

King's Lynn and West Norfolk Borough Strategic Flood Risk Assessment Level 2 Community Level Guidance Tables

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| Completed by | JBA consulting |
| Date | March 2019 |
| Author | Freyja Scarborough |
| Reviewer / Sign-off | Hannah Coogan |
| Version Number | Version 2.0 |

Level 2 Community Level Guidance Tables

| | | | | | |
|--|---|--|-------------------------|-------------------------------|------------------|
| Community details | Community | Terrington St John (St Johns Highway) and Tilney St Lawrence | | | |
| | Flood Risk Summary | Highest risk flooding mechanism | Tidal / Coastal | | |
| | | Most likely source of flooding | Surface Water (minimal) | | |
| Sources of flood risk | Existing drainage features | <ul style="list-style-type: none"> There is one area of open watercourse between culvert within the community along St John's Road. There are multiple small areas of open watercourse between culvert surrounding the community, the main concentration of these is to the south-eastern corner. | | | |
| | Fluvial | No | | | |
| | Tidal | Flood Zone 3a – the community is surrounded by the tidal floodplain | | | |
| | Surface Water | Small impact from 3.3% and 1% AEP events with an increased impact in the 0.1% AEP event. | | | |
| | Residual Risk | Large influence from breach on the Tidal Nene. | | | |
| | IDB watercourse present? | <p>This community is completely covered by the King's Lynn Internal Drainage Board (IDB), in the admin area of the Water Management Alliance (WMA). The following drains are near this community:</p> <ul style="list-style-type: none"> Mill Road Drain Ely Road Drain Five Mile Drain Reeds Drain School Road Drain | | | |
| | Flood history | The Environment Agency's recorded flood outline, provided Section 19 data, internet search and sewer flooding records indicate no records of historic flooding. | | | |
| Flood risk management infrastructure | Defences | Defence Type | Flooding Type | Standard of Protection | Condition |
| | | Embankment (x6) | Fluvial | 100 | 3 (Fair) |
| | | Wall (x4) | Fluvial | 100 | 3 (Fair) |
| | | Embankment (x2) | Tidal | 100 | 3 (Fair) |
| | The majority of the community is within an area benefiting from defences as identified in the Environment Agency's dataset. | | | | |
| Opportunities for sustainable development | Asset management | No EA pipeline schemes at or near this community. | | | |
| | Capital investment policy and regeneration | No current schemes identified for this community. | | | |

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| | Higher level policy | <ul style="list-style-type: none"> This area is within the Great Ouse Catchment Flood Management Plan and sub area 10, the Fens. Within this sub-area the current flood risk is appropriately managed. However, the risk is expected to significantly rise in the future with impacts from climate change. Actions should be taken to manage the increase in risk. Terrington St John (SJH) and Tilney St Lawrence is designated as low-lying fenland in the hinterland of the Wash Shoreline Management Plan (SMP) 2 and is protected by defences along the wash coastline and is therefore relevant to the SMP. The policy within this area (PDZ1) is to maintain the current defences into the future, considering an 'envelope of potential developments' for all future scenarios. CFMP/ SMP policies set the high level and strategic direction for flood risk and coastal change management. There is no guarantee that funding will be available from national, regional or local sources to implement the policy. More detailed strategy and scheme work considers funding needs and availability at a community level. | |
| Emergency planning | Flood warning | <ul style="list-style-type: none"> The entire community is covered by the Environment Agency Flood Warning Services. Terrington St John by 'East of Wisbech along the A47 to Terrington St John and Surrounding areas'. Tilney St Lawrence by 'Tidal River Great Ouse west bank breach from the Wiggenhalls to Outwell'. The community is covered by the 'Tidal River from Denver to south of King's Lynn' Environment Agency Flood Alert Service. | |
| | Access and egress | <ul style="list-style-type: none"> Dry access and egress is possible in the 5% AEP tidal event but the community is inundated in other AEP events. Localised access and egress issues in surface water flood events. | |
| Climate Change | Implications for the community | <ul style="list-style-type: none"> There is a small increase in the impact of surface water when taking into account the future effects of climate change. Climate change modelling does not show any impact to the defended tidal scenario (which assumes no breach occurs). However, it may have a significant impact on the frequency and severity of storm surges which have not been modelled for the SFRA. | |
| Requirements for drainage control and impact mitigation | Broad scale assessment of possible SuDS | Bedrock Geology | Mudstone |
| | | Superficial Geology | Clay and silt |
| | | Soil Type | Naturally high groundwater |
| | | Groundwater Source Protection Zone | No |
| | | Historic Landfill Site | No |

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| | | <ul style="list-style-type: none"> • Areas Susceptible to Groundwater Flooding data is not available for this community, as such the potential of broadscale assessment is limited and the suitability of SuDS will need to be determined by on-site investigations. • Source control techniques are likely to be suitable for this community. • Infiltration techniques will be suitable providing there are areas of the site not at high or medium ground water flood risk. • Detention features may be feasible providing site slopes are <5% at the location of the detention feature. If the site has groundwater issues, then a liner will be required. • Filtration systems are probably suitable providing site slopes are <5% and the depth to the water table is >1m. If the site has groundwater issues, then a liner will be required. • All forms of conveyance features are likely to be suitable. Where slopes are >5%, features should follow contours or utilise check dams to slow flows. | |
| NPPF and planning implications | Existing Local Considerations | <ul style="list-style-type: none"> • The Borough Council's Local Plan has designated St. John's Highway and Tilney St. Lawrence as a joint Key Rural Service Centre, alongside Terrington St. John. The Council has allocated 35 new dwellings to Terrington St. John and 40 new dwellings to Tilney St. Lawrence. One of the proposed development sites is located in a lower flood risk area compared to other sites. Appropriate mitigation measures should be enforced. • Terrington St John is preparing a Neighbourhood Plan. • The community is entirely within an area benefiting from flood defences. Developers should liaise with the Environment Agency and consider whether a financial contribution towards the long-term maintenance and/ or upgrade of the defences would be appropriate to help safeguard against increasing flood risk over the lifetime of the development. | |

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| | Requirements and guidance for site - specific Flood Risk Assessment | <ul style="list-style-type: none"> • Early consultation with WMA is strongly recommended in this area. • Safe access and egress will need to be considered, taking into account the additional impact of climate change. An FRA should also suggest appropriate mitigation (flood resilience measures). • A Flood Risk Assessment (FRA) should suggest appropriate mitigation (flood resilience measures). • Areas Susceptible to Groundwater Flooding data availability was limited for this community, as such the potential of broadscale assessment is limited and the suitability of SuDS will need to be determined by on-site investigations. Any SuDS measures should be applied using the guidance provided by the Lead Local Flood Authority. • Consider the impact of a tidal breach by sequentially placing the highest vulnerability part of the development in the areas of lowest flood risk, applying the Councils Flood Risk Design Guidance and creating a site-specific emergency plan for flood events. • The FRA should address all forms of flood risk (tidal, fluvial, pluvial and groundwater). • The FRA must demonstrate how the development would provide wider sustainability benefits to the community that outweigh the risk associated with flooding and that the development would be safe for its lifetime without increasing flood risk elsewhere and, where possible, would reduce flood risk overall. • Investigate the impacts of climate change on increased tidal flooding at the site. | | |
| Conclusions and recommendations | | Tidal and Coastal | Fluvial | Surface Water |
| | 0.5% AEP and Breach | No Risk | 3.3% AEP | |
| | | <ul style="list-style-type: none"> • The community is mostly within an area benefiting from flood defences. • Consider contributions to the defences protecting the community. • The Council has allocated 35 new dwellings to Terrington St. John and 40 new dwellings to Tilney St. Lawrence. Appropriate flood mitigation measures should be enforced. • Most of the community is in Flood Zone 3a. • No records of historical flooding. • Consider the impacts of tidal breach. • Early consultation with WMA is strongly recommended in this area. • In a major tidal event the community could be completely cut off and emergency planning implications for new development are critical | | |
| Mapping Information | | | | |

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| Flood Zones | | <ul style="list-style-type: none"> All Flood Zone information has been compiled from the outputs of The Wash, 2018 tidal model. | |