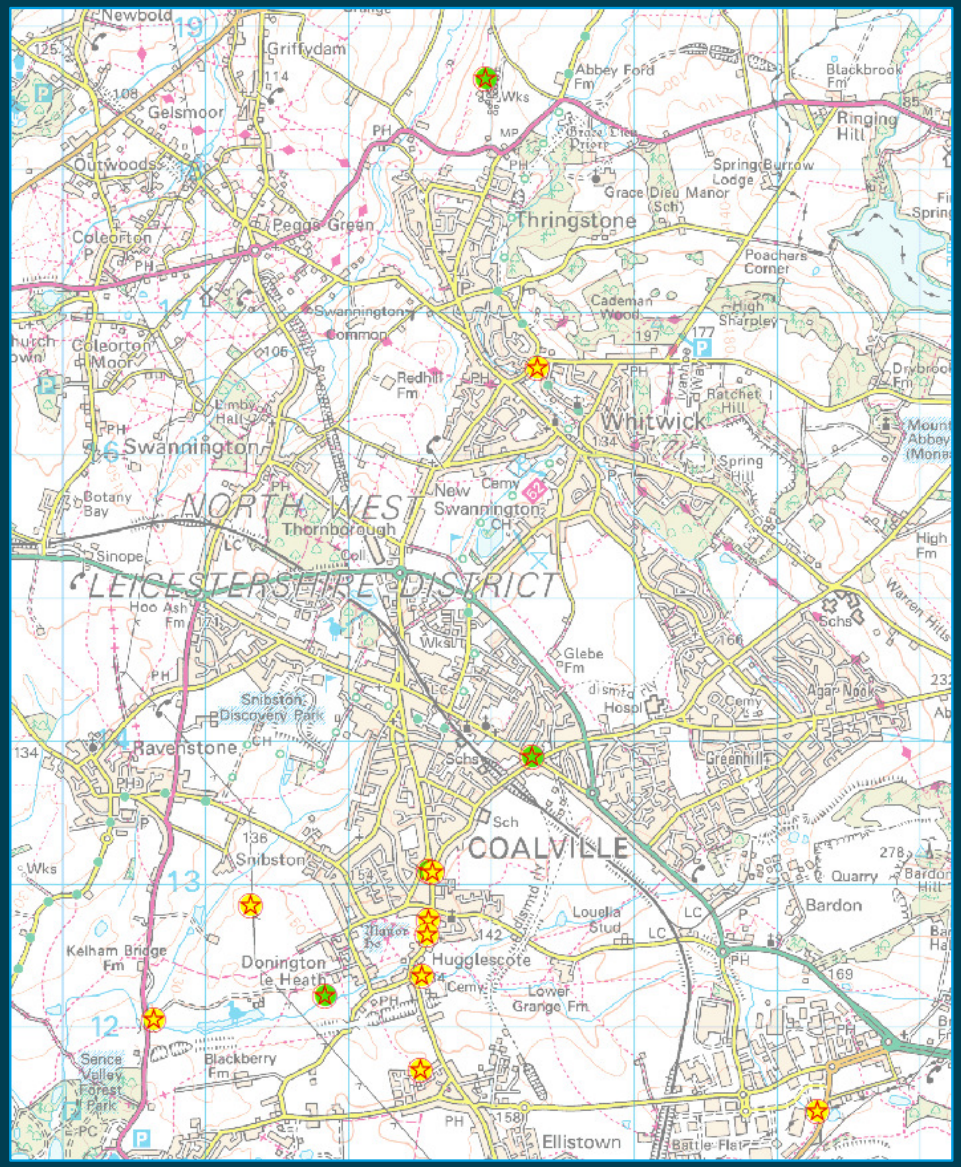

SNARROWS

Coalville Catchment of interest

SEVERN TRENT

WONDERFUL ON TAP

PROJECT COMMITMENTS

Reduce spills from Donnington le heath – off Townsend Lane CSO to an average of less than 10 spill per year

Resolve any Harm to the watercourse If water quality modelling indicates harm

Deliver the system improvements by 2030

Reduce Spills from other WINEP CSO's to an average of less than 10 spills per year (exact CSO's to be confirmed as part of modelling).

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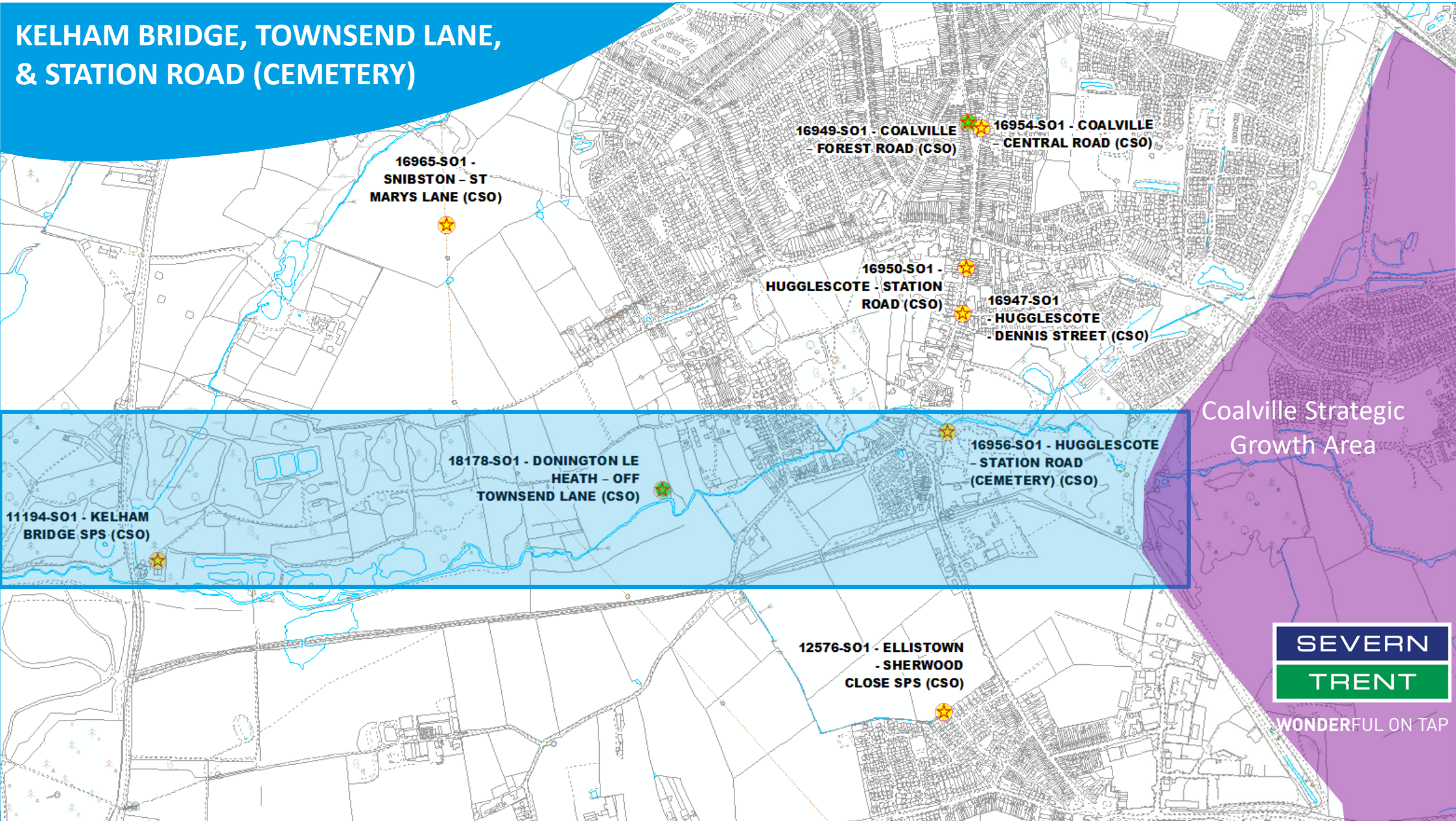
KELHAM BRIDGE, TOWNSEND LANE, & STATION ROAD (CEMETERY)



SEVERN TRENT

WONDERFUL ON TAP

KELHAM BRIDGE, TOWNSEND LANE, ST MARY'S & HUGGLESCOTE STATION ROAD (CEMETERY)

Concept – solution to be developed

- Historic Growth Solution, new Trunk Main from Sewer upstream of Hugglescote Station Road to Townsend lane CSO.
- Solution required to resolve Flooding issues within Hugglescote, must include crossing of the River Sence near Station Road.
- Growth Solution proposed a further section of upsizing down to Kelham Bridge, but land stability is a concern to due historic settlement of assets in this location.
- Resolve flooding at station road but Increased spills at Townsend Lane are therefore anticipated as a result of the growth scheme if next section not completed.
- Additional Storage upstream of Townsend Lane needed to mitigate the spill impact and reduce spills to less than 10
- Additional Drivers to deliver CSO improvements

- Key Risks
  - Levels suitable for crossing under River Sence adjacent to Hugglescote Station Road
  - Developing a solution that can re-cross the River Sence adjacent to Townsend lane
  - Historic Settlement / Subsidence
  - Mining area and High-Water Table
  - Pass forward flow limitations at Kelham Bridge based on Snarrows Capacity and condition of existing Rising Main
  - Based on unverified Model

Part of Catchment Re-configuration

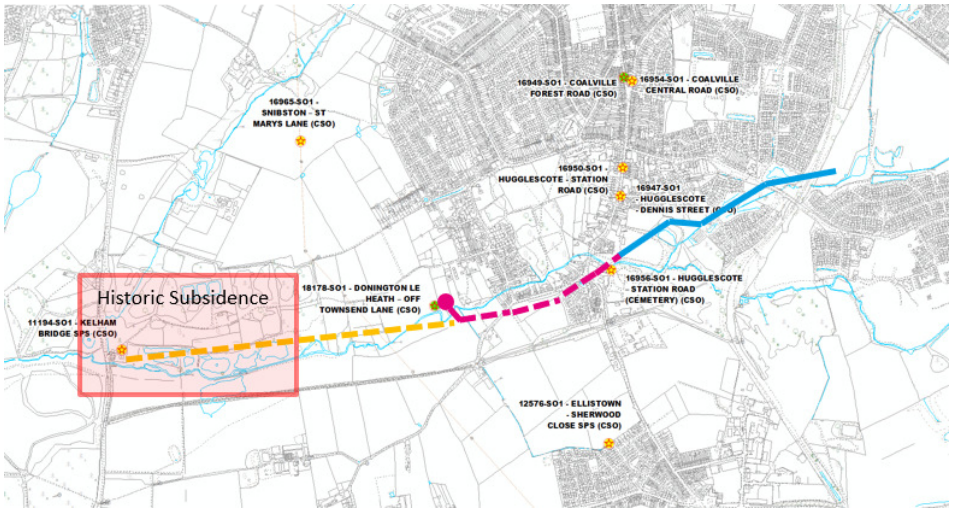
KELHAM BRIDGE, TOWNSEND LANE, ST MARY'S & HUGGLESCOTE STATION ROAD (CEMETERY)

Options for Consideration in conjunction with new Growth Sewer

- New Shaft Tank colleting high level flows only and returning to system downstream of Townsend lane **(option under consideration)**
- New Shaft Tank collecting all flows from new sewer and Pumping to Kelham Bridge **(option discounted)**
- New Shaft Tank collecting all flows from new sewer and Pumping to Highpoint before gravitating towards Snarrows **(Option needs to be assessed as part of a wider Coalville approach linking to Parsonwood Hill)**
- New Shaft Tank collecting all flows from new sewer and Pumping to Ibstock WwTW **(Option discounted due to Ibstock WwTW being at the TAL for Phosphates)**
- New WwTW at Townsend Lane **(Option discounted due to current Phosphate limits on the watercourse and impacts on the SSSI downstream)**

Concept – solution to be developed

Part of Catchment Re-configuration



Key

- Completed additional Sewer
- Historically Proposed Additional Sewer
- Current Review
- WINEP CSO
- Associated CSO

SOLUTIONS

- Infiltration removal, and Surface water ingress
  - we will escalate any areas of concern about infiltration internally using latest flow survey results and verified model.
  - Work is continuing to identify and remove these connections where possible
- Online Storage
  - Storage volumes needed are unlikely to be sufficient however some online storage is included within the proposed solution
- Temporary updates
  - New static screen installed in Townsend Lane CSO to try and reduce rag discharged to the watercourse

Hierarchy	Status	Review
Removing Infiltration / Ingress	✘	Our proposed solution involves abandoning the gravity CWS between Townsend Lane CSO and Kelham Bridge SPS. This section of sewer is thought to be a source of infiltration.
Network / Existing Asset Optimisation	✘	No viable options following review of Kelham bridge capacity
Green Solutions & Separation	✘	Currently no viable green solutions have been identified due to the large storage volume required to meaningfully reduce spills. This will be reviewed again with the verified model
Catchment Flow Transfer & PFF/FFT Increase	✓	Proposed new RM and Gravity route to Snarrows to alleviate pressure on Kelham bridge. Work is proposed at Snarrows WwTW to increase the treatment capacity at the WwTW by 2030
Gravity Fill & Return (Below Ground) Storage	✓	Proposed storage in new oversized tunnel from Cemetery, to reduce shaft size
Pumped Fill (Above Ground) Storage	✘	3 above ground tanks have been constructed at Kelham bridge to reduce spills at this location
Pumped Return (Below Ground) Storage	✓	Shaft needed due to large volume

CATCHMENT RE-CONFIGURATION

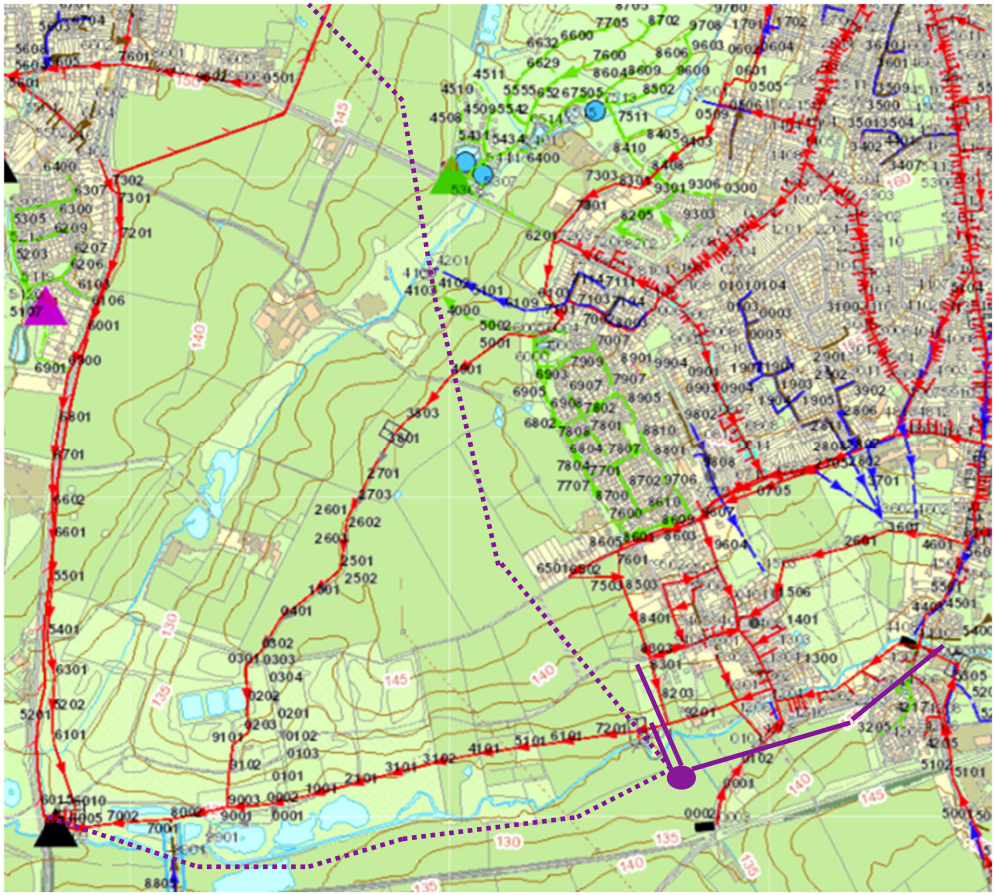
Concept – solution to be developed

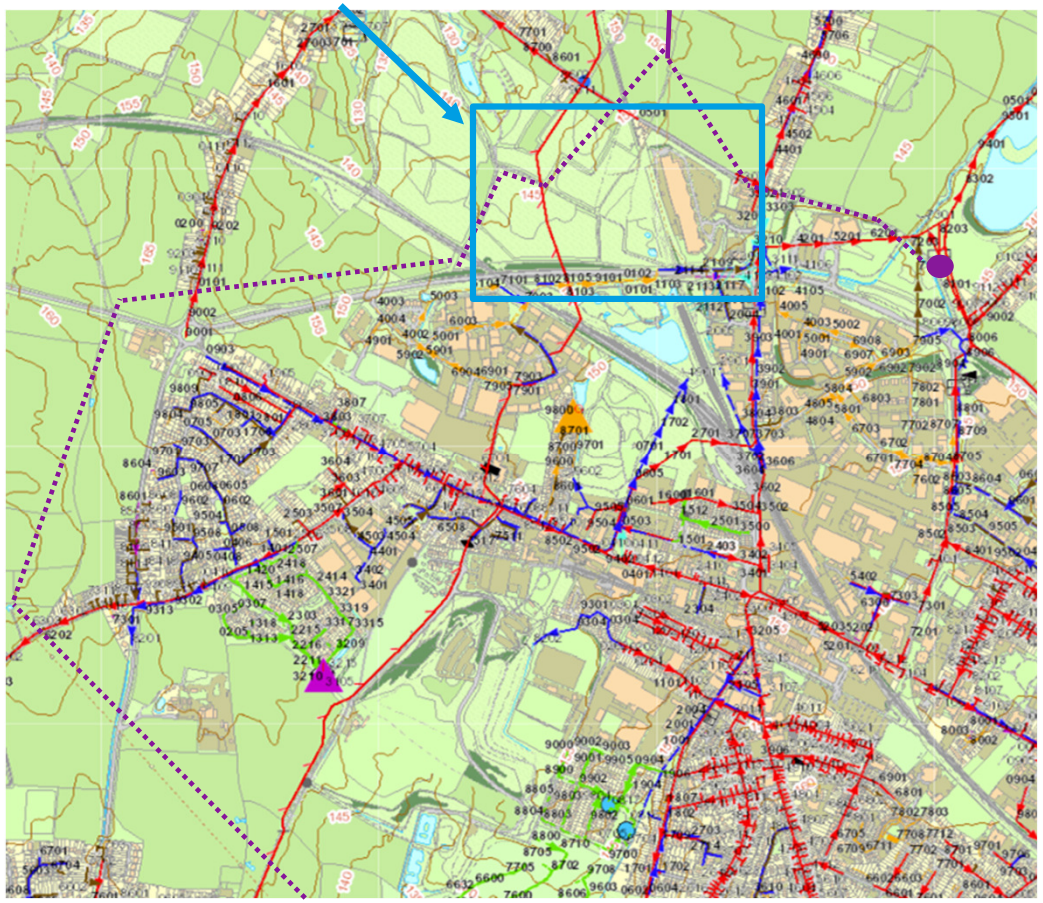
- This solution involves improvements to Townsend Lane, Kelham Bridge, Parsonwood Hill and Station Road Cemetery
- A new Pumping station Located at Townsend Lane, which Pumps to the high point locally before draining via Gravity to the north.
- A new Pumping station near Coalville Leisure Centre to intercept high flows heading towards Parsonwood Hill and transfer to proposed Gravity Trunk Sewer
- New Pumping station to the north of Thringstone to pump flows into the Snarrows WwTW
- Increase Flow to full treatment at WwTW

CATCHMENT RE-CONFIGURATION

Concept – solution to be developed

Location for Mine Shaft 3





Gravity Sewer

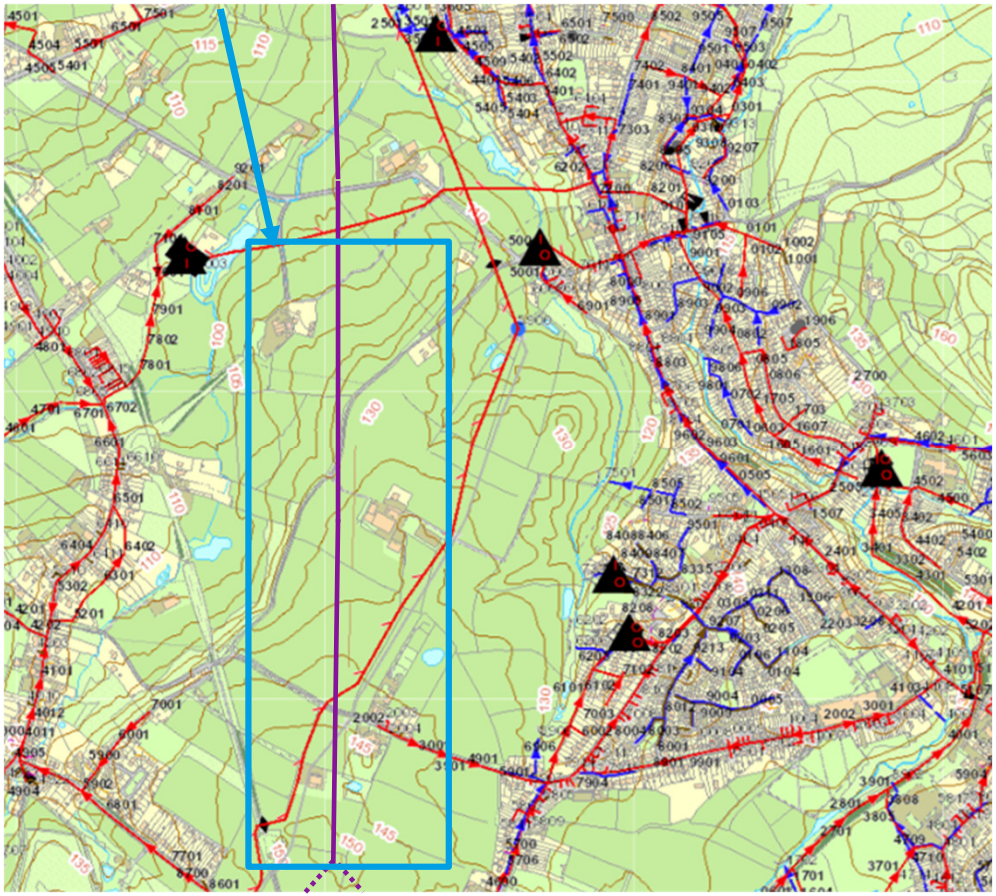
Rising Main

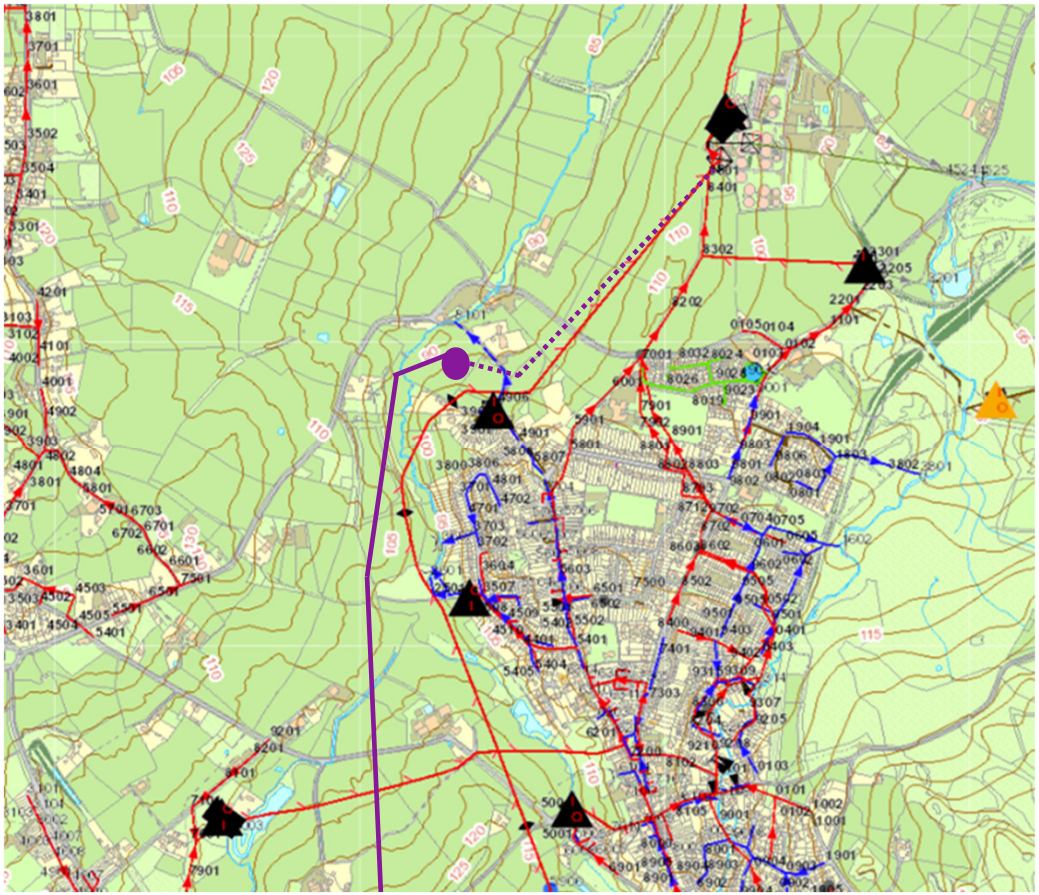
Pumping Station / Shaft Tank

CATCHMENT RE-CONFIGURATION

Concept – solution to be developed

Historic Mining area



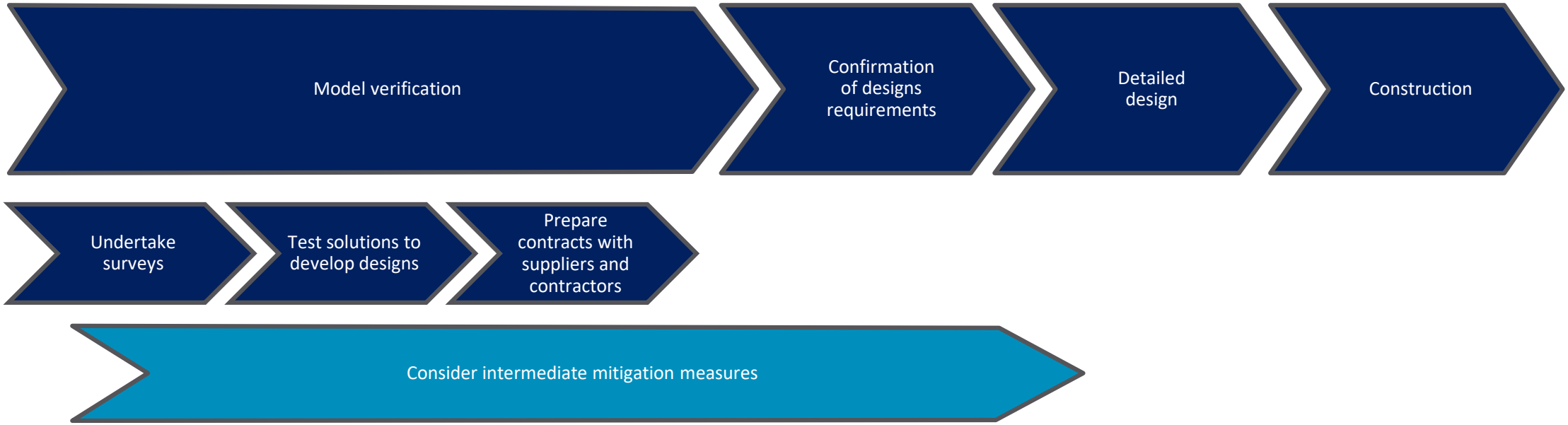


Gravity Sewer

Rising Main

Pumping Station / Shaft Tank

PROJECT CONSTRAINTS



PROJECT CONSTRAINTS

- Balance pass forward flow to WwTW and storage at the CSO's to mitigate risk of flooding / spill both at CSO's and WwTW
- Grace Dieu and High Sharpley SSSI located to the north of Parsonwood Hill CSO – early conversations with Ecology team indicate Natural England are likely to refuse any solution passing through this are due to risk to the geological and environmental significance of the SSSI. – Alternative solution identified
- Coal Mining area, additional risks that need to be accounted for within the design process – Coal mining risk assessments carried out
- Landfill Located near one of the WINEP CSO's additional risk when developing solution and potential cost for disposal of materials
- Whilst the Solutions are for CSO improvements there are significant flooding issues in two parts of the Snarrows Catchment, that Residents are concerned by and need to be considered to ensure no detriment and where possible improvements are made – Outside of direct project scope, but improvements anticipated because of the proposed solutions.
- Seasonally Dry Watercourses, it has been confirmed by Risk validation that London Road CSO spills to a Seasonally Dry Watercourse as such can only spill once between May and September each year - Solution change and increased as a result

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