Highways Catchment 1
1. The roundabout catchment discharges to South Hykeham Catchwater (an upper Witham IDB maintained watercourse) at green field runoff rate.
2. Highway catchment area is 2.253 hectors.
3. Kerb and gullies are proposed to collect surface runoff from hard surface areas.
4. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
5. Sedimentation pond with a forebay is proposed with storage volume of 1638 cubic meters to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor and to remove pollutants and cleanse water surface runoff, whilst promoting bio diversity.

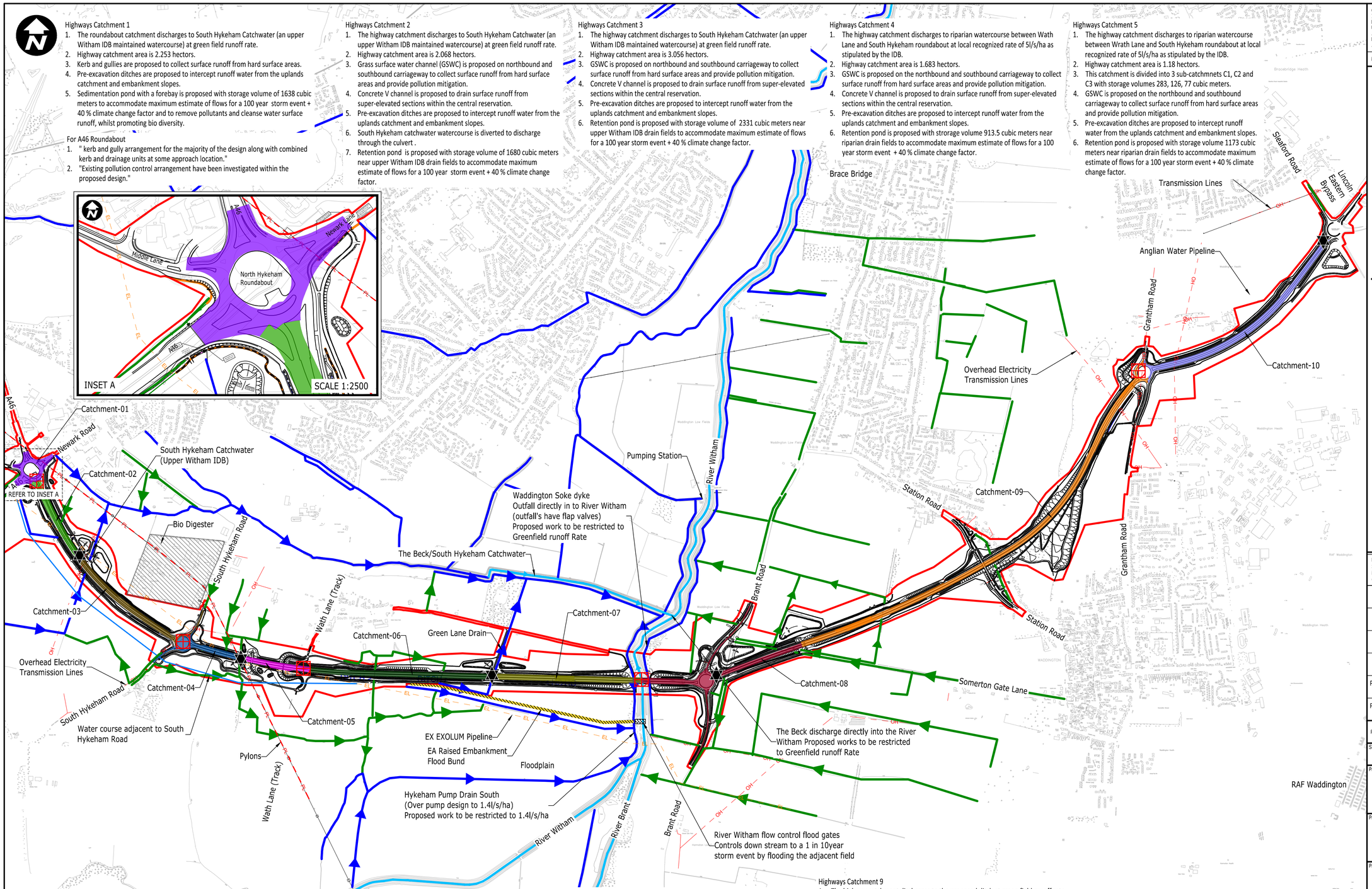
For A46 Roundabout
1. " kerb and gully arrangement for the majority of the design along with combined kerb and drainage units at some approach location."
2. "Existing pollution control arrangement have been investigated within the proposed design."

Highways Catchment 2
1. The highway catchment discharges to South Hykeham Catchwater (an upper Witham IDB maintained watercourse) at green field runoff rate.
2. Highway catchment area is 2.068 hectors.
3. Grass surface water channel (GSWC) is proposed on northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Concrete V channel is proposed to drain surface runoff from super-elevated sections within the central reservation.
5. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
6. South Hykeham catchwater watercourse is diverted to discharge through the culvert .
7. Retention pond is proposed with storage volume of 1680 cubic meters near upper Witham IDB drain fields to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor.

Highways Catchment 3
1. The highway catchment discharges to South Hykeham Catchwater (an upper Witham IDB maintained watercourse) at green field runoff rate.
2. Highway catchment area is 3.056 hectors.
3. GSWC is proposed on northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Concrete V channel is proposed to drain surface runoff from super-elevated sections within the central reservation.
5. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
6. Retention pond is proposed with storage volume of 2331 cubic meters near upper Witham IDB drain fields to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor.

Highways Catchment 4
1. The highway catchment discharges to riparian watercourse between Wath Lane and South Hykeham roundabout at local recognized rate of 5l/s/ha as stipulated by the IDB.
2. Highway catchment area is 1.683 hectors.
3. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Concrete V channel is proposed to drain surface runoff from super-elevated sections within the central reservation.
5. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
6. Retention pond is proposed with storage volume 913.5 cubic meters near riparian drain fields to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor.

Highways Catchment 5
1. The highway catchment discharges to riparian watercourse between Wrath Lane and South Hykeham roundabout at local recognized rate of 5l/s/ha as stipulated by the IDB.
2. Highway catchment area is 1.18 hectors.
3. This catchment is divided into 3 sub-catchmnets C1, C2 and C3 with storage volumes 283, 126, 77 cubic meters.
4. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
5. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
6. Retention pond is proposed with storage volume 1173 cubic meters near riparian drain fields to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor.



Highways Catchment 6
1. The highway catchment discharges to Green Lane Drain (an upper Witham IDB maintained watercourse) at local recognized rate of 5l/s/ha as stipulated by the IDB.
2. Highway catchment area is 4.304 hectors.
3. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
5. Retention pond is proposed with storage volume 3528 cubic meters near IDB drain fields to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor.

Highways Catchment 7
1. The highway catchment discharge to Green Lane Drain (an IDB maintained watercourse) at local recognized restricted rate of 5l/s/ha as stipulated by the IDB.
2. Highway catchment area is 3.073 hectors.
3. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
5. Retention pond is proposed with 2310 cubic meters near IDB drain fields to accommodate maximum estimate of flows for a 100 year storm event + 40 % climate change factor.

Highways Catchment 8
1. The highway catchment discharges to the proposed ditch at green field runoff rate near Somerton gate lane .
2. Cut-off drain at the top of cut slope and side slopes are required.
2. Highway catchment area is 4.127 hectors.
3. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Concrete V channel is proposed to drain surface runoff from super-elevated sections within the central reservation.
5. Proposed retention pond with storage volume 3150 cubic meters to accommodate a 100 year storm event + 40% climate change factor.

Highways Catchment 9
1. The highway catchment discharges to the proposed ditch at green field runoff rate near Somerton gate lane .
2. Cut-off drain at the top of cut slope and side slope are proposed.
3. Source protection zone 3. All grass channels to be lined.
2. Highway catchment area is 8.666 hectors.
3. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Concrete V channel is proposed in central reserve to drain surface runoff in super-elevated sections.
5. Proposed retention pond with storage volume 8085 cubic meters to accommodate a 100 year storm event + 40% climate change factor.
6. Interception of existing water courses on station road by pre excavation ditches and flow conveyed to suitable culvert crossing point.

Highways Catchment 10
1. The highway catchment discharge to Infiltration basin downstream.
4. Source protection zone 2. Groundwater discharge to be treated to suitable SuDs mitigation indices.
2. Highway catchment area is 6.554 hectors.
3. GSWC is proposed on the northbound and southbound carriageway to collect surface runoff from hard surface areas and provide pollution mitigation.
4. Pre-excavation ditches are proposed to intercept runoff water from the uplands catchment and embankment slopes.
5. Infiltration basin with a forebay is proposed, with a storage volume of 3339 cubic meters.

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Notes

Key-
- High point
- Low point
- Watercourses- IDB responsibility
- Watercourses - Riparian responsibility
- Diverted Watercourse
- Ditch flow direction (Lidar)
- Red Line Boundary
- Proposed EXOLUM Diversion
- Existing ditches to be abandoned
- Highway Catchment 1
- Highway Catchment 2
- Highway Catchment 3
- Highway Catchment 4
- Highway Catchment 5
- Highway Catchment 6
- Highway Catchment 7
- Highway Catchment 8
- Highway Catchment 9
- Highway Catchment 10

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P02	Suitable for Review and Acceptance	AJ	BW	AV	20/09/24

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Drawing Status: Suitable for Review & Acceptance

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Project Client: Lincolnshire County Council – Working for a better future

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL
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www.ramboll.co.uk

Drawing Title: NORTH HYKEHAM RELIEF ROAD HIGHWAYS CATCHMENT DRAWING

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:10000	AJ	20/09/24

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