Drainage Non Technical Summary

Stage: **Planning**

Project Name: High Road, Weston

Project ref: 1003

Author: Rob Hill BSc MCIHT, Director

Date: 16 July 2021

Surface Water Summary (Rainwater)	1. The scheme is designed to mimic existing surface water runoff rates. 2. Use of SUDs (Sustainable Urban Drainage systems) will improve water quality, by removing potential pollutants within surface water from roads, drives etc. before outfall into the South Holland IDB Pinfold Drain adjacent to the North. 3. Levels designed to ensure any surface water flooding is directed away from properties into proposed open spaces and pond. 4. All finished Floor Levels set above required level of 3.2m AOD. 5. Pond within open space to the north to create storage for water held up flow restrictions. Pond design to be in accordance with current Health and Safety requirements and Lincolnshire County Council Guidelines for depths and slopes.
Above items achieved by	1. Flow control at outfall restricts flow to agreed 'greenfield' runoff rate, as stipulated within the Outline Planning, which are significantly lower than the actual greenfield runoff rates. The restricted rate is maintained for all storm events within current guidelines, these are rated as 100%, 33.3% and 1% average annual probability of occurring in any given year (sometimes known as 1 in 1year, 1 in 30 years and 1 in 100 years respectively). The drainage scheme is also tested for additional rainfall to allow for potential increases in the future for climate change by adding 20% and 40% to the amounts. As another factor of safety an additional 10% of the catchment area is added to system to make an rainfall allowance for future works, such as extensions, patios, drives etc. that individual homeowners may add (this is termed as Urban Creep) 2. Pond and swales to be designed, as an Engineering and Landscaping collaboration with aquatic planting, pools etc. to encourage water cleansing, by permitting settlement of suspended solids and biological removal of pollutants, before the water is gradually released into the Pinfold Drain to the north. This will also create a natural habitat for suitable planting and animals. 3. Any minor flooding shown occurring by testing for extreme events or by potential blockages are kept within the road corridors and directed to non-residential areas within the development, such as Open Spaces, or the Pond. Water levels never reach above the minimum Floor Level of 3.2m. 4. As previously described, the pond will not only provide adequate storage for storm events up to a 1% storm, with allowances for 40% climate change and 10% Urban creep, but with sympathetic shaping and landscaping will provide a pleasant visual amenity for all residents, both existing and proposed, and an area of biodiversity. 5. All designs accord with CIRIA SuDS Manual C753, with dry and wet benches on approach, slopes no greater than 1:3, and an increase of water depth by just over 1.4m under the most extreme event.

iD LTD
INFRASTRUCTURE DESIGN LIMITED

33 The Point, Market Harborough, Leicestershire LE16 7QU
T: 01858 411570 F: 01858 411571 W: www.infrades.co.uk
Direct T: 01858 411572 E: rob@infrades.co.uk

Foul Water Summary	1. Site is split into two catchments with half the site generally draining by gravity to existing systems with High Road and Broad Gate, whilst the remainder of the site drains by gravity to a new foul pumping station within the area adjacent to the proposed pond, which then outfalls into the new system outfalling into High Road. 2. Outfall points have been identified by the Anglian Water, as suitable outfall for this development. 3. Flow rates and storage within pumping station designed in conjunction with adopting authority to ensure no detrimental effect to existing foul drainage within Weston. 4. Infrastructure Payments to Drainage Authority as a contribution towards any upgrades to the existing system because of the development. Although Anglian Water have confirmed that the Moulton Water Recycling Centre (commonly referred to as Sewage Treatment Works), has capacity for this development.
Above items achieved by	1. Foul sewer to be designed for Adoption, and responsibility will be taken over for them by Adopting Body once completed. 2. Outfall points as suggested by Anglian Water have been utilised for outfall. 3. Approximately £71000 to be paid to Anglian water in Infrastructure charges for Foul Water.

iD LTD
INFRASTRUCTURE DESIGN LIMITED

33 The Point, Market Harborough, Leicestershire LE16 7QU
T: 01858 411570 F: 01858 411571 W: www.infrades.co.uk
Direct T: 01858 411572 E: rob@infrades.co.uk