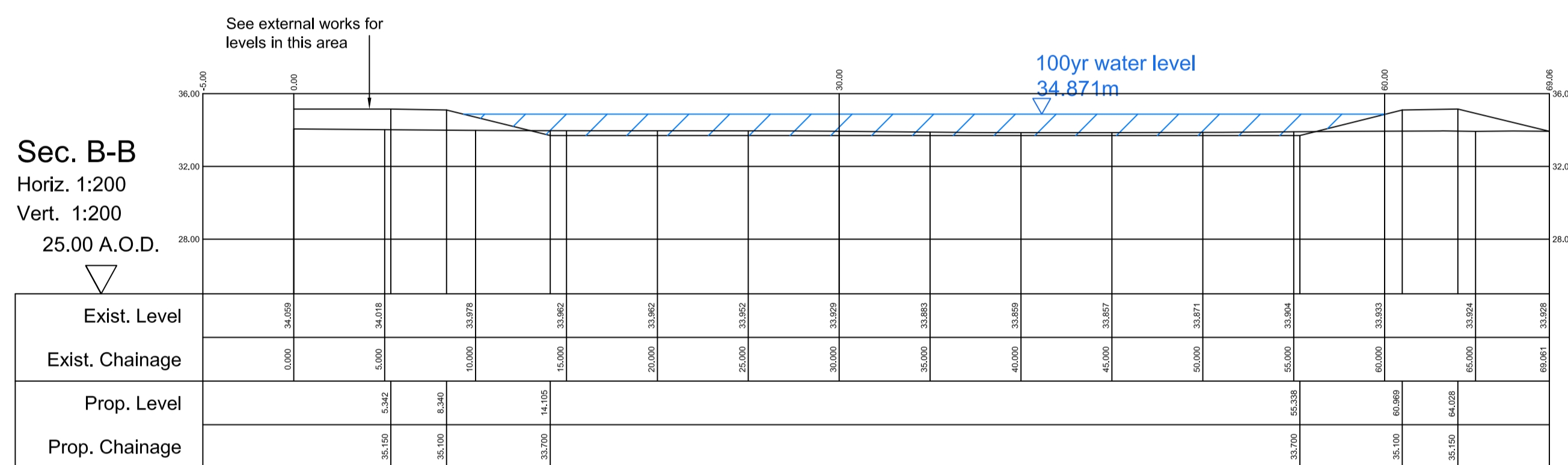
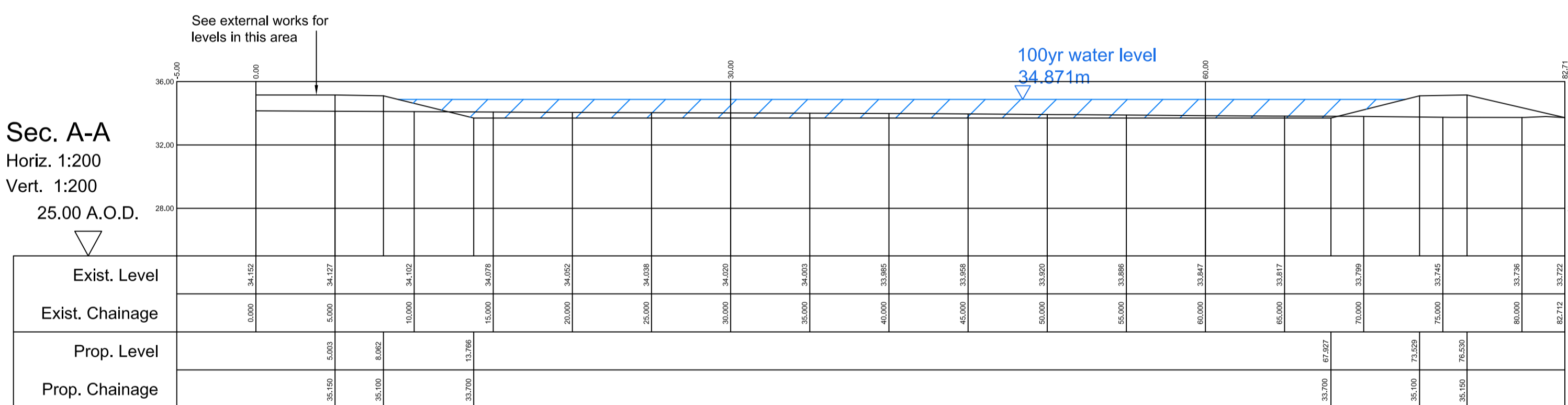


For headwall details please refer to drawing QD1081-08-02.

Refer to landscape design for any permanent water features / micro pool / low flow channels.

Replace existing Phase 1 Hydro Break with Hydro Break Optimum MD-SHE-0323-6550-1575-6550 IL: 33.525m Design Head = 1.575m Flow = 65.5L/s

Pond General Arrangement Scale 1:200



Colour	Band	Area
Red	+1.00	0.25
Orange	+0.75	0.32
Yellow	+0.50	0.42
Light Green	+0.25	0.53
Green	0.00	0.65
Dark Green	-0.25	0.78
Blue	-0.50	0.92
Light Blue	-0.75	1.07
Dark Blue	-1.00	1.22
Black	-1.25	1.38
	-1.50	1.54

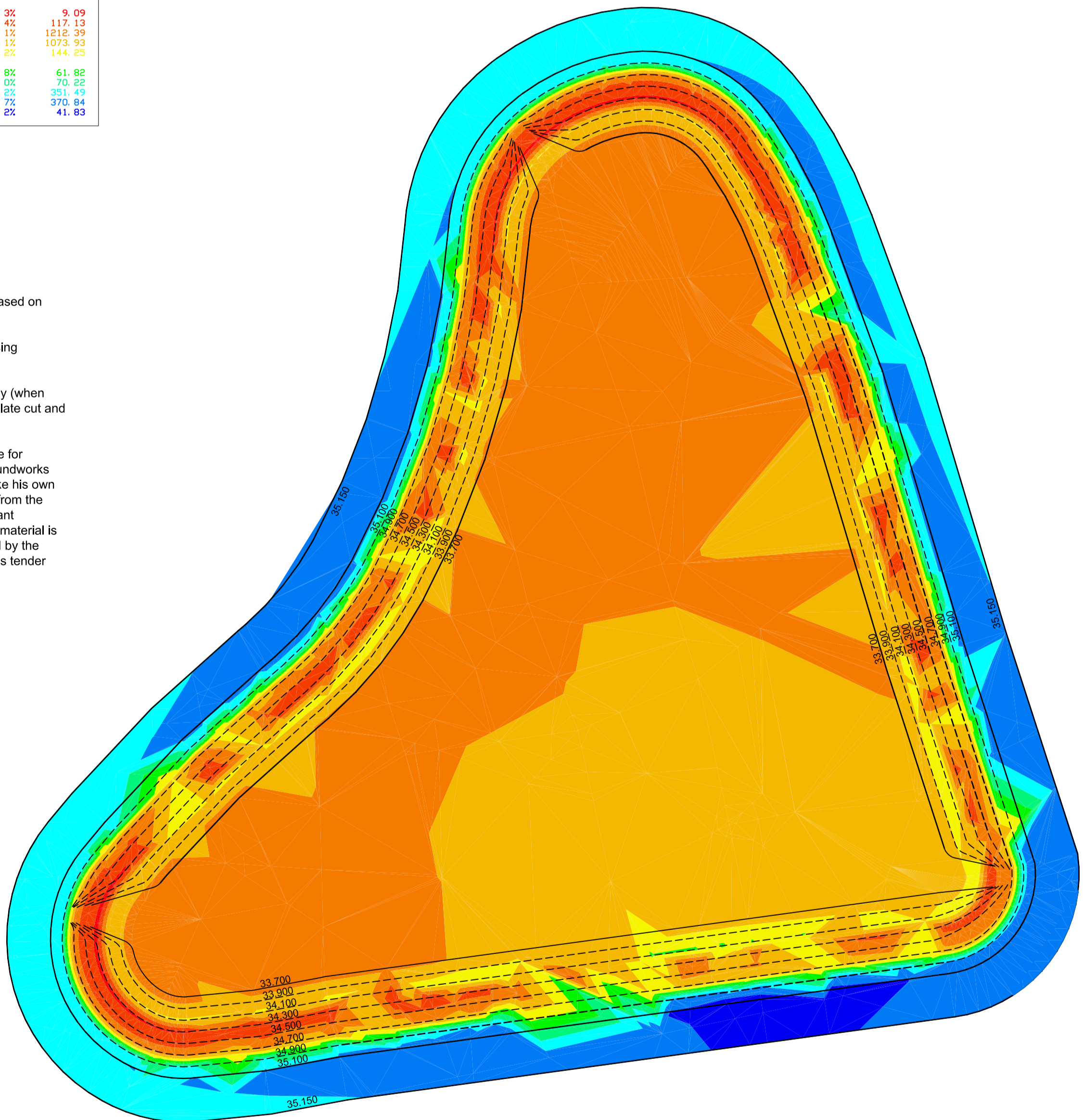
**Cut and fill volume result**

Cut volume: 706m<sup>3</sup>  
Fill volume: 789m<sup>3</sup>  
Balance: 83m<sup>3</sup> (FILL)

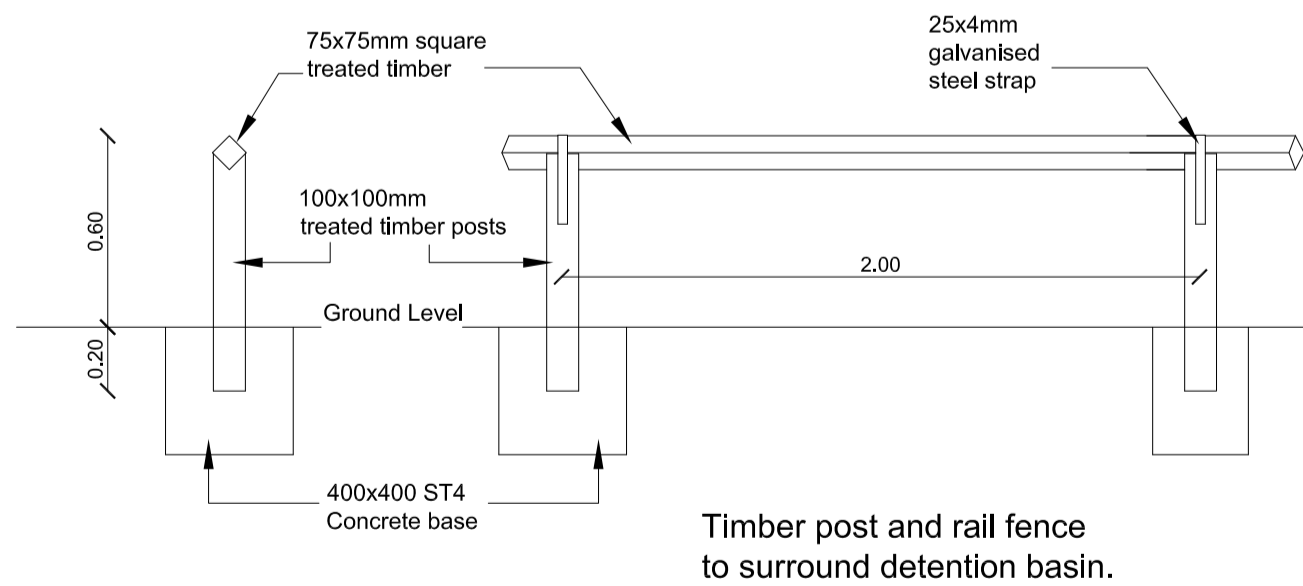
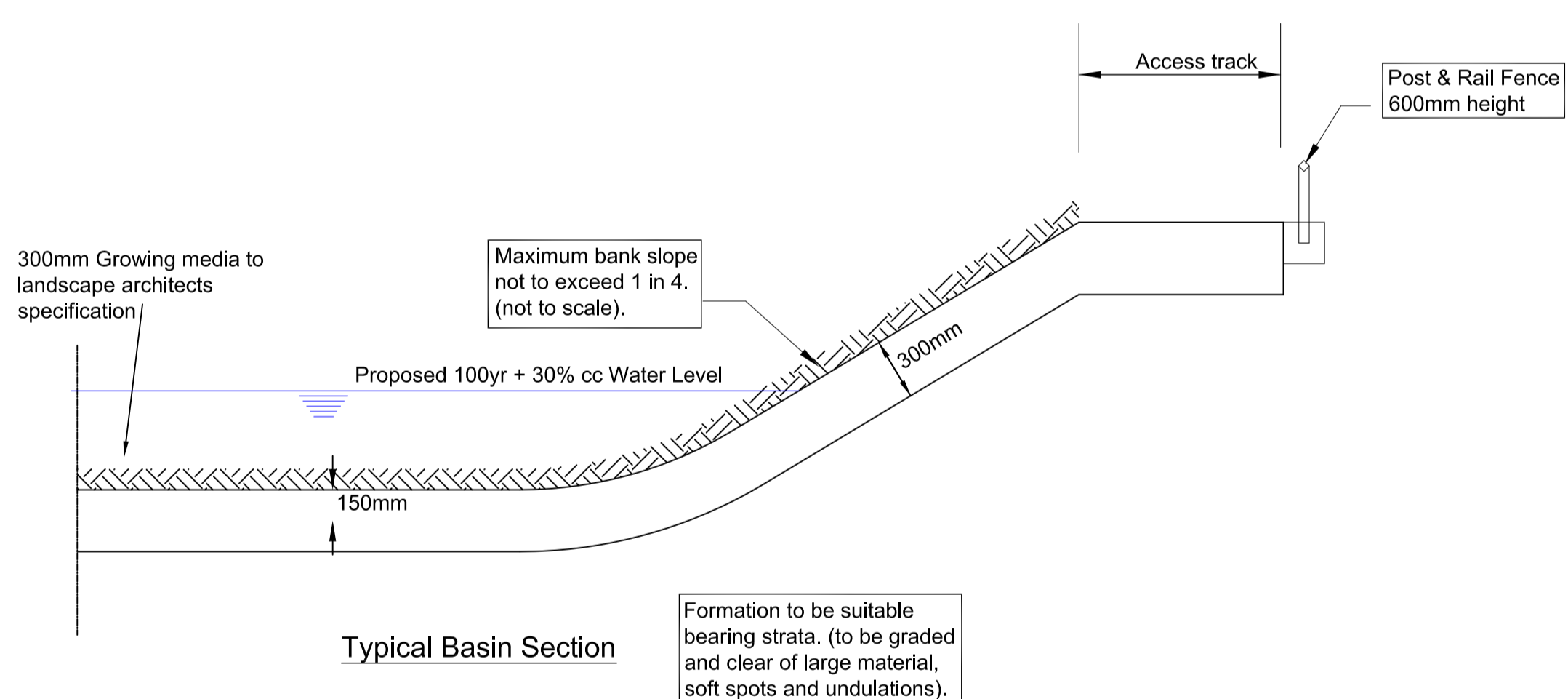
Cut area: 2411m<sup>2</sup>  
Fill area: 924m<sup>2</sup>  
Total area: 3335m<sup>2</sup>

Volume calculations have been based on surface to surface models.

- Models have been produced using information available at the time.
- Post demolition/site strip survey (when available) can be used to re-calculate cut and fill volumes.
- Cut and fill volumes advised are for guidance purposes only. The groundworks contractor is expected to undertake his own computation of materials volume from the information provided. Any significant deviation between the quantity of material is recommended and that calculated by the contractor, is to be quantified in his tender quotation.



Cut and fill analysis Scale 1:200



- General Notes:**
- DO NOT USE THIS DRAWING IN ISOLATION. This drawing has been prepared in part of a set, and must therefore be read in conjunction with all other drawings. Any alterations must be notified to the engineer prior to commencing work.
  - Third party information is used to prepare the engineering design (including, but not limited to, ground investigation, existing utility records, and specialist design items). The engineering design must therefore be read in conjunction with all third party information, and the contractor and placement of persons on an individual plot basis. If third party information or data is not available, the Contractor shall be responsible for any third party information or data.
  - House type working drawings are to be used in conjunction with the plot setting out drawing.
  - Drawings shall remain preliminary until full technical approval is received from local authority and coverage undertaken. Works commencing prior to technical approval are done at the contractor's risk and may be subject to change.
  - The contractor is expected to prepare appropriate construction method statements for all aspects of appointed work. This should include any temporary protection works.
  - Land drainage is not permitted to discharge into the public sewer network. Any need for land drainage should be assessed by the contractor and developer during construction and placement of persons on an individual plot basis. If land drainage changes are required, they should be approved prior to commencement of work.
  - The contractor is expected to check all drainage flows prior to commencing work. This may involve completion of trial holes if level levels have been incorporated.

- Highways:**
- All highway works to be carried out in accordance with the current local authority design guide and specifications.
  - All construction shall proceed and existing highways to be closed with 'Type 1' site base and well compacted to depth for exceeding 100mm, unless otherwise agreed.
  - Highway authority to be notified by the contractor prior to the commencement of works.

- Adoptable Drainage:**
- All adoptable drainage works to be in accordance with the water authority publication - "Sewers For Adoption 6th Edition" saved as the approved drawings.
  - Precast concrete manhole traps to comply with the relevant provisions of BS5911: Part 250.
  - All drainage to be Class B engineering complying with the relevant provisions of BS 3021. Concrete blocks may be used if their specification is the same as Class B engineering blocks. Please seek approval from relevant water authority before using.
  - Manhole covers and frames shall comply with the relevant provisions of BS EN 124 and be of a non-slip, non-sinking design.
  - Ladders that are required in Type A manholes are to comply with "Sewers For Adoption 6th Edition".
  - Concrete must be either C20 sulphate resistant portland cement with high strength concrete topping to the base or C30 ordinary portland cement.
  - 150mm Concrete surround is required around pipes where the depth from finished surface to top of pipe is less than 100mm. This has to extend to 50mm either side of pipe.
  - The location of existing drainage that is within close proximity to the proposed site works, which is not to be diverted, should be confirmed by the contractor and reported to the developer to ensure it corresponds to that shown on the engineering level and that no proposed works are affected.

- Existing Services:**
- All existing services which may be affected by the proposed works should be located by means of a hand dig in close liaison with the statutory service authorities. The contractor shall inform the developer of any services that may affect the proposed design. Contractor to notify statutory service authorities prior to commencement of work.
- As Constructed Information:**
- It is the contractor's responsibility to provide the following as constructed drawings to the developer upon the completion of the works covered by the contract -
- Position/coordinates of all adoptable manholes.
  - Invert and cover levels of all adoptable manholes.
  - New gully positions and connections.
  - Position and depth of service ducts for gas, water, gas, electric, ST, cables and diverging lighting, stating also any other ducts.

- The position, line and diameter of all existing drainage apparatus should be confirmed on site prior to the commencement of the works. Any discrepancies must be reported to the engineer immediately.
- The connection of final and surface water drainage to the existing public sewer system shall be subject to the approval of the local sewerage undertaker. The contractor is expected to apply for relevant permits prior to commencing the work.

- Access:**
- Access to the site shall be maintained at all times. The contractor shall ensure that access to the site is maintained at all times. The contractor shall ensure that access to the site is maintained at all times.

- Site Security:**
- The contractor shall ensure that the site is secure at all times. The contractor shall ensure that the site is secure at all times.

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- Site Management:**
- The contractor shall ensure that the site is managed at all times. The contractor shall ensure that the site is managed at all times.

- Site Completion:**
- The contractor shall ensure that the site is completed at all times. The contractor shall ensure that the site is completed at all times.

- Site Handover:**
- The contractor shall ensure that the site is handed over at all times. The contractor shall ensure that the site is handed over at all times.

- Site Final:**
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**PRELIMINARY**

Title: **Barratt Homes & Taylor Wimpey Luke's Lane, Monkton Phase 2 Pond - Typical Details**

Scale: **1:500@A0** Date: **July 2015**

Drawn by: **KJH** Email: **ken.horn@queensberrydesign.co.uk**

Issued on: **QD1081-08-03** Revision: **-** Checked by: **-**

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