

4 Detailed Cost Schedule

4.1 NPA1 - North Sector (North of Airport)

The cost mechanism for NPA1 is shown in Table 4-1 and is summarised below with a plan of the related estimated infrastructure, flood risk and environmental constraints shown in Table 4-1, along with relevant traffic lights where appropriate.

Wastewater

- Three options for the provision of wastewater treatment are Whitlingham WWTW, Rackheath WWTW and a new WWTW.






Water Supply

- Water would be supplied from Heigham WTW.

Water Resources

- Additional water resources are from connections to Thorpe St Andrew BH and Colney BH, GOGDS, River Wensum reuse and off line storage.

Flood Risk

- Flood risk to the PGA has been assigned a green traffic light as less than 10% of the PGA is within Flood Zone 2 or 3. 
- Flood risk from the PGA has been assigned the following traffic lights based on Section 3.4.2:
 - From Whitlingham WWTW – amber (discharges to tidal reach of River Yare). 
 - From Rackheath WWTW - green (discharges to Dobbs Beck). 
 - From a new WWTW – green (discharges to Stone Beck). 
- SUDS have been assigned a green traffic light (good SUDS suitability). 

Environment






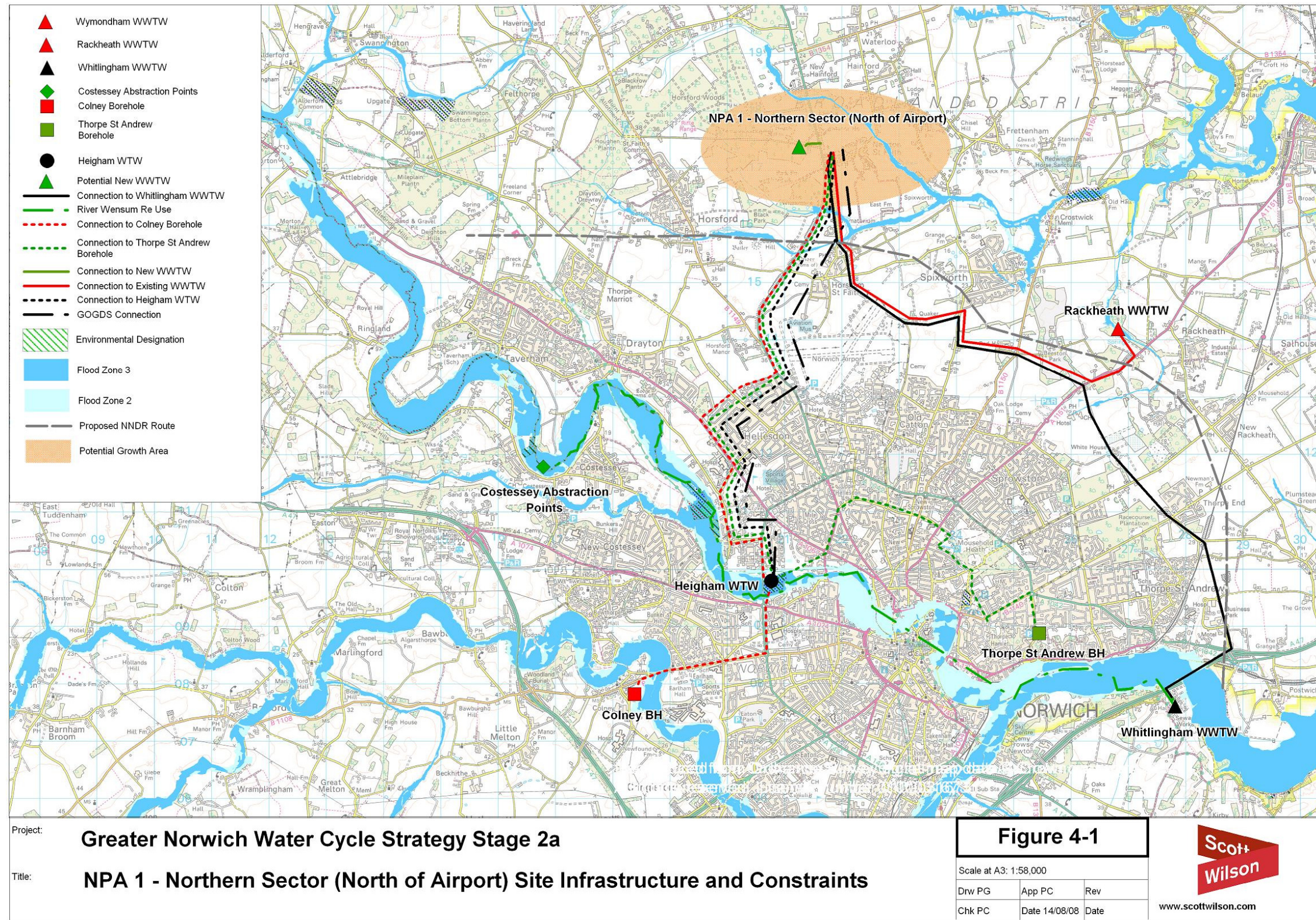
- Conservation designation has been assigned the following traffic lights:
 - From Whitlingham WWTW - amber (no conservation designated areas within the PGA but discharge into the River Yare would flow through a designated SAC site) 
 - From Rackheath WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream). 
 - From a new WWTW - amber (no conservation designated areas within the PGA but discharge into Stone Beck would flow through an SAC site further downstream). 
 - The PGA has been assigned a red traffic light in relation to Groundwater Vulnerability 
 - The PGA has been assigned a green traffic light in relation to Source Protection Zone requirements. 

Table 4-1: NPA1 total summary costs

Calculations									
Job Title: Norwich Water Cycle Study - Costing Calcs							Date: 01/09/2008		Section: Sheet 1 of 1
Element: NPA1							Job no. D118607		Project no.
Originator	Checked	Revision	Suffix	Orig	1	2	ND		
PC	ND		Date	Check		14/08/2008	PM		
Wastewater									
Whitlingham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Trunk Sewer - Rising	-	-	-	-	-	-	-		
Trunk Sewer - Gravity	14,500	-	5,500,000	7,600,000	9,300,000	9,900,000	9,900,000		
Pumping Costs	-	-	-	-	-	-	-		
New WWTW (vol)	-	-	-	-	-	-	-		
New WWTW (nut)	-	-	200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			5,700,000	8,300,000	10,700,000	11,900,000	12,600,000		
Upgrade Existing Rackheath									
	Dist (m)								
Trunk Sewer - Rising	-	-	-	-	-	-	-		
Trunk Sewer - Gravity	9,000	-	3,400,000	4,800,000	5,800,000	6,200,000	6,200,000		
Pumping Stations	-	-	-	-	-	-	-		
New WWTW (vol)	-	-	3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)	-	-	200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			6,900,000	19,000,000	25,200,000	30,500,000	36,000,000		
New WWTW									
	Dist (m)								
Trunk Sewer - Rising	-	-	-	-	-	-	-		
Trunk Sewer - Gravity	-	-	-	-	-	-	-		
Pumping Stations	-	-	-	-	-	-	-		
New WWTW (vol)	-	-	3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)	-	-	200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			3,500,000	14,200,000	19,400,000	24,300,000	29,800,000		
Water Supply									
Heigham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Water Main	9,000	-	2,100,000	2,600,000	3,200,000	3,700,000	4,300,000		
Pumping Stations	-	-	1,100,000	1,700,000	2,100,000	2,400,000	2,600,000		
Total Costs (£)			3,200,000	4,300,000	5,300,000	6,100,000	6,900,000		
Maximise Boreholes									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Pipework from Thorpe St A	16,800	-	3,900,000	4,800,000	5,900,000	7,000,000	8,000,000		
Pumping Stations	-	-	2,000,000	3,100,000	3,800,000	4,400,000	4,900,000		
Pipework from Colney	13,250	-	3,100,000	3,800,000	4,700,000	5,500,000	6,300,000		
Pumping Stations	-	-	1,600,000	2,400,000	3,000,000	3,500,000	3,900,000		
Total Costs (£)			4,700,000	6,200,000	7,700,000	9,000,000	10,200,000		
Water Resources									
		PDS	1,000	5,000	10,000	15,000	20,000		
Wensum Reuse		-	6,900,000	9,200,000	11,600,000	13,400,000	15,300,000		
GOGDS		-	3,100,000	4,200,000	5,200,000	6,000,000	6,300,000		
Off line Storage		-	1,800,000	8,700,000	17,400,000	26,100,000	34,700,000		

Figure 4-1: NPA1 - North Sector (North of Airport) site infrastructure and constraints



4.2 NPA2 - North East Sector (Inside the NNDR)

The cost mechanism for NPA2 is shown in Table 4-2 and is summarised below with a plan of the related estimated infrastructure, flood risk and environmental constraints shown in Figure 4-2, along with relevant traffic lights where appropriate.

Wastewater

- Three options for the provision of wastewater treatment are Whitlingham WWTW, Rackheath WWTW and a new WWTW.

Water Supply

- Water would be supplied from Heigham WTW.

Water Resources

- Additional water resources are from connections to Thorpe St Andrew BH and Colney BH, GOGDS, River Wensum reuse and off line storage.

Flood Risk

- Flood risk to the PGA has been assigned a green traffic light as less than 10% of the PGA is within Flood Zone 2 or 3.
- Flood risk from the PGA has been assigned the following traffic lights:
 - From Whitlingham WWTW – amber (discharges to tidal reach of River Yare).
 - From Rackheath WWTW - green (discharges to Dobbs Beck).
 - From a new WWTW – green (discharges to Stone Beck).
- SUDS have been assigned a red traffic light (poor SUDS suitability).



Environment

- Conservation designation has been assigned the following traffic lights:
 - From Whitlingham WWTW - amber (no conservation designated areas within the PGA but discharge into the River Yare would flow through a designated SAC site)
 - From Rackheath WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream).
 - From a new WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream).
- The PGA has been assigned a red traffic light in relation to Groundwater Vulnerability
- The PGA has been assigned an amber traffic light in relation to Source Protection Zone requirements.



Table 4-2: NPA2 total summary costs

Job Title		Norwich Water Cycle Study - Costing Calcs					Section	Sheet 1 of 1	
Element	NPA2	Checked	Revision	Suffix	Orig	1	2	Date	Job no. D118607
Originator	PC	ND	Revision	Date	Check		14/08/2008	01/09/2008	Project no.
								ND	PM
Wastewater									
Whitlingham									
	Dist (m)		PDS	1,000	5,000	10,000	15,000	20,000	
Trunk Sewer - Rising	-			-	-	-	-	-	
Trunk Sewer - Gravity	6,500			2,500,000	3,500,000	4,200,000	4,500,000	4,500,000	
Pumping Stations	-			-	-	-	-	-	
New WWTW (vol)	-			-	-	-	-	-	
New WWTW (nut)	-			200,000	700,000	1,400,000	2,000,000	2,700,000	
Total Costs (£)				2,700,000	4,200,000	5,600,000	6,500,000	7,200,000	
Upgrade Existing Rackheath									
	Dist (m)								
Trunk Sewer - Rising	-			-	-	-	-	-	
Trunk Sewer - Gravity	3,000			1,200,000	1,600,000	2,000,000	2,100,000	2,100,000	
Pumping Stations	-			-	-	-	-	-	
New WWTW (vol)	-			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000	
New WWTW (nut)	-			200,000	700,000	1,400,000	2,000,000	2,700,000	
Total Costs (£)				4,700,000	15,800,000	21,400,000	26,400,000	31,900,000	
New WWTW									
	Dist (m)								
Trunk Sewer - Rising	-			-	-	-	-	-	
Trunk Sewer - Gravity	-			-	-	-	-	-	
Pumping Stations	-			-	-	-	-	-	
New WWTW (vol)	-			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000	
New WWTW (nut)	-			200,000	700,000	1,400,000	2,000,000	2,700,000	
Total Costs (£)				3,500,000	14,200,000	19,400,000	24,300,000	29,800,000	
Water Supply									
Heigham									
	Dist (m)		PDS	1,000	5,000	10,000	15,000	20,000	
Water Main	11,000			2,600,000	3,100,000	3,900,000	4,600,000	5,300,000	
Pumping Stations	-			1,300,000	2,000,000	2,500,000	2,900,000	3,200,000	
Total Costs (£)				3,900,000	5,100,000	6,400,000	7,500,000	8,500,000	
Maximise Boreholes									
	Dist (m)		PDS	1,000	5,000	10,000	15,000	20,000	
Pipework from Thorpe St A	14,500			3,400,000	4,100,000	5,100,000	6,000,000	6,900,000	
Pumping Stations	-			1,700,000	2,600,000	3,300,000	3,800,000	4,200,000	
Pipework from Colney	16,000			3,700,000	4,500,000	5,700,000	6,600,000	7,600,000	
Pumping Stations	-			1,900,000	2,900,000	3,600,000	4,200,000	4,700,000	
Total Costs (£)				5,100,000	6,700,000	8,400,000	9,800,000	11,100,000	
Water Resources									
PDS									
Wensum Reuse				6,900,000	9,200,000	11,600,000	13,400,000	15,300,000	
GOGDS				2,900,000	3,800,000	4,800,000	5,500,000	5,800,000	
Off line Storage				1,800,000	8,700,000	17,400,000	26,100,000	34,700,000	

4.3 NPA3a - North East Sector (Outside the NNDR, vicinity of Rackheath)

The cost mechanism for NPA3a is shown in Table 4-3 and is summarised below with a plan of the related estimated infrastructure, flood risk and environmental constraints shown in Figure 4-3, along with relevant traffic lights where appropriate.

Wastewater

- Three options for the provision of wastewater treatment are Whitlingham WWTW, Rackheath WWTW and a new WWTW.






Water Supply

- Water would be supplied from Heigham WTW.

Water Resources

- Additional water resources are from connections to Thorpe St Andrew BH and Colney BH, GOGDS, River Wensum reuse and off line storage.

Flood Risk

- Flood risk to the site has been assigned a green traffic light as less than 10% of the PGA is within Flood Zone 2 or 3. 
- Flood risk from the site has been assigned the following traffic:
 - From Whitlingham WWTW – amber (discharges to tidal reach of River Yare); 
 - From Rackheath WWTW – green (discharges to Dobbs Beck). 
 - From a new WWTW - green (discharges to Dobbs Beck). 
- SUDS have been assigned a red traffic light (poor SUDS suitability). 

Environment






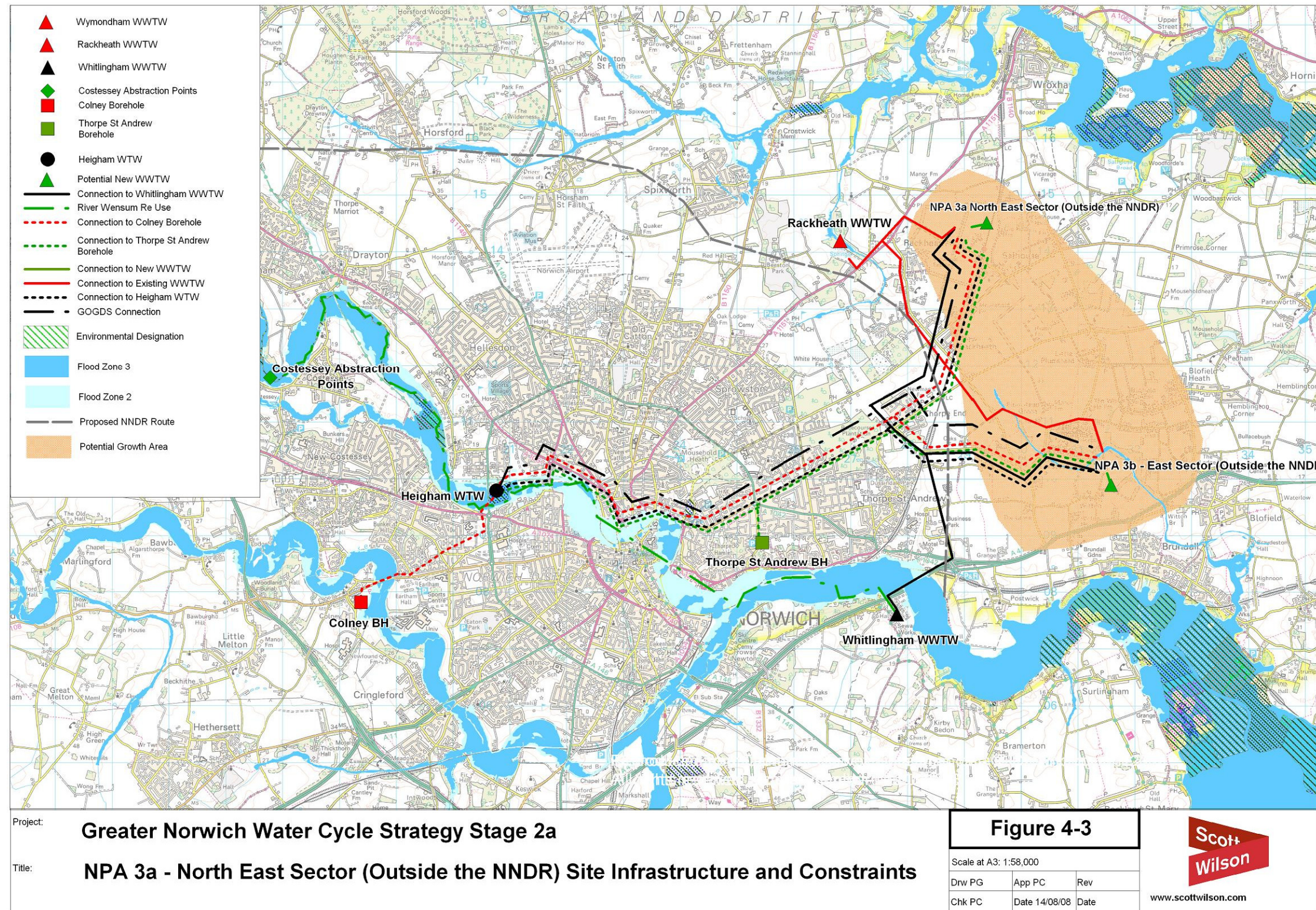
- Conservation designation has been assigned the following traffic lights:
 - From Whitlingham WWTW - amber (no conservation designated areas within the PGA but discharge into the River Yare would flow through a designated SAC site) 
 - From Rackheath WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream). 
 - From a new WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream). 
 - The PGA has been assigned a red traffic light in relation to Groundwater Vulnerability 
 - The PGA has been assigned a green traffic light in relation to Source Protection Zone requirements. 

Table 4-3: NPA3a total summary costs

Calculations									
Job Title: Norwich Water Cycle Study - Costing Calcs							Date: 01/09/2008		Section: Sheet 1 of 1
Element: NPA3a							Job no. D118607		Project no.
Originator: PC	Checked: ND	Revision:	Suffix:	Orig:	1	2	ND		
			Date:	Check:		14/08/2008	PM		
Wastewater									
Whitlingham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	8,800		3,300,000	4,700,000	5,700,000	6,000,000	6,000,000		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			-	-	-	-	-		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			3,500,000	5,400,000	7,100,000	8,000,000	8,700,000		
Upgrade Existing Rackheath									
	Dist (m)								
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	2,750		1,100,000	1,500,000	1,800,000	1,900,000	1,900,000		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			4,600,000	15,700,000	21,200,000	26,200,000	31,700,000		
New WWTW									
	Dist (m)								
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity			-	-	-	-	-		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			3,500,000	14,200,000	19,400,000	24,300,000	29,800,000		
Water Supply									
Heigham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Water Main	12,500		2,900,000	3,600,000	4,400,000	5,200,000	6,000,000		
Pumping Stations			1,500,000	2,300,000	2,900,000	3,300,000	3,600,000		
Total Costs (£)			4,400,000	5,900,000	7,300,000	8,500,000	9,600,000		
Maximise Boreholes									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Pipework from Thorpe St A	18,500		4,300,000	5,200,000	6,500,000	7,600,000	8,800,000		
Pumping Stations			2,200,000	3,400,000	4,200,000	4,800,000	5,400,000		
Pipework from Colney	16,000		3,700,000	4,500,000	5,700,000	6,600,000	7,600,000		
Pumping Stations			1,900,000	2,900,000	3,600,000	4,200,000	4,700,000		
Total Costs (£)			5,600,000	7,400,000	9,300,000	10,800,000	12,300,000		
Water Resources									
		PDS	1,000	5,000	10,000	15,000	20,000		
Wensum Reuse			6,900,000	9,200,000	11,600,000	13,400,000	15,300,000		
GOGDS			4,300,000	5,800,000	7,200,000	8,400,000	8,800,000		
Off line Storage			1,800,000	8,700,000	17,400,000	26,100,000	34,700,000		

Figure 4-3: NPA3a - North East Sector (Outside the NNDR, vicinity of Rackheath) site infrastructure and constraints



4.4 NPA3b - East Sector (Outside the NNDR)

The cost mechanism for NPA3b is shown in Table 4-4 and is summarised below with a plan of the related estimated infrastructure, flood risk and environmental constraints shown in Figure 4-4, along with relevant traffic lights where appropriate.

Wastewater

- Three options for the provision of wastewater treatment are Whitlingham WWTW, Rackheath WWTW and a new WWTW






Water Supply

- Water would be supplied from Heigham WTW

Water Resources

- Additional water resources are from connections to Thorpe St Andrew BH and Colney BH, GOGDS, River Wensum reuse and off line storage

Flood Risk

- Flood risk to the site has been assigned a green traffic light as less than 10% of the PGA is within Flood Zone 2 or 3. 
- Flood risk from the site has been assigned the following traffic
 - From Whitlingham WWTW – amber (discharges to tidal reach of River Yare); 
 - From Rackheath WWTW – green (discharges to Dobbs Beck). 
 - From a new WWTW - green (discharges to Dobbs Beck). 
- SUDS have been assigned an amber traffic light (average SUDS suitability). 

Environment






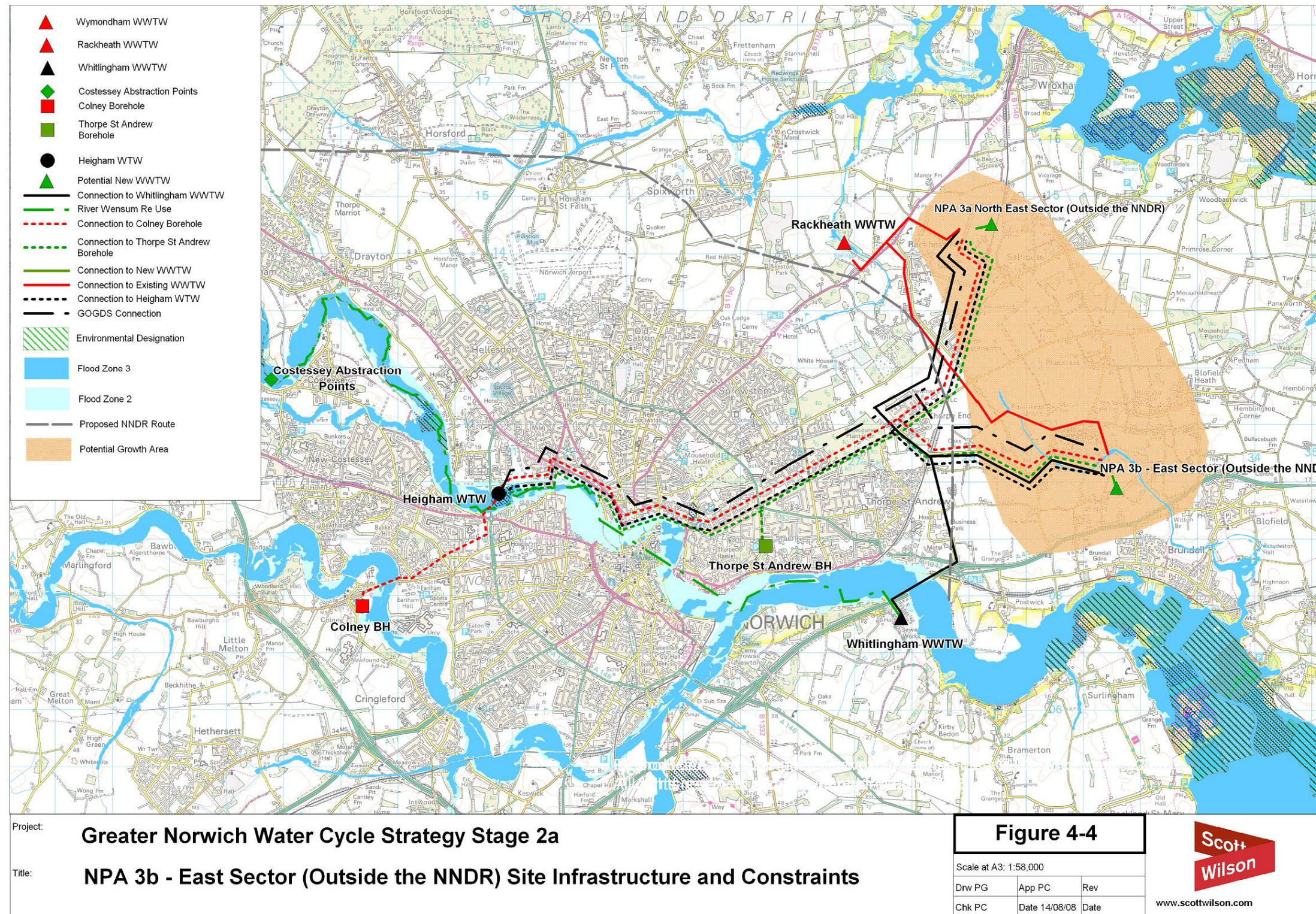
- Conservation designation has been assigned the following traffic lights:
 - From Whitlingham WWTW - amber (no conservation designated areas within the PGA but discharge into the River Yare would flow through a designated SAC site) 
 - From Rackheath WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream). 
 - From a new WWTW - amber (no conservation designated areas within the PGA but discharge into Dobbs Beck would flow through an SAC site further downstream). 
- The PGA has been assigned a red traffic light in relation to Groundwater Vulnerability. 
- The PGA has been assigned a green traffic light in relation to Source Protection Zone requirements. 

Table 4-4: NPA3b total summary costs

Calculations									
Job Title: Norwich Water Cycle Study - Costing Calcs							Date: 01/09/2008		Section: Sheet 1 of 1
Element: NPA3b							Job no. D118607		Project no.
Originator	Checked	Revision	Suffix	Orig	1	2	ND		
PC	ND		Date	Check		14/08/2008	PM		
Wastewater									
Whitlingham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	6,800		2,600,000	3,600,000	4,400,000	4,700,000	4,700,000		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			-	-	-	-	-		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			2,800,000	4,300,000	5,800,000	6,700,000	7,400,000		
Upgrade Existing Rackheath									
	Dist (m)								
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	7,500		2,800,000	4,000,000	4,800,000	5,200,000	5,200,000		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			6,300,000	18,200,000	24,200,000	29,500,000	35,000,000		
New WWTW									
	Dist (m)								
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	-		-	-	-	-	-		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			3,500,000	14,200,000	19,400,000	24,300,000	29,800,000		
Water Supply									
Heigham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Water Main	12,250		2,900,000	3,500,000	4,300,000	5,100,000	5,800,000		
Pumping Stations			1,500,000	2,200,000	2,800,000	3,200,000	3,600,000		
Total Costs (£)			4,400,000	5,700,000	7,100,000	8,300,000	9,400,000		
Maximise Boreholes									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Pipework from Thorpe St A	18,250		4,200,000	5,200,000	6,500,000	7,500,000	8,700,000		
Pumping Stations			2,100,000	3,300,000	4,100,000	4,800,000	5,300,000		
Pipework from Colney	15,500		3,600,000	4,400,000	5,500,000	6,400,000	7,400,000		
Pumping Stations			1,800,000	2,800,000	3,500,000	4,000,000	4,500,000		
Total Costs (£)			5,400,000	7,200,000	9,000,000	10,400,000	11,900,000		
Water Resources									
		PDS	1,000	5,000	10,000	15,000	20,000		
Wensum Reuse			6,900,000	9,200,000	11,600,000	13,400,000	15,300,000		
GOGDS			4,300,000	5,700,000	7,100,000	8,200,000	8,600,000		
Off line Storage			1,800,000	8,700,000	17,400,000	26,100,000	34,700,000		

Figure 4-4: NPA3b - East Sector (Outside the NNDR) site infrastructure and constraints



4.5 NPA4 - South East Sector (Vicinity of Poringland)

The cost mechanism for NPA4 is shown in Table 4-5 and is summarised below with a plan of the related estimated infrastructure, flood risk and environmental constraints shown in Figure 4-5, along with relevant traffic lights where appropriate.

Wastewater

- Three options for the provision of wastewater treatment are Whitlingham WWTW, Poringland WWTW and a new WWTW

Water Supply

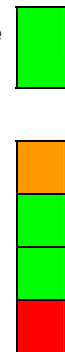
- Water would be supplied from Heigham WTW

Water Resources

- Additional water resources are from connections to Thorpe St Andrew BH and Colney BH, GOGDS, River Wensum reuse and off line storage

Flood Risk

- Flood risk to the site has been assigned a green traffic light as less than 10% of the PGA is within Flood Zone 2 or 3.
- Flood risk from the PGA has been assigned the following traffic lights:
 - From Whitlingham WWTW – amber (discharges to tidal reach of River Yare);
 - From Poringland WWTW – green (discharges to River Tas)
 - From a new WWTW - green (discharges to tributary of River Yare)
- SUDS has been assigned a red traffic light (poor SUDS suitability)



Environment

- Conservation designation has been assigned the following traffic lights:
 - From Whitlingham WWTW - amber (no conservation designated areas within the PGA but discharge into the River Yare would flow through a designated SAC site)
 - From Poringland WWTW - amber (no conservation designated areas within the PGA but discharge into River Tas would flow through an SAC site further downstream).
 - From a new WWTW - amber (no conservation designated areas within the PGA but discharge into tributary of the River Yare would flow through an SAC site further downstream).
- The PGA has been assigned a red traffic light in relation to Groundwater Vulnerability
- The PGA has been assigned a red traffic light in relation to Source Protection Zone requirements.



Table 4-5: NPA4 total summary costs

Calculations								Section Sheet 1 of 1	
Job Title Norwich Water Cycle Study - Costing Calcs							Date	Job no. D118607	
Element NPA4							01/09/2008	Project no.	
Originator	Checked	Revision	Suffix	Orig	1	2	ND		
PC	ND		Date	Check		14/08/2008	PM		
Wastewater									
Whitlingham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	6,750		2,600,000	3,600,000	4,300,000	4,600,000	4,600,000		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			-	-	-	-	-		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			2,800,000	4,300,000	5,700,000	6,600,000	7,300,000		
Upgrade Existing Poringland									
	Dist (m)	PDS							
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity	3,500		1,400,000	1,900,000	2,300,000	2,400,000	2,400,000		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			4,900,000	16,100,000	21,700,000	26,700,000	32,200,000		
New WWTW									
	Dist (m)	PDS							
Trunk Sewer - Rising			-	-	-	-	-		
Trunk Sewer - Gravity			-	-	-	-	-		
Pumping Stations			-	-	-	-	-		
New WWTW (vol)			3,300,000	13,500,000	18,000,000	22,300,000	27,100,000		
New WWTW (nut)			200,000	700,000	1,400,000	2,000,000	2,700,000		
Total Costs (£)			3,500,000	14,200,000	19,400,000	24,300,000	29,800,000		
Water Supply									
Heigham									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Water Main	10,000		2,300,000	2,900,000	3,600,000	4,200,000	4,800,000		
Pumping Stations			1,200,000	1,800,000	2,300,000	2,600,000	2,900,000		
Total Costs (£)			3,500,000	4,700,000	5,900,000	6,800,000	7,700,000		
Maximise Boreholes									
	Dist (m)	PDS	1,000	5,000	10,000	15,000	20,000		
Pipework from Thorpe St A	15,750		3,700,000	4,500,000	5,600,000	6,500,000	7,500,000		
Pumping Stations			1,900,000	2,900,000	3,600,000	4,100,000	4,600,000		
Pipework from Colney	13,750		3,200,000	3,900,000	4,900,000	5,700,000	6,600,000		
Pumping Stations			1,600,000	2,500,000	3,100,000	3,600,000	4,000,000		
Total Costs (£)			4,800,000	6,400,000	8,000,000	9,300,000	10,600,000		
Water Resources									
PDS									
		PDS	1,000	5,000	10,000	15,000	20,000		
Wensum Reuse			6,900,000	9,200,000	11,600,000	13,400,000	15,300,000		
GOGDS			3,500,000	4,600,000	5,800,000	6,700,000	7,000,000		
Off line Storage			1,800,000	8,700,000	17,400,000	26,100,000	34,700,000		

Figure 4-5: NPA4 - South East Sector (Vicinity of Poringland) site infrastructure and constraints

