Appendix 2a

Three Rivers District Council

Development Management Policies Local Development Document

Proposed Submission Version

Sustainability Appraisal – Additional Baseline Review

July 2012

1.1 Baseline Review

This section outlines the key issues arising from the baseline analysis and is set out according to individual SEA/SA topics.

1.2 Open Space

Relationship with other Plans and Programmes:

The way in which green spaces are treated within land-use development documents are vital to an areas recreation, leisure and sports capacity. National guidance exists in the form of PPG17 'Planning for Open Space, Sport, and Recreation'. This guidance acknowledges that the recreational quality of opens spaces can be eroded by insensitive development, and therefore local authorities should weigh up any benefits being offered to the community against the loss of open space that will occur (and the benefits that it too provides to the local community). The guidance also recognises the health and wellbeing value of recreational and open spaces.

All plans and policies that relate to the improving of human health through exercise are relevant to this section. This strong link between recreation/sport and health is illustrated within the Health White Paper (2004), Choosing Health: Making Healthier Choices Easier, with one of its priorities being 'increasing exercise'. At a more regional level, the Hertfordshire Sustainability Guide (2003) aims to 'promote healthier lifestyles' alongside, 'protecting, providing, and improving open spaces'.

1.2.1 *Baseline Information*

Table 1 below shows the amount of parks and gardens in six areas within Three Rivers. There are six sites classified as publicly accessible parks and gardens, totalling almost 30 hectares. However, there are no parks and gardens provision in Sarratt and Chorleywood. It can be said that there is less priority to provide provision in these two areas given that the population density is relatively low in comparison to other areas in Three Rivers.

Table 1 – Parks and gardens provision in Three Rivers[1]

Typology	Area	No of sites	Current Provision (ha)	Current Population Estimate (Mid 2008)[2]	Current Provision 2010 (ha per 1,000 population)	Provision 2005 (ha per 1,000 population)	Total provision required
Parks & gardens	Abbots Langley Parish Area	3	20.28	18,284	1.11	0.56	20.28
	Chorleywood Parish Area	-	-	11,402	-	-	-
	Croxley Green Parish Area	1	0.15	12,876	0.01	0.005	0.15
	Rickmansworth (non-parished) Area	2	0.17	21,689	0.01	0.01	0.17
	Sarratt Parish Area	-	-	1,993	-	-	-
	Watford Rural Parish Area	1	6.84	21,429	0.32	-	6.84

[1] Three Rivers Open space study 2010

[2] Based on applying same proportion of Census population from Census data to Three Rivers mid year estimate total.

Table 2 below shows the amount of parks and gardens in six areas within Three Rivers. There are 129 sites classified as natural and semi-natural greenspaces in Three Rivers totalling over 1,296 ha. Of these, 37 sites have closed access and are therefore, not publicly accessible. The 2005 study included some sites with closed access, hence it is considerable higher than the 2010 standard.

There is generally a good distribution of natural and semi natural sites across Three Rivers. Most provision is located in Sarratt and Chorleywood as these are the most rural areas.

Table 2 – Natural & semi natural provision [3]

Typology	Area	No of sites	Current Provision (ha)	Current Population Estimate (Mid 2008)[4]	Current Provision (ha per 1,000 population)	Provision 2005 (ha per 1,000 population)	Total provision required
Natural & semi natural	Abbots Langley Parish Area	11	37.44	18,284	2.05	2.37	37.44
	Chorleywood Parish Area	9	166.91	11,402	14.64	24.87	166.91
	Croxley Green Parish Area	7	74.58	12,876	5.79	11.68	74.58
	Rickmansworth (non-parished) Area	22	202.31	21,689	9.33	17.6	202.31
	Sarratt Parish Area	32	270.80	1,993	135.87	111.91	270.80
	Watford Rural Parish Area	11	130.38	21,429	6.08	9.51	130.38

Table 3 below shows that there are 23 sites classified as amenity greenspace in Three Rivers, totalling almost 70 hectares. The number of sites and their total size has increased since 2005, contributing to a slightly higher hectarage per 1,000 population. There are significant gaps in all areas. The most significant gap (in terms of population density) is in Watford Rural analysis area. There are also gaps in the more densely populated area of Abbots Langley, and as such new provision should be sought in the medium term.

Table 3 – Amenity greenspace provision[5]

Typology	Area	No of sites	Current Provision (ha)	Current Population Estimate (Mid 2008)[2]	Current Provision (ha per 1,000 population)	Provision 2005 (ha per 1,000 population)	Total provision required
Amenity greenspace	Abbots Langley Parish Area	6	11.00	18,284	0.60	0.30	11.40
	Chorleywood Parish Area	2	2.77	11,402	0.24	0.25	2.77
	Croxley Green Parish Area	1	0.47	12,876	0.04	0.04	0.47
	Rickmansworth (non-parished) Area	11	21.83	21,689	1.01	1.50	21.83
	Sarratt Parish Area	2	2.46	1,993	1.23	0.26	2.46
	Watford Rural Parish Area	1	30.73	21,429	1.43	0.29	30.73

[3] Three Rivers Open space study 2010

[4] Based on applying same proportion of Census population from Census data to Three Rivers mid year estimate total.

[5] Three Rivers Open space study 2010

Table 4 below shows that there are 43 sites in Three Rivers classified as provision for children and young people, totalling just less than five hectares. There is generally a good distribution of provision for children and young people across Three Rivers. Most provision is located in Abbots Langley and Watford Rural, both in terms of number of sites and hectares per 1,000 population.

Although there are gaps within each analysis area, significant gaps (in terms of population density) are expressed in: Abbots Langley, Croxley Green, Chorleywood and Watford Rural.

Table 4 – Provision for children and young people[6]

Typology	Area	No of sites	Current Provision (ha)	Current Population Estimate (Mid 2008)[2]	Current Provision (ha per 1,000 population)	Provision 2005 (ha per 1,000 population)	Total provision required
Provision for children & young people	Abbots Langley Parish Area	13	0.71	18,284	0.04	0.06	0.71
	Chorleywood Parish Area	1	0.15	11,402	0.01	0.02	0.15
	Croxley Green Parish Area	4	0.56	12,876	0.04	0.05	0.60
	Rickmansworth (non-parished) Area	11	1.04	21,689	0.05	0.06	1.04
	Sarratt Parish Area	1	0.09	1,993	0.04	-	0.09
	Watford Rural Parish Area	13	2.44	21,429	0.11	0.29	2.44

Table 5 below shows that there are 16 sites in Three Rivers classified as allotments, totalling just over nine hectares. Although provision exists in all six areas, not all of the Three Rivers population is serviced by allotments.

The National Society of Allotment and Leisure Gardeners (NSALG) suggests a national standard of 20 allotments per 1,000 households (i.e. 20 allotments per 2,000 people based on 2 people per house) or 1 allotment per 200 people. This equates to 0.125 hectares per 1,000 population based on an average plot size of 250 metres squared. Based on the current population, Three Rivers as a whole just meets the NSALG standard. The majority of analysis areas also meet the standard. However, Abbots Langley and Watford Rural analysis areas are deficient against the standard.

Table 5 – Provision of allotments[7]

[6] Three Rivers Open space study 2010
[7] Three Rivers Open space study 2010

Typology	Area	No of sites	Current Provision (ha)	Current Population Estimate (Mid 2008)[2]	Current Provision (ha per 1,000 population)	Provision 2005 (ha per 1,000 population)	Total provision required
Allotments	Abbots Langley Parish Area	4	1.54	18,284	0.08	-	2.20
	Chorleywood Parish Area	2	1.60	11,402	0.14	-	1.60
	Croxley Green Parish Area	3	2.89	12,876	0.22	0.24	2.89
	Rickmansworth (non-parished) Area	3	1.64	21,689	0.08	0.29	1.64
	Sarratt Parish Area	1	1.05	1,993	0.53	0.56	1.05
	Watford Rural Parish Area	3	0.84	21,429	0.04	-	1.50

1.2.2 *Trends*

ONS population projections (2004 – 2029), which shows that by 2026 the District population is projected to be 100,900. This equates to a total increase of 13,227 or 15%. Therefore, an increase of 15% has been applied to each analysis area to reflect the population projections at local level. However, the only population figures that were available to breakdown by analysis area were from the 2001 Census.

1.2.3 *Data Gaps/Limitations*

The only population figures that were available to breakdown by analysis area were from the 2001 Census and estimated using ONS population projections (2004 – 2029).

1.3 Contamination and Pollution

1.3.1 Relationship with other Plans and Programmes:

The planning system has an important role to play in protecting the environment, biodiversity, local residents, businesses and the public in general from all forms of development that could give rise to pollution. Pollution can be in many forms and includes all solid, liquid and gaseous emissions to air, land and water (including groundwater) from all types of development. Pollution includes noise, light, vibration, smell, smoke and fumes, soot, ash, dust or grit which has a damaging effect on the environment and the public's enjoyment, health or amenity. Government policy gives guidance on the pollution control regimes (including noise), that interact with the planning system.

1.3.2 Baseline Information

Contaminated land

The Council maintains a register of contaminated land. The information stored on the formal register is that relating to regulatory action and remediation that has been undertaken at sites within the District. At the time of writing, no sites within Three Rivers had been determined as "contaminated land" or as "special sites" and so there are no entries in the register.

Air quality

The monitoring of air quality is important in ensuring that levels of identified pollutants remain below national standards and targets to protect human health and eco systems. Identified pollutants include:

- Nitrogen oxides (NOX);
- Nitrogen dioxide (NO2);
- Particulate matter (PM10);
- Sulphur dioxide (SO2);
- Benzene;
- Carbon monoxide (CO); and
- 1, 3-butadine.

The ambient pollution concentrations and the number of days where air pollution was moderate or high have been collected. This data has been compared to regional.

Table 6 shows the estimated pollutant levels of Three Rivers District Council compared with regional targets[8] Data for the East of England was derived by calculating the average of the predictions for all sites in the East of England. No data was available for benzene or 1, 3-butadine. The data below displays a general trend of decreasing pollutant levels between 2001and 2010.

Table 7 displays the national targets for pollutant levels[9] and the year by which they are to be achieved.

Pollutant	East of England		Three Rivers Council		
	2001	2005	2001	2005	2010
NOX	60.87	40.58	60.00	49.33	38.08
NO2	28.93	23.95	32.33	28.25	23.64
PM10	21.33	21	21.31	20.49	18.69
SO2	8.1	6.48	3.6	-	-
Benzene	-	-	0.59	0.52	0.39
CO	0.4	0.24	0.37	-	-
1, 3-butadine	-	-	0.27	0.21	-

Table 6 *estimated pollutant levels of Three Rivers District Council compared with regional targets*

Units: NOX (ugm-3 as NO2 annual mean); NO2 (ugm-3 annual mean); PM10 (ugm-3 grav. annual mean); SO2 (ugm-3 annual mean); Benzene (ugm-3 annual mean); CO (mgm-3 annual mean); 1, 3-butadine (1, 3-butadine 2001 ugm-3 annual mean)

[8] Air Quality Archive: http://www.airquality.co.uk/archive/laqm/laqm.php

[9] APIS: http://www.apis.ac.uk/overview/regulations/overview_UK_NAQS.htm

Pollutant	Objective		Year to be achieved
	concentration	measured as	
NO2	200 µg/m3 not to be exceeded more than 18 times per year	1 hour mean	2005
	40 µg/ m3	annual mean	2005
PM10	40 µg/ m3	annual mean	2004
	50 µg/ m3 not to be exceeded more than 35 time per year	24 hour mean	2004
SO2	350 µg/ m3 not to be exceeded more than 24 times per year	1 hour mean	2004
	125 µg/ m3 not to be exceeded more than 3 times per year	24 hour mean	2004
	226 µg/ m3 not to be exceeded more than 35 times per year	15 minute mean	2005
Benzene	16.25 µg/ m3	annual running mean	2010
CO	10 mg/ m3	running 8 hour mean	2003
1, 3-butadine	2.25 µg/ m3	annual running mean	2003

Table 7 – *National Targets*[10]

The pollutant levels in the area encompassed by Three Rivers District Council decreased between 2001 and 2010. The levels of NOX and NO2 in 2005 can be seen to be above the levels for the East of England, but by 2010 is below the national target level of 40 Kg/ m3. The levels of PM10, SO2 and CO in both 2001 and 2005 were below the East of England level, and the national targets3.

The levels of benzene and 1, 3-butadine were also below the national targets. As the levels of NOX and NO2, and PM10 are close to East of England levels, Three Rivers District Council has declared three Air Quality Management Areas[11]

- AQMA 1: Residential properties close to M25 at Kings Langley
- AQMA 2: Chandlers Cross
- AQMA 3: Chorleywood

1.3.3 *Trends*

In general, pollutant levels are decreasing, and are below the national targets

1.4 Baseline Review- Community facilities

1.4.1 Relationship with other Plans and Programmes:

The Government is committed to developing strong, vibrant and sustainable communities and to promoting community cohesion in both urban and rural areas. This means meeting the diverse needs of all people in existing and future communities, promoting personal well-being, social cohesion and inclusion and creating equal opportunity for all citizens.

1.4.2 Baseline Information

Table 8 below shows the average road distance by ward to services. Although, it is recognised that this data only covers four services, the average scores and rank in Three Rivers put Croxley Green, Northwick, Rickmansworth West, Croxley Green North, and Ashridge as the five Three Rivers wards with the shortest road distance to travel to services.

[10] APIS: http://www.apis.ac.uk/overview/regulations/overview_UK_NAQS.htm
[11] Air Quality Review And Assessment (June 2007)

Maple Cross and Mill End, Moor Park and Eastbury, Oxhey Hall, Chorleywood East, and Sarratt are the five wards with the greatest road distance to travel to services.

	GP Surgery	Primary School	Post Office	Supermarket or Convenience Store	**Average**	**Ward Rank in Three Rivers**
Abbots Langley	0.87	0.83	1.03	1.63	**1.09**	**10**
Ashridge	0.97	0.45	0.61	1.19	**0.80**	**5**
Bedmond & Primrose Hill	2.19	1.19	1.16	1.29	**1.46**	**15**
Carpenders Park	2.57	0.85	0.81	0.84	**1.27**	**12**
Chorleywood East	2.49	1.54	2.38	2.60	**2.25**	**19**
Chorleywood West	0.95	0.76	1.12	1.08	**0.98**	**7**
Croxley Green	0.73	0.52	0.64	0.60	**0.62**	**1**
Croxley Green North	1.03	0.71	0.52	0.88	**0.78**	**3**
Croxley Green South	1.22	0.95	0.79	1.20	**1.04**	**9**
Hayling	1.35	0.53	0.60	1.15	**0.91**	**6**
Langleybury	1.69	0.85	1.00	2.17	**1.43**	**14**
Leavesden	1.67	0.73	1.13	1.38	**1.23**	**11**
Maple Cross & Mill End	2.41	0.57	1.04	2.20	**1.56**	**16**
Moor Park & Eastbury	1.60	1.40	1.52	1.95	**1.62**	**17**
Northwick	0.64	0.52	0.70	0.81	**0.67**	**2**
Oxhey Hall	1.96	1.60	1.33	1.75	**1.66**	**18**
Penn	1.69	0.84	0.70	0.71	**0.98**	**7**
Rickmansworth	1.73	1.42	1.32	0.83	**1.32**	**13**
Rickmansworth West	0.85	0.95	0.67	0.65	**0.78**	**3**
Sarratt	1.90	1.16	1.25	4.88	**2.30**	**20**

Table 8 – *Average road distance by ward to services*[12]

Over the summer of 2006 Three Rivers District Council completed a survey of the Citizen's Panel. One of the questions focused on access to services. 899 members responded to the survey providing the greatest evidence of public perceptions of ease of access to services at present.

Panel members were asked "From your home, how easy is it for you to get to the following, using your usual form of transport?" Fourteen different types of facilities were listed with a fixed response answer for each to be chosen from: very easy; fairly easy; neither easy nor difficult; fairly difficult; or very difficult.

The responses are summarised in Table 9. In terms of the types of facilities which are perceived as difficult to access, 'cultural/ recreational facilities', and 'local hospital' stand out as having the highest proportion of residents indicating difficulty of access. In each case, over 30% of respondents indicated some level of difficulty in access

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[12] Three Rivers - Access to Services & Infrastructure Background Paper (March 2007)

	Facility	Very Easy	Fairly Easy	Neither Easy nor Difficult	Fairly Difficult	Very Difficult
1	Cultural / recreational facility	9.2%	30.0%	25.8%	24.2%	10.7%
2	Local hospital	10.3%	32.8%	23.3%	25.1%	8.5%
3	Sports / leisure centre	26.9%	38.7%	18.6%	11.3%	4.5%
4	Council or neighbourhood office	32.5%	39.6%	15.0%	8.0%	4.9%
6	Shop selling fresh fruit and vegetables	45.6%	30.6%	12.3%	8.1%	3.3%
6	Bank or cashpoint	40.5%	37.2%	10.9%	8.3%	3.1%
7	Shopping centre or supermarket	37.1%	41.9%	12.3%	6.3%	2.4%
8	Public transport facility	48.7%	34.3%	8.7%	5.0%	3.4%
9	Post office	60.0%	24.9%	8.0%	5.2%	1.9%
10	GP	57.1%	27.9%	9.1%	4.8%	1.0%
11	Library	54.3%	31.9%	8.2%	3.6%	2.0%
12	Chemist or pharmacy	63.6%	24.9%	7.2%	3.1%	1.3%
13	Local shop	66.5%	23.9%	5.5%	2.6%	1.5%
14	Publicly accessible green space	58.8%	28.9%	8.8%	1.8%	1.6%

Table 9 - *Percentage of Responses to Ease of Access to a Variety of Facilities by Response Category*[13]

1.4.3 *Trends*

Difficulty in accessing services could increase further due to development pressures unless sustainable development is pursued.

1.4.4 Future baseline

Development pressure could have a negative effect on access to community facilities if it fails to support existing communities and contribute to the creation sustainable communities with good access to jobs and key services for all members of the community. Development plans should also contain clear, comprehensive and inclusive access policies.

1.5 Baseline Review- Surface water management

1.5.1 Relationship with other Plans and Programmes:

On an international level, the Millennium Development goals highlight the need to tackle issues, such as climate change, conserving biodiversity and protecting water resources. In Europe, the Water Framework Directive requires Member States to achieve 'good ecological status' of inland water bodies by 2015, whereas the EU Nitrates Directive addresses diffuse pollution from agriculture. In England, PPS23 'Pollution Control' and PPG25 'Development and Flood Risk' set out how the planning system can help to reduce pollution of water courses and flood risk.

1.5.2 Baseline review

Water is an essential natural resource. It is important that water resources are protected so that the risk of harm to the environment and to human health can be reduced as far as possible. Nitrate and phosphate levels, in particular, need to be monitored closely due to the risk of eutrophication and loss of biodiversity.

For the purpose of this report, data on the chemical and biological quality of rivers, and the percentage of rivers with high phosphate or nitrate concentrations have been collected.

[13] Three Rivers - Access to Services & Infrastructure Background Paper (March 2007)

The Three Rivers area has a high level of surface water resources including the Rivers Colne, Gade and Chess, the Grand Union Canal, several lakes and numerous ponds. In addition the District is entirely underlain by a pervious aquifer (high quality water-table) which is the main drinking water resource for the area. It is important to protect these resources from pollution and to safeguard them, taking into account future climate change.

Three Rivers is an area of serious water stress, so reducing water consumption levels is important. It is also noted that many existing water mains and sewerage systems are increasingly becoming overloaded.

1.5.3 Water Quality

In general, chemical water quality between 1995 and 2006 has improved, and biological water quality has declined (Table 10 and 11).

As of 2008 the chemical quality of Rivers Chess, Colne and Ver are very good, and Biology fluctuates between good and poor among the rivers (2008).

The chemical water quality in the Three Rivers District improved between 1995 and 2000 but declined again in 2006. The percentage of rivers considered as having good chemical quality was lower than the average for the East of England in 1995 and 2004, and was higher than the average in 2000. Despite chemical quality improving between 1995 and 2000, the percentage of rivers considered as having poor chemical quality has increased from 0% to 24%.

Table 10- Chemical water quality[14]

Local Authority / Region	1995				2000				2006			
	%Good	%Fair	%Poor	%Bad	%G	%F	%P	%B	%G	%F	%P	%B
Watford	52	48	-	-	85	15	-	-	52	48	-	-
St Albans	54	46	-	-	78	22	-	-	93	-	7	-
Dacorum	18	74	8	-	28	69	3	-	14	45	42	0
Three Rivers	24	70	-	-	60	40	-	-	5	71	24	-
East of England	39.7	47.3	12.8	0.2	45.8	46.9	6.9	0.4	42.4	47.3	10.1	0.2

Table 11 below shows the biological water quality in the Three Rivers District declined between 1995 and 2006. The percentage of rivers being considered as having poor or bad water quality has increased.

[14] DEFRA e-Digest: http://www2.defra.gov.uk/db/rq/gorlist.asp

Local Authority / Region	1995				2000				2006			
	%G	%F	%P	%B	%G	%F	%P	%B	%G	%F	%P	%B
Watford	34	66	-	-	82	7	12	-	52	7	33	9
St Albans	55	45	-	-	65	35	-	-	43	57	-	-
Dacorum	76	24	-	-	57	17	22	4	15	39	46	-
Three Rivers	90	10	-	-	76	12	9	4	36	19	37	8
East of England	71.0	27.9	0.9	0.2	80.9	18.1	0.9	0.1	77.4	20.8	1.7	0.1

Table 11 – Biological water quality[15]

1.5.4 Water Supply

The East of England is the country's driest region, and water resources are over abstracted in the region. Current and future demands for water cannot be met from within the region[16]. The Audit commission Local Area profiles (2010) report that the daily domestic water use (per capita consumption, litres) in 2004 was192 litres/day in Dacorum, St Albans, Three Rivers and Watford. No trend information is available for this specific indicator.

The Water Cycle Scoping Study (April 2010) indicates that in relation to a housing growth level of 9,000 homes (2010 – 2031), for potable water supply; waste water and sewerage network capacity; flood risk; and the water environment, the only major constraints are those related to the Maple Lodge waste water treatment works which serve Hemel Hempstead and Kings Langley. However for a higher growth scenario of 17,000 in the same period there would be wider issues including the supply of potable water.

1.5.5 Trends

In general, chemical water quality between 1995 and 2006 has improved, and biological water quality has declined. There appears to be no obvious trend regarding phosphate and nitrate concentrations.

1.5.6 Future baseline

With no definitive direction towards maintaining and enhancing water quality negative or neutral trend is likely in the short term however the quality is unlikely to be maintained to enhanced in the medium to long term, conversely in the absence of strong mechanisms to limit pollution and to address water consumption the water quality and quantity are likely to take a negative trend in the future.

1.5.7 Data Gaps/Limitations

No up to date data available.

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[15] Environment Agency – High Level Target 5: http://www.environmentagency.gov.uk/research/planning/33704.aspx

[16] http://insighteast.org.uk/Webdocuments/approved/FTPUploads/EACoreRSS14WRimpacts.pdf