

South Sunderland Growth Area

Infrastructure Delivery Study

January 2016



This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.







Job numbernumber237359-00

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Document Verification

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Job title		South Sunderland Growth Area Infrastructure Delivery Study		Job number		number237359-00	
Document title		Report		File reference			
Document ref							
Revision	Date	Filename					
Draft 1	23 Jul 2014	Description	First draft				
			Prepared by	Checked by	Approved by		
		Name	Vicki Lavender	Matt Verlander	Matt Verlander		
		Signature					
Draft 2	28 Aug 2014	Filename					
		Description	Second draft				
			Prepared by	Checked by	Approved by		
		Name	Vicki Lavender	Matt Verlander	Matt Verlander		
Draft 3	7 Oct 2014	Filename	SSGA Infrastructure Delivery Study Baseline Report Draft 3.docx				
		Description	Updated following client comments				
			Prepared by	Checked by	Approved by		
		Name	Vicki Lavender	Matt Verlander	Matt Verlander		
Draft 4	12 Feb 2015	Filename	SSGA Infrastructure Delivery Study Baseline Report Draft 4.docx				
		Description					
			Prepared by	Checked by	Approved by		
		Name	Vicki Lavender	Matt Verlander	Matt Verlander		
		Signature					
<div style="text-align: right;"> Issue Document Verification with Document <input checked="" type="checkbox"/> </div>							

Document Verification

Page 2 of 2

Job title		South Sunderland Growth Area Infrastructure Delivery Study		Job number number237359-00	
Document title		Report		File reference	
Document ref					
Revision	Date	Filename	SSGA Infrastructure Delivery Study Baseline Report Draft		
Draft 5	17 Feb 2015	Description			
			Prepared by	Checked by	Approved by
		Name	Vicki Lavender	Matt Verlander	Matt Verlander
		Signature			
Draft 6	22 Apr 2015	Filename	SSGA Infrastructure Delivery Study Baseline Report Draft 6.docx		
		Description			
			Prepared by	Checked by	Approved by
		Name	Vicki Lavender	Matt Verlander	Matt Verlander
		Signature			
Issue 27	May 2015	Filename	SSGA Infrastructure Delivery Study Baseline Report Issue.docx		
		Description	Issue		
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
Issue Document Verification with Document					<input checked="" type="checkbox"/>

Contents

	Page
1 Introduction	1
1.1 Project Context	1
1.2 Growth Context	1
1.3 Report Content and Structure	2
2 Context	4
2.1 Overview	4
2.2 The National Planning Policy Framework	4
2.3 Delivery	5
2.4 Residential Market Profile	5
2.5 Character of the Housing Market in SSGA	6
3 Proposed Development across SSGA	7
3.1 Overview of Proposed Residential Development	7
3.2 Chapelgarth	7
3.3 Land North of Burdon Lane	9
3.4 Cherry Knowle	11
3.5 South Ryhope	13
3.6 Affordable Housing – General Requirements	14
4 Stakeholder Consultation	15
5 Social Infrastructure: Healthcare	16
5.1 Policy Context	16
5.2 Existing Provision	16
5.3 Infrastructure Requirements Overview	17
5.4 Infrastructure Costs	18
6 Social Infrastructure: Emergency Services	19
6.1 Policy Context	19
6.2 Existing Provision	19
6.3 Infrastructure Requirements Overview	20
6.4 Infrastructure Costs	20
7 Social Infrastructure: Community Facilities	22
7.1 Policy Context	22
7.2 Existing Provision	23
7.3 Infrastructure Requirements Overview	25
7.4 Infrastructure Costs	25

8	Social Infrastructure: Education	27
8.1	Policy Context	27
8.2	Existing Provision	28
8.3	Infrastructure Requirements Overview	30
8.4	Infrastructure Costs	32
9	Natural Heritage	34
9.1	Policy Context	34
9.2	Infrastructure Requirements Overview	36
9.3	Infrastructure Costs	39
10	Utilities Infrastructure	43
10.1	Policy Context	43
10.2	Existing Provision	44
10.3	Infrastructure Requirements Overview	45
10.4	Infrastructure Costs	47
11	Transport Infrastructure	48
11.1	Policy Context	48
11.2	Existing Provision	49
11.3	Infrastructure Requirements Overview	51
11.4	Infrastructure Costs	55
11.5	Review of Council Modelling Work	56
11.6	Ryhope to Doxford Link Road	58
12	Infrastructure Delivery	62
12.1	Context	62
12.2	Implementation	62
12.3	Prioritising Infrastructure	62
12.4	Costs	63

Appendices

Appendix A

SSGA Concept Plan

Appendix B

Access to Local Centres in SSGA

Appendix C

Concept Planning Showing RDLR Elements

1 Introduction

1.1 Project Context

Sunderland City Council appointed Arup to prepare an Infrastructure Delivery Study (IDS) for the South Sunderland Growth Area (SSGA). The IDS will assist in informing the preparation and completion of the South Sunderland Growth Area Supplementary Planning Document (SPD) and essentially set out a strategy to identify the infrastructure necessary to deliver the scale of development envisaged in the SSGA.

As a part of the commission, the following has been prepared:

1. Infrastructure Delivery Strategy– establishing the baseline position in respect of issues including the overall pattern and volume of proposed development at SSGA; costs for the Ryhope Doxford Link Road and confirming the requirements, quantum and phasing of social and physical infrastructure associated with the sites in the SSGA.
2. Viability Assessment– consideration of the viability of sites within the SSGA.

1.2 Growth Context

The South Sunderland Growth Area (SSGA) relates to the delivery of new housing along the southern periphery of South Sunderland. The area has the capacity to accommodate approximately 2,800-3,300 dwellings; which equates to 20% of the city's housing need for the plan period and potentially provide executive and larger family homes, within a high quality environment and setting. The SSGA is essentially comprised of four sites:

- **Chapelgarth** - identified and allocated as a housing site in the Sunderland Unitary Development Plan (UDP). The site is in council ownership.
- **Land North of Burdon Lane** – this new site falls within a designated 'settlement break' in the UDP.
- **Cherry Knowle** - is owned by the Homes and Communities Agency and will also accommodate a replacement health facility and a hospice (which are currently under construction).
- **Land at South Ryhope** - the site was allocated in the UDP for economic development. This allocation has been reviewed through the Employment Land Update and the draft Core Strategy now proposes the site be developed primarily for housing along with some employment uses.

The scale of development will result in a significant increase in the population of South Sunderland. In this respect, there is a need to ensure provision of the supporting infrastructure which is essential to the creation of sustainable communities. This is likely to comprise a new primary school, a local centre, community/cultural facilities, open space, woodlands, cycleways and footpaths. The completion of the Ryhope Doxford Link Road will be pursued (through developer contributions) to ensure the area is linked to the local road network.

The SSGA Concept Plan is included in **Appendix A**.

1.3 Report Content and Structure

This report includes the following:

- Establishes the baseline position in respect of the key issues.
- Reviews the overall pattern and volume of proposed development at SSGA.
- Reviews the costs for the Ryhope Doxford Link Road.
- Confirms the requirements, quantum and phasing of social and physical infrastructure associated with the site in the SSGA.

The infrastructure requirements identified in this report are those associated with:

- Social Infrastructure including:
 - Education
 - Healthcare
 - Emergency Services
 - Community Facilities
 - Open Space and Green Infrastructure
- Waste
- Transport
- Utilities

The structure of the report is as follows:

Section 2: Context – overview of infrastructure planning and review of issues for the SSGA

Section 3: Proposed Development across SSGA – overview of sites within the SSGA.

Section 4: Stakeholder Consultation - summary of discussions held with developers and key Council and external stakeholders.

Section 5: Social Infrastructure: Healthcare – summary of existing healthcare provision in the SSGA, required infrastructure and associated costs.

Section 6: Social Infrastructure: Emergency Services - summary of existing emergency services provision in the SSGA, required infrastructure and associated costs.

Section 7: Social Infrastructure: Community Facilities - summary of existing community services provision in the SSGA, required infrastructure and associated costs.

Section 8: Green Infrastructure and Open Space - summary of existing green infrastructure and open space provision in the SSGA, required infrastructure and associated costs.

Section 9: Waste - summary of existing waste provision in the SSGA, required infrastructure and associated costs.

Section 10: Utilities Infrastructure - summary of existing utilities provision in the SSGA, required infrastructure and associated costs.

Section 11: Transport Infrastructure - summary of existing transport infrastructure provision in the SSGA, required infrastructure and associated costs.

Section 12: Infrastructure Delivery – overview of infrastructure required for SSGA and likely associated requirements.

2 Context

2.1 Overview

Infrastructure planning is an essential element in ensuring that the Development Plan is robust and deliverable. The term ‘infrastructure’ is broadly used for planning purposes to define all of the requirements that are needed to make places function efficiently and effectively and in a way that creates sustainable communities.

Infrastructure is commonly split into three categories, defined as:

- **Physical:** the broad collection of systems and facilities that house and transport people and goods, and provide services e.g. transportation networks, housing, energy supplies, water, drainage and waste provision, ICT networks, public realm and historic legacy.
- **Green:** the physical environment within and between our cities, towns and villages. A network of multi-functional open spaces, including formal parks, gardens, woodland, green corridors, waterways, street trees and open countryside.
- **Social & Community:** the range of activities, organisations and facilities supporting the formation, development and maintenance of social relationships in a community. It can include the provision of community facilities (education, healthcare, community centres, places of worship, sports & leisure facilities).

Improvements to infrastructure will be fundamental to achieving the ambitions for the SSGA, to cater for a growing and changing population. It is recognised that any proposed growth must be supported by improvements to physical, social and green infrastructure, and where necessary, be delivered in advance of development. This infrastructure will include facilities needed for development to function and to ensure the integration and creation of sustainable communities.

2.2 The National Planning Policy Framework

The National Planning Policy Framework (NPPF) outlines a number of key issues relating to the delivery of infrastructure, which are relevant to this study. These include:

Paragraph 156, requires Local planning authorities to set out the strategic priorities for the area in the Local Plan. This should include strategic policies to deliver the provision of infrastructure for transport, telecommunications, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat).

Paragraph 163 states that local planning authorities should work with other authorities and providers to assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, management, and its ability to meet forecast demands.

2.3 Delivery

Infrastructure requirements will be funded by a variety of different mechanisms which will vary over the delivery of the SSGA. The following chapters set out infrastructure needs and indicate potential sources of funding for each where this is possible, based upon appropriate available evidence, together with timescales for the phasing of delivery.

The key sources of funding over which the planning system can have a direct influence are as follows.

- **Community Infrastructure Levy:** The Community Infrastructure Levy (CIL) provides a fair and consistent mechanism for pooling contributions from all eligible developments. It provides certainty so that developers can calculate, prior to land deals taking place, the level of contributions necessary.
- **Section 106 Agreements:** Section 106 contributions can only be obtained when they meet three statutory tests (necessary to make the development acceptable in planning terms; directly related to the development; and fairly and reasonably related in scale and kind to the development). In addition, from April 2015 'pooled contributions' for S106 funding will not be allowed, i.e. no piece of infrastructure will be able to be funded by more than five separate S106 obligations.
- **Planning Conditions:** These are the main mechanisms for provision of essential on-site design requirements and critical infrastructure. These could include highway infrastructure agreements, mainly those covered by Section 38 and Section 278 of the Highways Act 1980 which provide discretionary powers for the highway authority to enter into an agreement with a development to adopt a new highway or improve the existing highway.

2.4 Residential Market Profile

The following provides an overview of the residential market profile of the area:

- There is a recognised national and regional shortage of housing. This is not helpful to achieving economic growth for the region that requires a ready supply of houses and a stable market in which to attract potential inward investors.
- Demand for houses remains fragile and is dependent upon the availability of finance, linked with the propensity of potential borrowers to commit to loans in an atmosphere where interest rates are forecast to increase, albeit gradually.
- The local market for new build housing is predominantly focussed on greenfield sites, which are in demand from buyers of family homes and by the mortgage lenders. There has been a very positive start to the year reported by agents across the region with increased instructions to sell and sales being completed.
- Timing and phasing of new development is important to ensure that a steady supply of houses are released for sale to match levels of demand.

2.5 Character of the Housing Market in SSGA

The following provides an outline of the adjoining residential estates:

Moorside Road

- This estate was built in the 1980's.
- Recent house prices indicate 3 bedroom semi-detached houses sell for £165,000.

Weymouth Road

- This estate was built in the 2000's.
- Recent house prices indicate a 3 bedroom semi-detached houses sell for £150,000.

Hall Farm Road

- This estate was built in the 1970's.
- Recent house prices indicate a 3 bedroom semi-detached houses sell for £120,000.

Burdon Lane, Ryhope Colliery

- This estate was built in the 1950's as a local authority development.
- Recent house prices 3 bedroom semi-detached sold for £100,000.

Summary of Adjoining Residential Estates

- Much of the residential development to the south of the conurbation is the city's urban fringe, with residential development taking place from the 1970's to date.
- The mix and character of housing is shown in distinct neighbourhoods of old colliery village merged into conurbation; local council estate; and later development of private housing from the 1970's to date as the urban fringe has expanded.
- The general tone of values is toward the low end, but the more recent development showing good character and some well maturing housing estates.
- The mix of housing appears to be of a cross-section that can be expected for family estates, with a predominance of 3 and 4 bedroom and some smaller properties of 1 and 2 bedrooms.

3 Proposed Development across SSGA

3.1 Overview of Proposed Residential Development

This chapter provides an overview of proposed residential developments across the SSGA, comprising the following sites:

- Chapelgarth;
- Land North of Burdon Lane;
- Cherry Knowle; and
- South Ryhope.

3.2 Chapelgarth

Location

Chapelgarth is a 49.93ha greenfield site located within the Doxford Park area of Sunderland. It is a sloping site bordered by Weymouth Road to the north, Blakeney Woods to the east, the A19 to the south and Doxford Business Park to the west of the site boundary. The site is currently partially covered by small wooded areas and used by the local community for recreational purposes.



Planning Policy Context

The site is allocated for housing (860 dwellings of which 130 dwellings have already been constructed.) and open space in the saved policies of the Sunderland UDP (1998). The Draft Revised Preferred Options Core Strategy (August 2013) identifies the site as a Location for Major Development for housing development.

Proposal

Chapelgarth is to be a housing led development with the emphasis on executive housing and larger family homes with some retail provision such as a small convenience shop. It is proposed that the site will accommodate approximately 650 properties (310 executive, 340 standard), constructed between 2015 and 2030.

It is proposed that the Chapelgarth site will consist of the following house types¹:

- 33 no. 2 bedroom houses
- 163 no. 3 bedroom houses
- 260 no. 4 bedroom houses
- 130 no. 5 bedroom houses
- 65 no. 6 bedroom houses

The table below outlines the phasing and type of dwellings proposed².

Phase	Year	No. Exc Units	No. Std Units	2 bed	3 bed	4 bed	5 bed	6 bed
1	2015-2020	90	100	10	48	76	38	19
2	2020-2025	110	120	12	58	92	46	23
3	2025-2030	110	120	12	58	92	46	23
Total		310	340	33	163	260	130	65

The site is being progressed by the Siglion/ City Council joint venture.

¹Informed by the findings of the SHMA and for the purpose of the Infrastructure Study.

²Please note this is an estimate made by the City Council and does not necessarily represent the developers proposals for the site.

3.3 Land North of Burdon Lane

Location

The Land North of Burdon Lane is an 88.61ha greenfield site located within the Tunstall area of Sunderland. The site is bordered by Goathland Drive to the north, Bowwood Close to the east, Burdon Lane to the south and Burdon Road to the west. The site is currently used for agricultural purposes.



Planning Policy Context

Part of the site is allocated for a new transport corridor in the saved policies of the Sunderland UDP (1998). The Draft Revised Preferred Options Core Strategy (August 2013) identifies the site as a Location for Major Development for the development of housing, a new school and supporting infrastructure.

Proposal

It is proposed that the site will be a mixed development consisting of community facilities, primary school and housing of both market housing and executive housing³. The development will consist of approximately 955 properties constructed between 2015 and 2030 including:

- 96 no. 2 bedroom houses
- 382 no. 3 bedroom houses

³Informed by the findings of the SHMA and for the purpose of the Infrastructure Study

- 382 no. 4 bedroom houses
- 96 no. 5 bedroom houses

The table below outlines the phasing and type of dwellings proposed at the Burdon Lane site⁴.

Phase	Year	No. Std Units	2 bed	3 bed	4 bed	5 bed
1	2015-2020	270	27	108	108	27
2	2020-2025	450	45	180	180	45
3	2025-2030	235	24	94	94	24
Total		955	96	382	382	96

The developer consortium for the site includes three developers (Taylor Wimpey, Persimmon and Storey Homes). There are nine owners of the site.

⁴Please note this is an estimate made by the council and does not necessarily represent the developers proposals for the site.

3.4 Cherry Knowle

Location

Cherry Knowle is owned by the Homes and Communities Agency (HCA) and is part of the NHS estate. The site is located within the Ryhope area of Sunderland. It is a sloping site bordered by Burdon Lane to the north, Ryhope Engines Museum to the north east, Stockton Road/ A1018 to the east, Cherry Knowle Dene to the south and agricultural fields to the west of the site boundary. The site is partially occupied by Cherry Knowle Hospital and the remainder is used for



agricultural purposes.

Planning Policy Context

The site is allocated for housing in the saved policies of the Sunderland UDP (1998). This consists of 130 dwellings on Wellfield Farm, 140 dwellings on Cherry Knowle (North), 80 dwellings on Ryhope General Hospital, 230 dwellings on Cherry Knowle (West). The Draft Revised Preferred Options Core Strategy (August 2013) proposes the site as a Location for Major Development for the development of housing.

Proposal

Cherry Knowle is proposed as a mixed development consisting of community facilities and housing of both market housing and executive housing. It is

proposed that approximately 770 properties will be constructed between 2015 and 2030. The 37.48ha (gross developable area) site will be a mix of 340 executive homes and 430 standard homes consisting of⁵:

- 82 no. 2 bedroom houses
- 224 no. 3 bedroom houses
- 310 no. 4 bedroom houses
- 154 no. 5 bedroom houses

The table below outlines the phasing and type of dwellings proposed at the Cherry Knowle site⁶.

Phase	Year	No. Exc Units	No. Std Units	2 bed	3 bed	4 bed	5 bed
1	2015-2020	110	140	28	72	100	50
2	2020-2025	110	140	28	72	100	50
3	2025-2030	120	150	26	80	110	54
Total		340	430	82	224	310	154

The HCA have selected Barratt Homes as the preferred developer for the site.

⁵Informed by the findings of the SHMA and for the purpose of the Infrastructure Study

⁶Please note this is an estimate made by the council and does not necessarily represent the developers proposals for the site.

3.5 South Ryhope

Location

South Ryhope is a 22.5ha green field site located within the Ryhope area of Sunderland. It is a sloping site bordered by the A1018 to the north, B1287 to the east, Ryhope Dene to the south and Stockton Road to the west of the site



boundary. The present site is currently used for agricultural purposes.

Planning Policy Context

The site is allocated as employment land in the saved policies of the Sunderland UDP (1998). The Draft Revised Preferred Options Core Strategy (August 2013) identifies the site as a Location for Major Development for residential development.

Proposal

South Ryhope is proposed as housing development of market housing and larger family properties. It is proposed that approximately 450 properties will be constructed between 2015 and 2030 including⁷:

- 90 no. 2 bedroom houses
- 158 no. 3 bedroom houses
- 158 no. 4 bedroom houses

⁷Informed by the findings of the SHMA and for the purpose of the Infrastructure Study.

- 45 no. 5 bedroom houses

The table below outlines the phasing of dwellings proposed at the site⁸.

Phase	Year	No. Std Units	2 bed	3 bed	4 bed	5 bed
1	2015-2020	145	29	51	51	15
2	2020-2025	200	40	70	70	20
3	2025-2030	105	21	37	37	11
Total		450	90	158	158	45

The Church Commissioners are the landowner of the site.

3.6 Affordable Housing – General Requirements

The required provision of affordable housing in the SSGA is outlined below.

3.6.1 Policy Context

Policy regarding affordable housing in Sunderland is set out in the Draft Core Strategy and UDP Saved Policies. The key policies include:

- Draft Core Strategy Policy CS4.3: New Housing
- Draft Core Strategy Policy DM4.9: Affordable Housing
- Saved UDP Policy H16: Affordable Housing

Draft Core Strategy Policy CS4.3: New Housing - the provision of 10% affordable housing is required on all housing developments proposing a minimum of 15 dwellings or on sites of 0.5ha or more.

Draft Core Strategy Policy DM4.9: Affordable Housing - residential schemes of 15 or more dwellings and/or on development sites of 0.5ha or more will be required to provide 10% affordable housing, with the tenure mix to be 75% affordable rented and 25% intermediate tenure. Affordable housing provision lower than the required rate and/or proposing a different tenure mix will only be acceptable where robust justification is provided through a viability assessment.

The affordable dwelling types and size should reflect the sub-area needs set out in the Strategic Housing Market Assessment; however consideration will be given to the viability of a site by means of the submitted robust justification

Offsite provision, or a financial contribution towards affordable housing, as an exception, will only be considered where it can be proved preferable for planning reasons and brought forward for development within a similar timescale as the associated planning application.

Saved UDP Policy H16 – Affordable Housing – the Council will negotiate affordable housing provision on schemes of 50 dwellings or more.

⁸Please note this is an estimate made by the council and does not necessarily represent the developers proposals for the site.

4 Stakeholder Consultation

In preparing this study consultation has been undertaken with a wide range of stakeholders. A summary of consultees is set out below:

The following infrastructure providers have been consulted as part of this study:

Utilities

- Northumbrian Water - Water Supply, Sewers and Flooding
- Environment Agency - Ground Water, Contamination and Flooding
- Northern Power Grid - Northern Power Grid

Transport

- Highways Agency - Strategic Highways
- Sunderland City Council Highways Department – Local Highways
- Nexus - Public Transport (bus and Metro)
- Sunderland City Council Transport Department - Cycle Network

Education

- Sunderland City Council Education Department

Healthcare

- NHS South of Tyne and Wear

Emergency Services

- Northumbria Police
- North East Ambulance Service

Green Infrastructure

- Sunderland City Council Ecology Department – Biodiversity
- Sunderland City Council Community Services (Sport and Leisure) Department – Play space, allotments and pitch provision

The following landowners and developers have also been consulted as part of this study:

- Sunderland City Council
- Barratt Homes
- Taylor Wimpey
- Church Commissioners

A summary of consultation comments and information received are outlined in the following sections of this report.

5 Social Infrastructure: Healthcare

This chapter provides an overview of the existing and required provision of healthcare facilities, including:

- Hospitals; and
- Healthcare centres.

5.1 Policy Context

The following policies are relevant to the provision of healthcare facilities in the SSGA:

- Draft Core Strategy CS 11:Infrastructure/Developer Contributions
- Draft Core Strategy Policy DM2.1:Strategic Sites
- Saved UDP Policy UDP R3:Infrastructure Provision

A summary of relevant extracts of the key policies is outlined below:

Draft Core Strategy CS 11: Infrastructure/Developer Contributions – the policy seeks to ensure that all new developments do not adversely impact on the City’s existing infrastructure. Developments should serve the needs arising from development by providing appropriate additional physical and social infrastructure and enhance infrastructure by contributing to services and facilities where necessary. The contributions that maybe required include education, health and social care and community safety.

Draft Core Strategy Policy DM2.1: Strategic Sites - development proposals for the Strategic Sites must be supported by either a masterplan or development framework, which includes a delivery strategy. Development proposals must provide the appropriate level of physical, social, health, green and transport infrastructure necessary, to achieve a sustainable development and create a sense of ‘place’.

Saved UDP Policy R3: Infrastructure Provision –developers will be expected to enter into a planning obligation to enable suitable provision of additional off site infrastructure or community infrastructure including open space and formal recreation.

5.2 Existing Provision

The SSGA is within the administrative area of the NHS South of Tyne & Wear. There are currently six practices within 2.5 km of the South Sunderland Growth Area which would cover or seek to cover the SSGA. Practices include:

Practice	Number of Patients	Location
Church View Health Centre	6,060	Silksworth
Silksworth Health Centre	3,959	Silksworth
Silksworth Health Centre	5,210	Silksworth

Ryhope Health Centre – Dr Hipwell	3,071	Ryhope
Ryhope Health Centre - Dr Al Khalidi	5,902	Ryhope
Ryhope Health Centre – Dr Pattison	5,285	Ryhope
Outreach at Sainsburys – Dr Lefley	n/a	Silksworth

The Commissioners' Investment & Asset Management Strategy (CIAMS) which provides a review of the condition of each health centre reports show the practices detailed above to be in Class A / B condition with some potential for taking more patients.

A further option for residents within the SSGA will be the Seaham Health Centre within the administrative area of Durham County Council. This practice is also classed as being in 'Good' condition.

The nearest hospital to the site is the Sunderland Royal Hospital which is located on Kayll Road, Pallion which is approximately 6km from the SSGA.

5.3 Infrastructure Requirements Overview

The NHS South of Tyne & Wear Trust recommend that consideration should be taken as to whether the development of additional housing in the SSGA would result in new residents coming into the area, or the redistribution of existing Sunderland residents. New housing generally results in some demand for healthcare resulting from new residents leaving their current practice to join a practice closer to their new residence. However, a proportion stay with their current practice and therefore do not require additional healthcare provision. This trend is occurring particularly for younger, more mobile residents.

The practices within 2.5km of the SSGA and Seaham Health Centre are all in good condition, with available capacity, as detailed in the CIAMS report. On that basis, the NHS South of Tyne and Wear Trust have confirmed that there is no requirement for the development of further healthcare facilities in the short term. It is unlikely that the Trust would seek to commission a new provider due to the adequate local choice. A more detailed appraisal may be required in the medium/long term.

5.3.1 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- **Critical:** Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative
- **Essential:** Items are very important but alternative infrastructure and policy approaches could be put in place
- **Desirable:** Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live

Given that no requirements have been identified as being required it is considered that the criticality rating is 'desirable'.

5.4 Infrastructure Costs

The Trust advised that currently no additional healthcare facilities are required to accommodate new residents associated with the development of the SSGA. Therefore, there are no financial costs and the Council is unlikely to seek a Section 106 (S106) or equivalent contribution.

5.4.1 Summary of Costs

The table below provides a summary of healthcare infrastructure costs.

Infrastructure	Cost	Criticality
Health Centre	No costs	Desirable

6 Social Infrastructure: Emergency Services

This chapter provides an overview of the existing and required provision of emergency services, including:

- Police;
- Fire; and
- Ambulance.

6.1 Policy Context

The following policies found in the Draft Core Strategy and Saved UDP are relevant to the provision of healthcare related uses in the SSGA:

- Draft Core Strategy CS 11: Infrastructure/Developer Contributions
- Draft Core Strategy Policy DM2.1: Strategic Sites
- Saved UDP Policy R3: Infrastructure Provision

A summary of relevant extracts of the key policies is set out below:

Draft Core Strategy CS 11: Infrastructure/Developer -Contributions seeks to ensure that all new developments do not adversely impact on the City's existing infrastructure. Developments should serve the needs arising from development by providing appropriate additional physical and social infrastructure and enhance infrastructure by contributing to services and facilities where necessary. The contributions that may be required include emergency and essential services.

Draft Core Strategy Policy DM2.1: Strategic Sites - development proposals for the Strategic Sites must be supported by either a masterplan or development framework, which includes a delivery strategy. Development proposals must provide the appropriate level of physical, social, health, green and transport infrastructure necessary, to achieve a sustainable development and create a sense of 'place'.

Saved UDP Policy R3: Infrastructure Provision – developers will be expected to enter into a planning obligation to enable suitable provision of additional off site infrastructure or community infrastructure including open space and formal recreation.

6.2 Existing Provision

Police

Policing in the SSGA is operated by the Northumbria Police Authority. The area is located in the 'Sunderland West' area. The closest 24 hour walk-in police station is Gill Bridge Police Station which is located in Sunderland City Centre. The closest operational police station is Farrington Hall, located on Primate Road, Farrington, which is approximately 4km from the SSGA. The police station is open weekdays 9am-5pm. The police station is well placed to serve the proposed developments at the SSGA.

Fire

The fire brigade in the SSGA is operated by the Tyne and Wear Rescue Service. There are three fire stations which serve Sunderland including Farringdon, Central and Fulwell Community fire stations. Farringdon Community Fire Station is the closest to the area and is located at North Moor Road, Farringdon, which is approximately 4km from the SSGA. This fire station is well placed to serve the proposed housing growth at the SSGA.

Ambulance

The North East Ambulance Service operates emergency call outs in the SSGA area. The local ambulance depot is located in Pallion West Industrial Estate, Sunderland. The Grindon walk in centre is close to the SSGA which provides facilities for ambulance staff.

6.3 Infrastructure Requirements Overview

Northumbria Police Authority has confirmed that no contributions will be sought from developments at SSGA towards policing.

No response has been received from the North East Ambulance Service. However, the North East Ambulance Service was consulted as part of the SHLAA consultation and did not raise any objections.

No responses has been received from the Tyne and Wear Rescue Service. However, the Tyne and Wear Fire and Rescue Service was consulted as part of the SHLAA and Core Strategy Strategic Sites and Locations for Major Development Infrastructure Delivery Study consultation and did not raise any objections.

6.3.1 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- Critical: Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative.
- Essential: Items are very important but alternative infrastructure and policy approaches could be put in place.
- Desirable: Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live.

Given that no requirements have been identified as being required it is considered that the criticality rating is 'desirable'.

6.4 Infrastructure Costs

Police

Northumbria Police recommend that no S106 or equivalent contributions should be sought by the City Council.

Fire

No response received.

Ambulance

No response received.

6.4.1 Summary of Costs

The table below provides a summary of emergency services infrastructure costs.

Infrastructure	Cost	Critically Rating
Police	No costs recommended	Desirable
Fire	No costs recommended	Desirable
Ambulance	No costs recommended	Desirable

7 Social Infrastructure: Community Facilities

This chapter provides an overview of the existing and required provision of community facilities, including:

- Leisure centres;
- Libraries;
- Community centres;
- Local centres; and
- Culture.

7.1 Policy Context

Policy regarding community facilities in Sunderland is set out in the Draft Core Strategy and UDP Saved Policies. The key policies include:

- Draft Core Strategy Policy CS5.1: Thriving Communities
- Draft Core Strategy Policy CS11: Infrastructure/Developer Contributions
- Draft Core Strategy Policy DM2.1: Strategic Sites
- Draft Core Strategy Policy DM5.2: Food Drink and Amusement Centres
- Draft Core Strategy Policy CS4.3: New Housing
- Saved UDP Policy S3: Shopping
- Saved UDP Policy R3: Infrastructure Provision
- Saved UDP Policy CF14 Design
- Saved UDP Policy B20: Art

A summary of relevant policies is outlined below:

Draft Core Strategy Policy CS5.1: Thriving Communities – the Council will support the roles of its centres to ensure they remain thriving and viable destinations, consistent with their scale and function.

Draft Core Strategy Policy CS11: Infrastructure/Developer Contributions – the Council will ensure new developments do not adversely impact on the City's existing infrastructure and provide appropriate additional physical and social infrastructure where necessary, to serve the needs arising from development. Proposals should enhance infrastructure by contributing to services and facilities where necessary, to serve the needs of the development.

Contributions may be required for open space and recreation (including leisure and sports facilities) and community facilities (including meeting halls, youth activities, play facilities, library and information services, cultural facilities and places of worship).

Draft Core Strategy Policy DM2.1: Strategic Sites -development proposals for the Strategic Sites must be supported by either a masterplan or development framework, which includes a delivery strategy. Development Proposals must provide the appropriate level of physical, social, health, green and transport infrastructure necessary to achieve a sustainable development and create a sense of ‘place’.

Draft Core Strategy Policy DM5.2: Food, Drink and Amusement Centres - planning permission for restaurants and cafes (A3), drinking establishments (A4) hot food takeaways (A5) and amusement centres (sui generis) will normally be granted in existing city, town and local centres and other appropriately located and accessible sites unless they have a detrimental effect on the environment, residential amenity and public or highway safety.

Saved UDP Policy S3: Shopping - the Council will allow for the provision of shops provided they are in accessible locations, in areas of substantial new developments, are of an acceptable level and the use will not conflict with other established neighbourhoods.

Saved UDP Policy CF14: Design -development proposals for community facilities will be expected to conform to a high standard of design, be well related to public transport and provide adequate servicing and car parking.

Saved UDP Policy R3: Infrastructure Provision – developers will be expected to enter into a planning obligation to enable suitable provision of additional off site infrastructure or community infrastructure including open space and formal recreation.

Saved UDP Policy B20: Art – the Council encourages the provision of art, craft, or decoration in major developments to enhance the built environment and open landscapes of the city.

7.2 Existing Provision

For the purposes of this study, community facilities cover public sports facilities, libraries, communal community space and local centres.

In 2010 the Council examined accessibility levels to key facilities on foot and by public transport in order to provide an overview of facility provision across the city. As part of this work a ‘walkability index’ was produced assessing access on foot to recognised everyday facilities. The index is based on a 500m radius for foodstores and a 750m radius for other facilities, which broadly reflects a 10-15minute walking time for an able-bodied and fit person.

The nearest community facilities are located within the areas of Silksworth, Doxford Park and Ryhope.

Sports Facilities

Silksworth Community Pool, Tennis and Wellness Centre is the closest leisure centre to the SSGA. This facility includes a swimming pool, gym, indoor/outdoor tennis courts, soft play and children’s outdoor play area. Silksworth Ski Slope is also located close to the SSGA and includes a ski slope, outdoor running track, BMX track and outdoor children’s play area.

A Community Wellness Venue is located at Ryhope Community Association which includes a gym and hosts a variety of sporting clubs and classes.

Sports pitches located in the surrounding area include two performance football pitches (which meet the standard of ground that is acceptable for the Wearside League and/or Northern League) in Ryhope; two bowling greens at Ryhope; a rugby pitch off Ryhope Road; a cricket pitch at Ryhope Recreation Park and Sharpley Golf Course which is located in Seaton to the south west of the SSGA.

Three play facilities are located at Ryhope and North of Burdon Lane. There is a gap in provision of play facilities at Chapelgarth and Moorside.

Libraries

Libraries located within 3km of the SSGA include:

- Ryhope Library and Customer Services Centre; and
- Silksworth Library.

Community Centres

Communities located within 3km of the SSGA include:

- Silksworth Youth and Community Centre;
- Doxford Park Community Centre; and
- Ryhope Community Association.

The community centres located above also have community rooms which can be hired for events. Blue Watch Youth Project in Ryhope and Box Youth Project in Doxford provide activities for young people in the area.

Local Centres

The emerging Core Strategy states that Local Centres provide a focus where essential services to meet day to day needs can be concentrated, thereby supporting the well-being of local people.

Local centres located within 3km of the SSGA include:

- William Doxford Centre, Doxford Park;
- Silksworth Terrace, Silksworth; and
- Ryhope Street, Ryhope.

The two closest primary shopping centres are located at Ryhope and Doxford. Provision at Doxford includes a Morrison's supermarket; the more traditional shopping street at Ryhope includes three food stores. There is also a Sainsbury's supermarket at Silksworth Lane. The walkability map in **Appendix B** illustrates the Cherry Knowle, Land of North of Burdon Lane, Chapelgarth and South Ryhope sites are not within reasonable walking distance of a local foodstore.

Culture

The main cultural facilities are located less than 5km away in Sunderland City Centre including Sunderland Museums and Winter Gardens, the City Library, the

Northern Gallery for Contemporary Art, The Empire Theatre. More locally there is a library at Ryhope and a museum at Ryhope Pumping Station.

7.3 Infrastructure Requirements Overview

Leisure Centres/ Sports Facilities

The Sunderland Play Pitch Strategy (2014) identifies the need for new football pitches, including 3G pitches, a cricket pitch, and rugby pitch within South Sunderland as a whole.

Libraries

No libraries are required as a result of the development at the SSGA.

Community Facilities

It is considered that existing community facilities are adequate for the increased population resulting from the SSGA.

Cherry Knowle – this scheme includes the provision of extra care facilities.

Land North of Burdon Lane –this scheme will include facilities/rooms for community uses.

The intention is for community facilities to be located within central areas

Local Centre

A local centre/ some basic small provision will be required for each site as none lie within the recommended 500m walkability zone of existing local centres.

Most of the developers of the four key sites have expressed intentions to include small local centres on site.

Burdon Road, the most central site is the most appropriate location for a hub that includes retail, services, play pitches and a school.

7.3.1 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- Critical: Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative.
- Essential: Items are very important but alternative infrastructure and policy approaches could be put in place.
- Desirable: Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live.

Given that no requirements have been identified as being required it is considered that the criticality rating is 'desirable'.

7.4 Infrastructure Costs

Community facilities

As the community facilities will be provided/ consolidated with existing services and facilities, there are unlikely to be any direct infrastructure costs.

Local Centres

Local centres are considered commercial developments therefore no infrastructure costs have been attached to their development.

7.4.1 Summary of Costs

The table below provides a summary of community services infrastructure costs.

Infrastructure	Cost	Criticality
Leisure Centres	None	Desirable
Libraries	None	Desirable
Community facilities	None	Desirable
Local centres	None	Essential (in that they are necessary to make a development sustainable)

8 Social Infrastructure: Education

This chapter provides an overview of the existing and required provision of education, including:

- Nurseries;
- Primary schools;
- Secondary schools; and
- Colleges/ 6th forms (16-18 year olds).

8.1 Policy Context

The following policies are relevant to the provision of healthcare at the SSGA:

- National Planning Policy Framework
- Draft Core Strategy CS 11: Infrastructure/Developer Contributions
- Draft Core Strategy Policy DM2.1: Strategic Sites
- Saved UDP Policy R3: Infrastructure Provision

A summary of relevant extracts of the key policies can be found below:

Paragraph 72 of the NPPF states a proactive approach is to be taken to ensure that a sufficient choice of school places is available to meet the needs of existing and new communities.

Draft Core Strategy CS 11 -Infrastructure/Developer Contributions -seeks to ensure that all new developments do not adversely impact on the city's existing infrastructure. Developments should serve the needs arising from development by providing appropriate additional physical and social infrastructure and enhance infrastructure by contributing to services and facilities where necessary. The contributions that maybe required include education, health and social care and community safety.

Draft Core Strategy Policy DM2.1: Strategic Sites - development proposals for the Strategic Sites must be supported by either a masterplan or development framework, which includes a delivery strategy. Development Proposals must provide the appropriate level of physical, social, health, green and transport infrastructure necessary to achieve a sustainable development and create a sense of 'place'.

Saved UDP Policy R3: Infrastructure Provision – developers will be expected to enter into a planning obligation to enable suitable provision of additional off site infrastructure or community infrastructure including open space and formal recreation.

8.2 Existing Provision

8.2.1 Primary

Sunderland City Council Education Department have confirmed that falling birth rates in Sunderland have historically resulted in surplus school places across the city. These trends have reversed in recent years with increased demand for primary places. Further demand has been seen as a consequence of housing development across the city. However, current data indicates that the birth rate has stabilised with a reduction in the birth rate in recent hotspots (such as Washington).

There is currently limited capacity in year 1 and greater capacity in years 4, 5 and 6 generally. The schools in the South Sunderland area had a total surplus of 1.6% in the 2013/14 Reception. Using birth rate data alone it is projected that incoming Reception cohorts in between 2014/15 and 2018/19 are expected to require 91% of available school places in the area. Surplus places in this period in Reception classes range from 6.3% in 2015/16 to 16% in 2018/19 with birth rates data indicating a 'spiky' profile for the years in between.

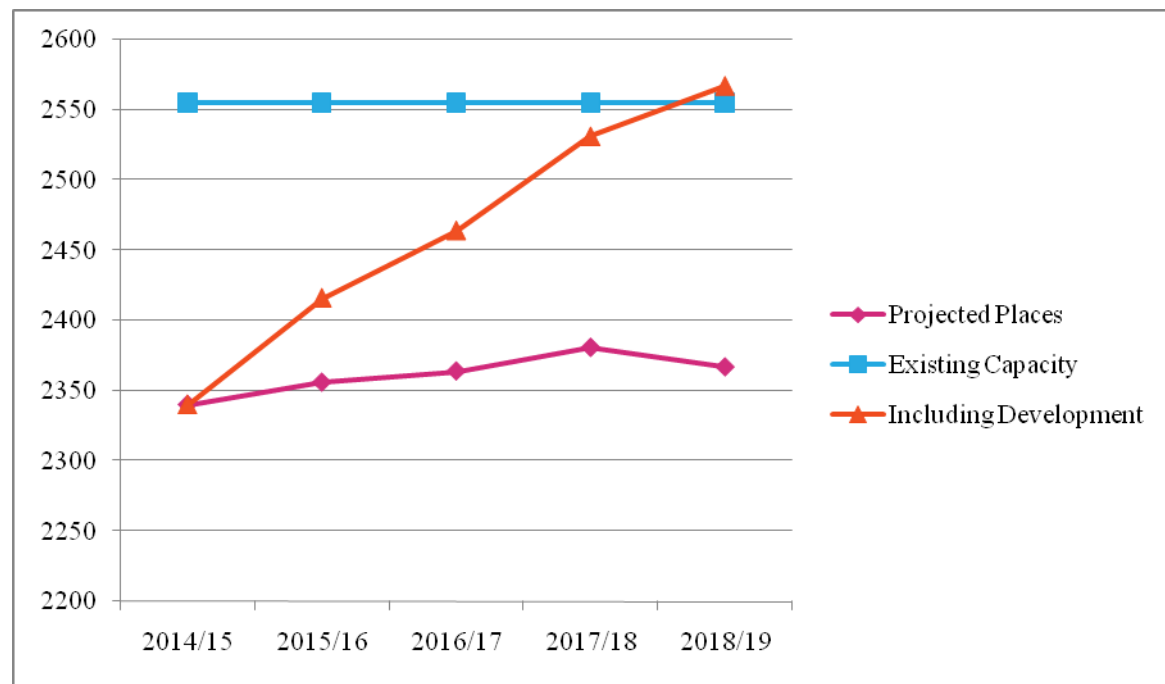
Table 1: Projected Reception Class intake 2008 – 2018 (0.3 Primary Aged children per new dwelling)



Source: Sunderland City Council

The table above is based on birth rate data, it is anticipated that developments currently in progress (e.g. Doxford Park) will add to the demand generated through new births.

The table below identifies the cumulative impact of the SSGA sites on the requirement for primary places across all age ranges.

Table 2: Total School Population 2014/15 – 2018/19 (0.3 Primary Aged Children per New Dwelling)

Source: Sunderland City Council

Primary and Infant Schools in the area have pupil admission numbers ranging from 25 to 70. The maximum number of children in each year group across all schools catering for primary aged children is 305 giving a total capacity across all age ranges of 2,135.

There is some nursery provision

The table below outlines the existing provision in the SSGA, which includes 7 primary (including infant/junior) schools.

School	Location
Benedict Bishop CE Primary School (Church of England)	Moorside
Mill Hill Primary School	Doxford Park
New Silksworth Infant School (Reception – Year 2)	Silksworth
New Silksworth Junior School (Year 3 – Year 6)	Silksworth
St Leonards RC Primary School (Roman Catholic)	Silksworth
Ryhope Infant School	Ryhope
Ryhope Junior School	Ryhope
St Patrick's RC Primary School (Roman Catholic)	Ryhope

St Paul's CE Voluntary Controlled School (Church of England)	Ryhope
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8.2.2 Secondary

There are currently surplus places in the Secondary sector with the historical falling rolls from the primary sector transferring to the secondary sector. However, as primary numbers increase this will transfer to the local secondary sector with demand for places anticipated to return to the 2008/09 levels by 2018/19.

Increased demand for places is already visible at a number of schools, including Venerable Bede CE Academy. While demand for places had fallen as low as 115, 2016/17 admissions data indicates that the year 7 cohort Venerable Bede CE Academy will be at or near the maximum capacity of 180. Recruitment at Farrington Community Academy has also increased in recent years and is projected to increase further.

The two Secondary schools in the area have a total capacity of 1,800. There are currently 1,526 children on roll which equates to a surplus of 274 places

Post 16 provision is provided by Sunderland College. Sunderland College's new site will be completed and operational for the 2016/17 academic year. Limited school 6th form provision is offered at Southmoor Academy and at St Aiden's St Robert's and St Anthony's which are located outside the SSGA.

The table below outlines the existing provision in the SSGA, which includes 2 secondary schools.

School	Location
Venerable Bede CE Secondary School	Ryhope
Farrington Community Academy	Farrington

8.3 Infrastructure Requirements Overview

8.3.1 Primary

Historical data indicates that on average each new development will produce between 0.13 and 0.3 Primary aged children. At the low end of the entire development (based on 3,000 homes) this would place a long term requirement for between 396 and 900 Primary places in the area. The table below outlines the phasing demand and uses the assumption that each dwelling will produce 0.3 primary aged children of whom 44% will require a new school place in the local area).

Phase	Year	No. Units	Pupil Yield
Chapelgarth			
1	2015-2020	160	21 - 48
2	2020-2025	185	24 - 56

3	2025-2030	185	24 - 56
	2030-35	120	16 - 36
Total		650	85 - 196
Cherry Knowle			
1	2015-2020	250	33 - 75
2	2020-2025	250	33 - 75
3	2025-2030	270	35 - 81
Total		770	101 - 231
Land North of Burdon Lane			
1	2015-2020	270	35 - 81
2	2020-2025	450	59 - 135
3	2025-2030	235	31 - 71
Total		955	125 - 287
South Ryhope			
1	2015-2020	145	19 - 44
2	2020-2025	200	26 - 60
3	2025-2030	105	14 - 32
Total		450	59 - 136
SSGA			
1	2015-2020	825	108-248
2	2020-2025	1085	142-326
3	2025-2030	795	104-240
4	2030-35	120	16-36
SSGA Total		2,825	368 - 848

The table above estimates that the period to 2020 will produce a requirement for a minimum of 108 pupils with a high end yield of 248. Across all age ranges this would equate to between half a form of entry and a full form of entry. This initial demand could be met through the creation of new places at existing schools with 0.5 form entry extensions/ development projects taking place in two of the existing schools serving the site. Based on previous projects it is anticipated that this would require funding of £2,000,000.

During the period 2020 – 2025 it is anticipated that further capacity would be required. While expansion of existing schools and academies would meet the short to medium demand it is anticipated that the Council will need to develop a further 2 form of new school places during the period 2020 – 2030.

The Council expects to generate sufficient Educational Contributions from the development to provide sufficient additional capacity to meet projected demand. Using current data sets the request would be based on the need to create 630 (2x 105 + 1 x 420) new school places. Based on previous projects, it is anticipated that construction costs will be approximately for the short to medium term costs of expansion of two existing primary schools. The cost for construction for the medium to long term solution would be £6,244,428 (including additional costs of purchasing land, fees, planning, building and professional fees).

8.3.2 Secondary

Current modelling indicates a development of the SSGA's size will generate a maximum of 381 new secondary aged pupils. It is considered that where necessary this cohort can be accommodated through modification of the existing secondary estate in the area. However, the statistics and forecasting models will continue to be monitored.

8.3.3 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- **Critical:** Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative.
- **Essential:** Items are very important but alternative infrastructure and policy approaches could be put in place.
- **Desirable:** Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live.

The provision of education infrastructure to support the SSGA is considered to be 'critical'.

8.4 Infrastructure Costs

Sunderland City Council Education Department have confirmed that no funding currently exists locally for new school building. Therefore contributions will be sought via developer Section 106 agreements.

8.4.1 Primary

During the period to 2020 it is anticipated that the cost of extending two primary schools to accommodate additional pupils would require funding of £2 million.

The medium/long term cost of a new 1.5 form school would be approximately £6,250,000 to purchase land, achieve planning permission, design, construction, IT connectivity and furnishing.

The request for S106 contributions from developers would be based on the need to create 396 new school places with contributions of £8,250,000 to meet the short to long term demand.

Payments will need to be staged in order for the Council to implement the development and creation of new school places.

It should be noted that the total cost for education provision has taken into consideration the SSGA sites listed in this report and a number of other potential sites. Therefore, contributions from the listed 4 SSGA sites will not amount to the total required sum of £8,250,000 for primary education.

8.4.2 Secondary

Sunderland City Council are in the process of calculating contributions for secondary schools, therefore do not request any contributions at this moment in time. As the Council progresses its 15-20 year plan for education, it will continue to monitor the statistics and the Infrastructure Delivery Strategy will be amended accordingly.

8.4.3 Summary of Costs

The table below provides a summary of education infrastructure costs.

Infrastructure	Cost	Criticality
Primary school	£8,250,000	Critical
Secondary school	No costs	Desirable

9 Natural Heritage

This chapter provides an overview of the existing and required provision of green infrastructure and open space, including:

- Public realm;
- Green infrastructure;
- Biodiversity;
- Play space;
- Allotments; and
- Playing pitch provision.

9.1 Policy Context

The following policies are relevant to the provision of green infrastructure and open space at the SSGA:

- National Planning Policy Framework
- Draft Core Strategy Policy CS7.1: Caring for the City's Environment
- Draft Core Strategy Policy CS11: Infrastructure/Developer Contributions
- Draft Core Strategy Policy DM7.1: Design
- Saved UDP Policy H21: Open Space in Residential Areas
- Saved UDP Policy L5: Amenity Open Space
- Saved UDP Policy L6: Children's Play Space
- Saved UDP Policy CN15: Woodlands and Forestry
- Saved UDP Policy CN19: Nature Conservation
- Saved UDP Policy CN19, CN20, CN21: Nature Conservation
- Saved UDP Policy CN22: Nature Conservation
- Saved UDP Policy CN23: Wildlife Corridors
- Saved UDP Policy L4: Outdoor Sport and Recreation
- Saved UDP Policy R3: Infrastructure Provision
- Saved UDP Policy SA27: Amenity Open Space
- Saved UDP Policy SA39: Trees and Woodland
- Saved UDP Policy SA48: Multi User Routes
- Saved UDP Policy SA48: Multi User Routes
- Saved UDP Policy SA49: Multi-User Routes
- Saved UDP Policy SA47: Provision for Cyclists

The NPPF states that access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities (paragraph 73).

Draft Core Strategy Policy CS7.1: Caring for the City's Environment - the City Council will ensure that the city's environment remains one of its key assets by seeking high environmental standards within developments in the city.

Draft Core Strategy Policy CS11: Infrastructure/Developer Contributions –the Council will ensure new developments do not adversely impact on the City's existing infrastructure and provide appropriate additional physical and social infrastructure where necessary, to serve the needs arising from development. Proposals should enhance infrastructure by contributing to services and facilities where necessary, to serve the needs of the development.

Draft Policy DM7.1: Design – the Council will seek to ensure that all new development across the City creates high quality, distinctive and well-designed places. Schemes should provide appropriate landscaping as an integral part of the development, including the enhancement and upgrade of public realm, existing green infrastructure, landscape features, natural assets and provision of additional open space.

Saved UDP Policy H21: Open Space in Residential Areas – amenity open space/casual playspace should be provided as follows:

- A minimum of 0.4ha per 1,000 bedspaces where the site is within 0.5km of a neighbourhood(or larger) open space;
- A minimum of 0.9ha per 1,000 bedspaces where the site is not within 0.5km of a neighbourhood (or larger) open space; and
- In the case of family dwellings, formal (equipped) children's play space should be provided at a minimum of 0.2ha per 1000 bedspaces.

Saved UDP Policy L5: Amenity Open Space – the Council will seek to ensure that public parks and amenity open spaces are available to the public so that within:

- 2.5km of every dwelling there is a district open space of approximately 30ha or more;
- 1.0km of every dwelling there is a local park of approximately 10 hectares or more;
- 0.5km of every dwelling there is a neighbourhood park or amenity open space of approximately 2 hectares or more; and
- Where appropriate pocket parks will be developed in other smaller sites.

Saved UDP Policy L4: Outdoor Sport and Recreation–the Council have a standard of 1.6 – 1.8ha per 1000 population for outdoor sport and recreation. Particular attention will be focused on concentrating major facilities in key locations which are accessible by public transport.

Saved UDP Policy L6: Children's Playspace – the hierarchy of playspace for children is a minimum of four district play areas, satellite play areas within 1km of every child in the city and local doorstep play areas within pocket parks. The Council seek to achieve 0.6-0.8ha of playspace per thousand population.

Saved UDP Policy CN15: Woodland and Forestry - schemes should assist in creating the Great North Forest (on land between and around the main urban areas) which are in accordance with the UDP. Developments which would adversely affect the creation of the forest will be resisted.

Saved UDP Policy CN19, CN20, CN21: Nature Conservation – developments which would adversely affect designated areas for nature conservation or geological/ geomorphological site will not be permitted no alternative site is available and the benefits of the development would outweigh the designated site.

Saved UDP Policy CN22: Nature Conservation – developments which would adversely affect any animal or plant species afforded special protection by law will not be permitted unless mitigation action is achievable through the use of planning conditions and obligations.

Saved UDP Policy CN23: Wildlife Corridors – within wildlife corridors measures to conserve and improve the environment will be encouraged. Development which would adversely affect the continuity of corridors will be refused unless the development is acceptable because of wider plan objectives and has appropriate habitat creation measures.

Saved UDP Policy R3: Infrastructure Provision – developers will normally be expected to enter into a planning obligation to enable a suitable provision of infrastructure or community facilities where it cannot be controlled by planning conditions.

Saved UDP Policy SA27: Amenity Open Space – improvements to the level and quality of amenity open space will be made in North and South of Burdon Lane (7.4ha), rear of Pembroke Avenue (3.8ha) and Blakeney Woods and Chapelgarth Tree Belts (14.2ha).

Saved UDP Policy SA39: Trees and Woodland - states that the Council will encourage and undertake a programme of intensive planting of tree belts and woodlands in from Chapel Garth around the southern and eastern edges of Doxford Park and around the urban fringe of land between Ryhope (west) and Cherry Knowle Hospital.

Saved UDP Policy: SA48 Multi User Routes – the route from the city centre to Burdon Lane via Silksworth Sports Complex, Doxford International and Chapelgarth, Doxford Park and from Toll Bar Road to Tunstall Lodge via Ryhope Gold Course will be protected for development unless required as a part of a public transport corridor.

Saved UDP Policy: SA49 Multi-User Routes – new or improved strategic footpath links will be provided from Tunstall Lodge roundabout to Chapelgarth.

Saved UDP Policy SA47 Provision for Cyclists – cycle routes with appropriate connections to adjacent uses and to strategic multi-user routes will be provided in from Mill Hill to A19 (at Thirstley House) and Burdon Dene via Burdon Village.

9.2 Infrastructure Requirements Overview

Public Realm

Developers will be expected to create attractive and safe areas of public realm within their schemes, which contribute to achieving the aspirations contained within the SPD.

Green Infrastructure

Developers will be expected to contribute towards the creation of multipurpose green infrastructure corridors. The route will provide safe pedestrian and cycle routes which connect neighbourhoods and local facilities to the surrounding area, encouraging the use of sustainable modes of transport. In addition the route will incorporate natural SUDS and natural and semi-natural green space to enhance biodiversity and allow species migration along Local Wildlife Corridors.

Habitat Regulation Assessment Mitigation- SANGs/ SAMMs

In addressing the Habitat Regulations the Council propose 8ha of Suitable Alternative Natural Greenspace (SANGs) per 1000 population which is equivalent to 18ha per 1000 dwellings to be implemented by the developer. Developers will be expected to include SANGS on site, therefore no contributions will be sought for implementation. The preference is for the SANGs to be adopted by the Council, therefore contributions will be sought towards onwads maintenance.

Those sites unable to accommodate SANGS and identified within the SSGA Habitat Regulation Assessment (HRA) will be requested to contribute an amount approximately equal to the estimated cost of SANGs implementation/ maintenance towards Suitable Access Management Measures (SAMMs).

Biodiversity

Developers will be expected to contribute to biodiversity enhancements which will vary on a site by site basis. Enhancements include:

Chapelgarth

- Wildflower meadows
- Blakeney Woods LWS
- Hedgerow restoration
- Ranger service

Land North of Burdon Lane

- Blakeney Woods LWS
- Tunstall Hills SSSI
- Farmland birds
- Hedgerow restoration
- Ranger service
- Swales/ponds

Cherry Knowle

- Hedgerow restoration

- Ranger service
- Cherry Knowle Dene LWS
- Water levels at Ryhope Engine Museum

South Ryhope

- Ryhope Dene LWS and adjacent land
- Farmland birds
- Hedgerow restoration
- Ranger service
- Ryhope Denemouth LWS and adjacent land
- Wetland creation/ scrapes

Play Space and Pitch Provision

Given the undeveloped nature of the area and the quantity of new development play provision will be required on each of the SSGA sites.

It is anticipated that the play facilities will be implemented by the developer and then adopted by the Local Authority or a third party management company. Commuted sums will be sought through the S106 process for the maintenance play space/ provision, where necessary.

Contributions will also be sought towards a wheeled play facility and its maintenance. The council will implement the wheeled play facility.

Sport and recreational pitches are required as part of the SSGA developments. It has been calculated that one multipurpose pitch and one 3G artificial turf pitch, flood lit pitches and changing facilities will be required to meet the needs of the new residential development at the SSGA. The pitches should be dual-use for use by the school and the community. Depending on the findings of the Landscape Character Assessment it would be preferable if at least one if not both pitches were included in a GI corridor at Land North of Burdon Lane.

Allotments

Contributions towards allotments will be sought from all developments.

Allotment provision will be requested at 15 plots per 1,000 households. Therefore, 42 plots will be required as a consequence of the proposed developments at SSGA.

The location of the additional allotment plots is still to be agreed with the allotment officers. Allotments should be either located off site at existing allotment sites or ideally on site. Allotments should be managed/ maintained and governed by a residents group/ association. The Council will not take responsibility for the allotments. The reason for this is because independently managed allotment groups have more opportunities to access grants etc. than Council managed allotments.

9.2.1 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- **Critical:** Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative.
- **Essential:** Items are very important but alternative infrastructure and policy approaches could be put in place.
- **Desirable:** Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live.

The provision of infrastructure related to Natural Heritage to support the SSGA is considered to be 'critical'.

9.3 Infrastructure Costs

Public Realm

Developers will be expected to provide a high quality of public realm within their schemes with no contributions sought.

HRA Mitigation- SANGS

The total cost of maintaining the SANGs for 20 years is estimated to be £118,255.63 per hectare, which equates to £2,128.60 per dwelling per hectare. However, detailed costings are dependent on the development proposal. There is a total of 42.75ha of SANGs required for the SSGA, based on the housing mix, number identified with SPD.

In line with Council policy on commuted sums, the Council would seek a contribution for 20 years towards maintenance after which the Council will take responsibility for its ongoing maintenance. This is estimated to be £5,912.78 per ha of SANG per annum.

Alternatively should the applicant prefer to appoint a third party to manage the SANG through a S106, condition or legal agreement, the developer must be able to provide Natural England and the Council with confidence that the SANG will be maintained in perpetuity (minimum 75 years) to a standard agreed by the Council.

SAMMS

Off-site mitigation measures will be requested from developments that cannot accommodate enough SANGs. Off-site mitigation measures known as SAMMs must be implemented and maintained in perpetuity for a minimum of 75 years. SAMMs are expected to cost £1703 per dwelling.

Off-site (at Coast/ European designations)⁹

- Purchase of land to buffer European Sites

⁹ List is non exhaustive

- Rationalisation of Access
- Maintenance of Access Routes
- Bird Monitoring and Disturbance Surveys
- Monitor of recreational usage of SPA and SAC
- Installation of information panels and art work & maintenance of panels
- Creation and protection of high tide roosting areas

Biodiversity

Developers will be expected to contribute to biodiversity enhancements which will vary on a site by site basis. The tables below outline the costs associated with the requested biodiversity enhancements.

Chapelgarth	
Wildflower Meadows	£10,000
Blakeney Woods LWS	£35,000
Hedgerow Restoration	£10,000
Ranger Service	£153,153
TOTAL	£208,153

Land North of Burdon Lane	
Blakeney Woods LWS	£22,313
Tunstall Hills SSSI	£17,850
Farmland Birds	£893
Hedgerow Restoration	£13,388
Ranger Service	£225,017
Swales/ ponds	£17,850
TOTAL	£297,311

Cherry Knowle	
Cherry Knowle Dene LWS	£75,000
Ranger Service	£181,427
Hedgerow Restoration	£10,000
Water levels at Ryhope Engine Museum	£2,500
TOTAL	£268,927

South Ryhope	
Ryhope Dene LWS and adjacent land	£50,000

Farmland Birds	£10,000
Hedgerow Restoration	£10,000
Ryhope Denemouth LWS and adjacent land	£35,000
Ranger Service	£106,029
Wetland creation/ scrapes	£10,000
TOTAL	£221,029

The total amount of biodiversity funding required for the SSGA is £1,031,223.

Play Space and Pitch Provision

A minimum of 4 play parks will be required and a wheeled play space. The developers are expected to implement the play parks at a cost of approximately £150,000 per site. The council require maintenance of the play parks of 20 years which totals £72,660 per site. The wheeled play space will cost £400,000 to implement, plus an additional £102,900 to cover 20 years of maintenance.

Developers will be required to implement fit for purpose play facilities that satisfy Council standards.

The SSGA requires a 3G pitch, grass pitch and changing accommodation. The changing accommodation will cost £509,680 to implement and will not require a 20 year maintenance fee. The 3G pitch will cost £795,800 to implement and a further £240,000 to maintain over the next 20 years. A grass pitch will cost £225,400 to implement and cost a further £142,124 to maintain over the next 20 years.

The Council have calculated that the total cost for the implementation and maintenance of the wheeled play space and pitches for 20 years will be £2,415,904 which equates to £855.19 per dwelling.

Allotments

A total of 42 allotment plots will be required as a consequence of the proposed developments at SSGA. The total cost will therefore be approximately £168,000, at a cost of approximately £4,000 per allotment (excluding any land acquisition) should the developer wish to make a S106 contribution. If the developer implements the allotment spaces within the development no S106 will be required.

9.3.1 Summary of Costs

The table below provides a summary of green infrastructure and open space costs.

Infrastructure	Cost	Criticality
Public Realm	Nil	Critical
SANG maintenance	£5,055,428	Critical
Play space and Pitch Provision	£2,415,904	Critical
Biodiversity	£1,031,222	Critical

Allotments	£168,000	Critical
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10 Utilities Infrastructure

This chapter provides an overview of the existing and required provision of utilities infrastructure including:

- Gas
- Electricity
- Water (drains/ground)
- Drainage
- Telecommunications
- Renewable energy

10.1 Policy Context

The following policies are relevant to the provision of utilities infrastructure at the SSGA:

- Policy DM7.4: Telecommunications
- Draft Core Strategy Policy DM2.1: Strategic Sites
- Draft Core Strategy Policy CS2: Key Regeneration Sites
- Draft Core Strategy Policy CS8: Renewable Energies
- Draft Core Policy CS11: Infrastructure/ Developer Contributions
- Saved Policy B24: Utility Services and Overhead Cables
- Saved UDP Policy B25: Utility Services and Overhead Cables
- Saved UDP Policy EN3: Energy Production
- Saved UDP Policy R3: Infrastructure Provision

Policy DM7.4: Telecommunications - Telecommunications development will be permitted where it would not have a serious adverse effect on residential amenity, the appearance of the area, or sites of archaeological or nature conservation value.

Draft Core Strategy Policy DM2.1: Strategic Sites- development proposals for Strategic Sites must be supported by a masterplan or development framework, which includes a delivery strategy. Development proposals must provide the appropriate level of physical, social, health, green and transport infrastructure necessary, to achieve a sustainable development and create a sense of place.

Draft Core Policy CS11: Infrastructure/ Developer Contributions – the Council will ensure new developments do not adversely impact on the city's existing infrastructure and provide appropriate additional or enhanced physical and social infrastructure where necessary, to serve the needs arising from development.

Contributions that may be required include utilities infrastructure and renewable energy.

Draft Core Strategy Policy CS8: Renewable Energies- The development of decentralised, renewable and low carbon energy will be supported. Decentralised, renewable and low-carbon energy development should be located and designed to avoid significant adverse impacts on landscape, wildlife, heritage assets and amenity. Appropriate steps should be taken to mitigate any adverse significant impacts.

Saved Policy B24: Utility Services and Overhead Cables – the Council in consultation with utility companies will seek appropriate provision for underground and overhead utilities to meet the foreseeable demand.

Saved UDP Policy B25: Utility Services and Overhead Cables - the Council in consultation with utility companies, will seek to have overhead cables diverted or placed underground when they adversely affect the amenity of residential areas, sensitive landscapes or areas of importance for nature conservation.

Saved UDP Policy EN3: Energy Production – proposals necessary to the production of energy from renewable sources will be encouraged.

Saved UDP Policy R3: Infrastructure Provision – developers will be expected to enter into a planning obligation to enable suitable provision of additional off site infrastructure or community infrastructure including open space and formal recreation.

Saved UDP Policy R4: Energy Conservation – when assessing proposals the Council will have regard to evolving government policy on the efficient use of energy and use of non-fossil fuel sources. Proposals will be encouraged to incorporate energy saving measures by virtue of the grouping and orientation of buildings and the provision of shelter and energy saving technology. Combined heat and power schemes will be encouraged in major new developments.

10.2 Existing Provision

Chapelgarth

The majority of the utility infrastructure services including drainage are located along Weymouth Road either within the footpath or the roadway. Whilst the mains water and electricity infrastructure, depending on future loads, appears to be adequate, the natural gas infrastructure is to a low pressure supply only and may need some upgrading.

This site currently has broadband speeds of 2MB, with some areas of the site having up to 4MB.

Land North of Burdon Lane

The majority of the utility infrastructure services including drainage are located along Burdon Road either within the footpath or the roadway. There are a number of EHV's along Burdon Road. The natural gas, mains water and electricity infrastructure will require some upgrading to cater for future load of the site.

The broadband speed varies between 2 to 16 MB, with the majority of the site having speeds of 4MB.

Cherry Knowle

The majority of the utility infrastructure services including drainage are located along Waterworks Road either within the footpath or the roadway. The natural gas, mains water and electricity infrastructure will require some upgrading to cater for future load of the site.

The broadband speed is largely 16MB with small areas of between 8MB and 16MB.

South Ryhope

The majority of the utility infrastructure services including drainage are located along the B1287 either within the footpath or the roadway. A natural gas 16" medium pressure steel pipeline and a 300mm high pressure steel pipeline cross the site. The mains water and electricity infrastructure require some upgrading to cater for the future load of the site.

A regional high pressure gas network runs through South Ryhope development site. The gas pipe can remain on site as long as an appropriate easement is retained.

The broadband speed is largely 16MB with small areas of between 8MB and 16MB.

10.3 Infrastructure Requirements Overview

10.3.1 Gas

No information was available at the time of preparing the study.

10.3.2 Electricity

Northern Powergrid have confirmed that they do not have any concerns regarding the proposed developments and capacity is available to accommodate the SSGA. However, the available capacity is dependent on the requirements of any schemes which come forward outside of the SSGA.

They also highlighted their concerns with the EHV's that cross the Land North of Burdon Lane consortium's site. The EHV's do not appear to be reflected in the consortiums vision/draft plans for their site.

Northern Powergrid have suggested a number of options for the consortium going forward:

- a) Build around the EHV's, however an ample buffer will be required therefore reducing the net developable area.
- b) Relocate the EHV's- presents wider issues of suitable alternative locations.
- c) Locate the cables underground- through the site.
- d) Locate the cables underground- skirting around the developable site.

Northern Powergrid have confirmed that they intend to undertake further feasibility work around options and assets.

10.3.3 Water

Water Mains

NWL do not envisage any issues regarding water supply. As such NWL request that developers progress through the standard process in the event small case reinforcements are required.

Ground Water

Part of the area lies above a Magnesian Limestone principal aquifer and within the source protection zone of a public water supply. It is therefore essential that any future development does not impact on the important underground water resource.

There is an abstraction licence approximately 105m away from the Chapelgarth site. Allocating the site for residential development will not impact the abstraction licence if water supply for future occupants is proposed via a connection to the mains.

There is a redundant borehole within the Cherry Knowle area previously used to supply the hospital with water. This borehole should be decommissioned.

10.3.4 Drainage

NWL would like to be consulted on planning applications/the SPD to ensure that the sewerage and sewage disposal systems serving the sites have sufficient capacity to accommodate any additional flows, proposed by the site allocations. Initial NWL studies suggest there are no major concerns.

10.3.5 Telecoms

No information at time of drafting the study.

10.3.6 Renewable Energy

A Renewable Energy Feasibility Study has been undertaken for the SSGA (DTA, 2014). The study suggests that district heating could be viable at SSGA. As such the Council will be promoting district heating in the forthcoming SPD, assuming it does not affect the viability of sites.

An energy centre would also be required as part of the district heating network. The cost would be dependent on the design and location of the energy centre.

Further work is required to determine how district heating would be implemented on site.

10.3.7 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- **Critical:** Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative.
- **Essential:** Items are very important but alternative infrastructure and policy approaches could be put in place.

- **Desirable:** Items are those that add to the quality of a place - either in terms of functionality or attractiveness as a place to live,

The provision of utility infrastructure to support the SSGA is considered to be 'critical'. However, the energy centre has is considered to be 'essential'.

10.4 Infrastructure Costs

Gas

No information at time of drafting the study.

Water Mains

No significant financial implications beyond the general NWL requirements.

Drainage

No significant financial implications beyond the general NWL requirements.

Electricity

No significant financial implications beyond the general Northern Powergrid requirements.

Telecoms

No information at time of drafting the study.

Renewable Energy

The Renewable Energy Feasibility Study suggests the fee to developers for the implementation of a District Heating Scheme to be in the region of £4,000 per dwelling, plus construction of 1-2 shells for the energy centre to be housed in. The approximate cost for the energy centre is £50,000.

This equates to a total of £11.35 million for the SSGA plus energy centre costs.

10.4.1 Summary of Costs

The table below provides a summary of utilities infrastructure costs.

Infrastructure	Costs	Criticality
Gas	No info available	Desirable
Water Mains	None	Desirable
Drainage	None	Desirable
Electricity	None	Desirable
Telecoms	None	Desirable
Renewable Energy	£11,350,000	Essential

11 Transport Infrastructure

This chapter provides an overview of the existing and required provision of transport infrastructure including:

- Strategic highway network
- Local highway network
- Bus services
- Metro services
- Cycling

11.1 Policy Context

- Draft Core Strategy Policy CS6.1/2: Connectivity
- Draft Core Policy CS11: Infrastructure/ Developer Contributions
- Draft Core Strategy Policy DM2.1: Strategic Sites
- Draft Core Strategy Policy DM6.1: Transport, Access and Parking
- Policy DM 11: Infrastructure/ Developer Contributions
- Saved UDP Policy T14: New Development
- Saved UDP Policy T17: Environmental Improvements

Draft Core Strategy Policy CS6.1 – the Council will promote sustainable travel and seek to improve transport infrastructure in order to secure local economic regeneration and enhance connectivity by focusing and intensifying development in accessible built-up areas and improving connectivity to existing and proposed key employment sites and neighbourhoods.

Draft Core Strategy Policy CS6.2: Connectivity – the Council will work with the Highways Agency, the Department for Transport to develop the Ryhope to Doxford Park Link Road.

Draft Core Policy CS11: Infrastructure/ Developer Contributions – the Council will ensure new developments do not adversely impact on the city's existing infrastructure and provide appropriate additional or enhanced physical and social infrastructure where necessary, to serve the needs arising from development.

Contributions that may be required include transport (including footpaths, bridleways, cycleways, highways, public transport, car parks and travel planning).

Draft Core Strategy Policy DM2.1: Strategic Sites - development proposals for the Strategic Sites must be supported by either a masterplan or development framework, which includes a delivery strategy. Development Proposals must provide the appropriate level of physical, social, health, green and transport infrastructure necessary to achieve a sustainable development and create a sense of 'place'.

Draft Core Strategy Policy DM6.1 Transport, Access and Parking - Proposals for new development must be acceptable in relation to highway capacity and safety on existing roads and include proposals to mitigate any adverse impacts; the cost of this must be met by the developer.

Policy DM 11: Infrastructure/ Developer Contributions - the provision of new infrastructure will be required to be provided on site. Where this is not possible, the applicant will be expected to provide infrastructure off-site but within close proximity to the proposed development site. Where necessary the applicant will be required to provide detailed information on how and when the infrastructure will be implemented and once implemented how the infrastructure will be maintained and managed in its longevity.

Saved UDP Policy T14: New Development – new developments should be accessible by pedestrians, cyclists and users of public and private transport. They should not cause traffic congestion or highway safety issues and provide safe access and egress by vehicles, pedestrians, cyclists and other road users. Developments should make provision for the loading and unloading of commercial vehicles and indicate how parking requirements will be accommodated.

Saved UDP Policy T17: Environmental Improvements – measures to secure environmental improvements and reduce the harmful effects of traffic congestion will be implemented by measures including the construction of by-passes and other new highways in accordance with Policy T3.

11.2 Existing Provision

Strategic Highways

The following strategic highways/junctions fall under the responsibility of the Highway Agency and are in close proximity to the South Sunderland Growth Area:

- A690/A19 Doxford Road
- A19 corridor

The sites have good access to the strategic highways identified above. The A690 connects the SSGA to Houghton-le-Spring, A1 and Durham. The A19 provides links to Durham and Teesside to the south and north Sunderland, South Shields and the Tyne Tunnel to the north.

Local Highways

The local highway network provides good access to local facilities and the strategic highway network. A description of the local highway network for each site is set out below.

Chapelgarth

Weymouth Road is located to the north of the site, which leads to Hall Farm Road/Camberwell Way. This leads to the duelled B1286 which connects the area to Doxford Park local centre, Doxford Business Park and the A19/A690.

Land North of Burdon Lane

The site is bordered by Goathland Drive to the north, Bowood Close to the east, Burdon Lane (B1286) to the south and Burdon Road to the west. Burdon Lane leads to the duelled B1286 which connects the area to Doxford Park local centre, Doxford Business Park and the A19/A690.

Cherry Knowle

The site is bordered with Burdon Lane to the north and Stockton Road/A1018 to the east. Burdon Lane leads to the B1286 to the west which connects the site to Stockton Road/B1287. This road leads to the A19 and A1018 which is the Southern Radial Route which provides enhanced access to the City Centre avoiding the built up areas of Grangetown and Ryhope.

South Ryhope

The site bordered by the A1018 to the north, B1287 to the east, Ryhope Dene to the south and Stockton Road to the west of the site boundary. The site has good access to the A19 via Stockton Road and the A1018 (Southern Radial Route) which provides enhanced access to the City Centre avoiding the built up areas of Grangetown and Ryhope.

Bus

There are a number of existing bus routes in the SSGA in close proximity to the key sites. However, local bus provider Nexus has confirmed that there are unacceptable walking distances from the furthest extent of the key sites to nearby bus services.

Chapelgarth

Existing bus services are located on Moorside Road and Hall Farm Road. Bus services operate to Doxford Park, Pennywell, Grangetown and Sunderland city centre infrequently particularly services after 6pm and on a weekend.

Land North of Burdon Lane

Existing bus services are located on Burdon Road to the west of the site. Bus services operate to Pennywell, Grangetown, Doxford Park and Sunderland city centre.

Cherry Knowle

Existing bus services are located on Stockton Road to the east of the site. Bus services operate to Hartlepool, Durham, Parkside, Murton and Sunderland city centre.

South Ryhope

Existing bus services are located on the B1287 to the east of the site. Bus services operate to Ryhope, Houghton-le-Spring and Sunderland city centre.

Metro

The closest Metro station to the key sites in the SSGA is at Park Lane Metro Station in Sunderland city centre which is approximately 5km to the north.

Cycling

Chapel Garth

The Chapelgarth site has good links to the Walney to Wearside National Cycle Network (NCN) Route 70.

Land North of Burdon Lane

There are no formal cycle links within the site, but there are important links nearby on Burdon Lane and Etham Road.

Cherry Knowle

There is no existing cycle infrastructure on site, but the site lies adjacent to National Route 1 National Cycle Network from Ryhope to Seaton, and links to 'Land North of Burdon Rd'.

South Ryhope

There is no existing cycle on site, but it is located adjacent to National Route 1 National Cycle Network.

11.3 Infrastructure Requirements Overview

Strategic Highways

The Highways Agency has concerns about the potential impact of development at SSGA upon the operational efficiency of the A690 Doxford Road junction, A1231 Wessington Way junction and the performance of the wider Strategic Road Network.

The A690 Doxford junction currently experiences significant traffic demands and congestion occurs on all approaches during the peak hours.

The Highways Agency's TIAT tool identifies the A19 corridor north of A690 junction experiences stress of greater than 100% in the northbound direction during the morning peak and in the southbound direction during the evening peak within the 2013 base situation. In addition the network experiences stress of between 85% - 100% in the northbound direction during the evening peak and in the southbound direction during the morning peak within the 2013 base situation.

The A1231 junction experiences significant traffic demands and congestion occurs during the peak hours on the east and westbound approaches to the junction.

The Highways Agency's TIAT tool identifies the A19 corridor to the north of the A1231 junction as experiencing stress of between 85% - 100% in both directions during the morning peak within the 2013 base situation. In the evening peak the stress level is less approaching 85% in both directions.

Chapelgarth

The proposed Ryhope Doxford Link Road has not been included in the assessment, therefore the assumed development access is from Burdon Lane. The

PENELOPE assessment identifies that impacts will be experienced at two junctions.

At the A690 junction, approximately 350 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The trips can be disaggregated into approximately 70% to/from the A19 north and 15% to both the A19 south and A690 west.

At the A1231 junction, approximately 70 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The trips can be disaggregated into approximately 50% to/from the A1231 east and 50% to/from the A1231 west.

The A19 mainline between the A1290 and A1231 junctions will be subject to approximately 120 additional two-way trips in the morning peak and approximately 100 additional two-way trips in the evening peak; between the A1231 and A183 junctions approximately 220 additional two-way trips in the morning peak and 220 additional two-way trips in the evening peak; and between the A183 and A690 junctions approximately 240 additional two-way trips in the morning peak and 240 additional two-way trips in the evening peak.

Further work will be required to determine the impact at the junctions and the potential requirement for mitigation measures.

Land North of Burdon Lane

The proposed Ryhope Doxford Link Road has not been included in the assessment, therefore the assumed development access is from Burdon Lane.

The PENELOPE assessment identifies that, at the A690 junction, approximately 500 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. 100% of the trips are to/from the A19 north.

At the A1231 junction, approximately 150 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The trips can be disaggregated into approximately 75% to/from the A1231 west and 25% to/from the A1231 east.

The A19 mainline between the A1290 and A1231 junctions will be subject to approximately 290 additional two-way trips in the morning peak and approximately 280 additional two-way trips in the evening peak; between the A1231 and A183 junctions approximately 400 additional two-way trips in the morning peak and 500 additional two-way trips in the evening peak; and between the A183 and A690 junctions approximately 500 additional two-way trips in the morning peak and 500 additional two-way trips in the evening peak.

Further work will be required to determine the impact at the junctions and the potential requirement for mitigation measures.

Cherry Knowle

The proposed Ryhope Doxford Link Road has not been included in the assessment, therefore the assumed development access is from the A1018.

The PENELOPE assessment identifies that trips will access the Strategic Road Network via the A19/A1018/B1404 junction which is located within County Durham. Development trips will then impact upon two A19 junctions.

At the A690 junction, approximately 50 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The majority of trips are to/from the A690 west.

At the A1231 junction, approximately 70 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The majority of trips are to/from the A1231 west.

The A19 mainline between the A1290 and A1231 junctions will be subject to approximately 120 additional two-way trips in the morning peak and approximately 110 additional two-way trips in the evening peak; between the A1231 and A183 junctions approximately 190 additional two-way trips in the morning peak and 200 additional two-way trips in the evening peak; and between the A183 and A690 junctions approximately 180 additional two-way trips in the morning peak and 210 additional two-way trips in the evening peak.

Further work will be required to determine the impact at the junctions and the potential requirement for mitigation measures.

South Ryhope

The proposed Ryhope Doxford Link Road has not been included in the assessment, therefore the assumed development access is from A1018.

The PENELOPE assessment identifies that trips will access the Strategic Road Network via the A19/A1018/B1404 junction which is located within County Durham. Development trips will then impact upon two junctions.

At the A690 junction, approximately 30 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The majority of trips are to/from the A690 west.

At the A1231 junction, approximately 40 additional trips will pass through the junction (excluding the mainline) in the morning and evening peak hours respectively. The majority of trips are to/from the A1231 west.

The A19 mainline between the A1290 and A1231 junctions will be subject to approximately 70 additional two-way trips in the morning peak and approximately 70 additional two-way trips in the evening peak; between the A1231 and A183 junctions approximately 110 additional two-way trips in the morning peak and 120 additional two-way trips in the evening peak; and between the A183 and A690 junctions approximately 110 additional two-way trips in the morning peak and 120 additional two-way trips in the evening peak.

Further work will be required to determine the impact at the junctions and the potential requirement for mitigation measures.

Local Highways

Information relating to Local Highways can be found in Section 11.5 of this report.

Bus

The City Council will work closely with Nexus and the bus operators to develop high level and holistic approach in order to adopt a comprehensive public transport strategy for the SSGA which will provide a framework for developer contributions. The precise detail of this strategy will be agreed once more detail on the phasing, implementation and site layouts of the developments and associated infrastructure are clarified.

It will be necessary to seek a developer contribution to provide a 'pump priming' bus service on each of the individual developments forming SSGA in advance of the growth area developing sufficient 'critical mass' in terms of population and infrastructure to enable commercial bus service provision to be viable.

As an example, during the early phases of development before the Link Road is completed Nexus have suggested that it may be possible for an existing service be diverted from the A1018 to serve the Cherry Knowle development. This would enter the southerly developments via the south part of the new road, and then proceed past the new hospital into the city, giving opportunity for interchange onto Doxford Park bound services at Ryhope Green.

Once the link road is built and the other development sites become 'live' it would be more appropriate to provide a service linking the sites to the attractors i.e. Sunderland Royal Hospital with a dedicated service rather than a diversion of existing services, though some variation of existing service may be appropriate and may interest bus operators.

The figures outlined below are estimates based on discussions with Nexus and the bus operators. The precise level of developer contribution would be subject to negotiation at the planning application stage.

Metro

Nexus have recently prepared a draft new strategy for the future of the Metro. The strategy includes a number of Metro extension proposals, two of which could benefit the SSGA including a station at Doxford Park and a station at Ryhope.

Cycling

Chapel Garth

Development of the Chapel Garth site would result in significant intensification of use of the route as such surface improvements would be necessary to support this. Required improvements to the cycle network include:

- Improved crossing of Burdon Road and links to Warden Law.
- Strengthening of 1.5km of NCN70 Walney to Wearside with 2.5m DBM/kerbs and 1.5m stone. This would cost approximately £220,000
- A 600m link on line of former road from Burdon Road to Blakeney Woods Weymouth Road increased to 3m width with lights (in conjunction with land North of Burdon Rd). This would cost approximately £110,000

Improvements should be implemented as part of the development and funded by the developer.

Burdon Road

The development will require cycle permeability and links to the nearby network and surroundings. There will be a need to consider the development of the site alongside Chapelgarth to ensure there is comprehensive internal cycle network. Improvements to the cycle network include:

- Link leading to Tunstall Bank roundabout and the full length of Burdon Road.
- Approximately 2.5km of cycle network needed to serve the site; some may be part of shared use internal network.
- A 600m link to road to Tunstall Bank.
- A 1.7km link route parallel to Burdon Road.

The cycles routes/improvement should be implemented as part of the development and be funded by the developer.

Cherry Knowle

The site requires full internal cycle permeability including:

- A 3m shared use route beside Spine Road to tie in to existing 3m road side route around west and south side of Ravensworth Estate.
- Link to NCN1 mineral line.

South Ryhope

The development will require full internal cycle permeability including links to adjacent NCN1. It is assumed that the cycle network will comprise part of internal road and path network, and link to NCN1.

11.3.1 Criticality Rating

The following criticality rating has been made in relation to the SSGA.

- Critical: Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative
- Essential: Items are very important but alternative infrastructure and policy approaches could be put in place
- Desirable: Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live

The provision of transport infrastructure to support the SSGA is considered to be 'critical'.

11.4 Infrastructure Costs

Strategic Highways

A total of £2 million has been secured by the City Council to fund pinch point works on the A690/ A19 junction to alleviate the concerns of the Highways Agency. This should be sufficient to undertake all workings without the need to seek Developer Contributions.

Local Highways

Information relating to Local Highways can be found in Section 11.5 of this report.

Bus

It is anticipated that a total contribution of approximately £891,585 will be sought towards the subsidising of a bus for approximately 12 years. The table below outlines the breakdown of costs.

Site	No.Dwellings	Contribution	Per dwelling
Chapelgarth	650	£205,143	£315.61
Burdon Lane	955	£301,403	£315.61
Cherry Knowle	770	£243,016	£315.61
South Ryhope	450	£142,022	£315.61
Total	2825	£891,585	

Metro

No financial implications are expected as part of the development of the SSGA. The council is unlikely to seek an S106 or equivalent.

Cycling

No S106 will be requested for cycling routes and improvements.

All cycle routes/improvement should be implemented as part of the development and be funded by the developer.

11.4.1 Summary of Costs

The table below provides a summary of transport infrastructure costs.

Infrastructure	Costs	Criticality
Strategic Highways	£2 million (no developer contributions required)	Critical
Local Highways	See Section 11.5 below	Critical
Metro	No financial implications expected	Desirable
Bus	£891,585	Critical
Cycling	None	Desirable

11.5 Review of Council Modelling Work

In order to establish the transport infrastructure requirements to enable the development of the Sunderland South Growth Area (SSGA) Jacobs were commissioned to update and expand the existing Sunderland Highway Improvement Model (SHIM). This is intended to provide evidence on the prospective future impacts of SSGA on the local transport network and on the

adjacent strategic and local roads and thus help deliver the envisaged developments.

The model takes into account forecast increases in car usage up to 2032 and the likely growth in traffic from those planning permissions likely to be built after 2009. Trip rates applied to these developments were agreed in consultation with those consultants acting for the developers to ensure that the model and any future Transportation Assessments relating SSGA sites are using consistent assumptions.

The modelling work shows that the proposed level of development envisaged in SSGA can be accommodated providing the RDLR is completed in its entirety. This is a fundamental issue as whilst the principle of developer funding has been established for some sections of the road, there is a section that doesn't directly serve any particular development site in SSGA (and hence more difficult to secure developer funding) but which is critical to ensuring that the transport system facilitates the development.

Sensitivity testing undertaken by modelling the developments without the critical link of RDLR between Cherry Knowle and the North of Burdon Lane sites shows that unacceptable levels of traffic will result on the B1286 Ryhope Street, within Ryhope village and on the former A1018 route through Grangetown into Sunderland City Centre. In addition the model shows that additional traffic will result around Tunstall Village Green, on Tunstall Hope Road and at junctions along Tunstall Road into the City Centre. In both instances significantly higher levels of congestion will occur at key junctions in adjacent areas of South Sunderland. These are considered below.

A significant output from the model is an assessment of SSGA sites on 13 key junctions across the local highway network. This assessment, (which assumes that RDLR is provided throughout) highlighted that without improvement 6 of these junctions would operate over capacity as a result of the estimated traffic flow in 2032. These junctions are listed below:

- Ryhope Road/Toll Bar Road/Salterfen Road
- Essen Way/Leechmere Road/Tunstall Road
- A1018 St Nazaire Way/B1287 Seaham Road
- A1018 St Nazaire Way/Salterfen Road
- Seaton Lane/Lord Byron's Walk (in County Durham)
- A19/A1018/B1404 Seaton Intersection (in County Durham, Trunk Road Junction)

Mitigation measures are suggested for two of these junctions within Sunderland:

Junction	Arm Name	Suggested Improvement
A1018 St Nazaire Way / B1287 Seaham Road	B1287 (S)	Small amount of widening to increase capacity of this arm with the same number of lanes.
	A1018 (W)	Widening of flare to create a third entry lane.

	A1018 (N)	No Change
A1018 St Nazaire Way/Salterfen Road	A1018 (N)	Small amount of widening to increase capacity of this arm with the same number of lanes.
	A1018 (S)	Widening of flare to create a third entry lane. Left lane for left turn and middle and right lane for straight over to A1018 N.
	Salterfen Road	No Change

The other three junctions within Sunderland are on routes on which additional traffic should not be encouraged through improvement measures. Mitigation should include signage to encourage SSGA traffic to use the preferred route via the A1018.

It will be necessary to share the results of the modelling with the Durham County Council and the Highways Agency in order to identify the improvement and mitigation measures necessary to accommodate additional traffic resulting from SSGA at these two junctions.

The model was also used to assess the impact of increased traffic on the western section of Burdon Lane where ‘rat running’ occurs at present and changes to cross boundary traffic on the wider highway network. This found that there were some additional trips on Burdon Lane but these were offset by some non SSGA traffic that currently uses this transferring to other routes. The additional traffic was split evenly between the Stoneygate junction and the B1404 towards Houghton le Spring.

In relation to cross boundary travel, Easington (Durham County) and Tyne and Wear saw the largest increase in trips resulting from SSGA at 4.8% and 3.6% respectively compared to the baseline. This can be regarded as fairly minimal.

An assessment of the impact of SSGA traffic on the A19 found that due to the relatively low level of SSGA traffic using the Trunk Road the need for mitigation on the A19 is likely to be minimal.

11.6 Ryhope to Doxford Link Road

11.6.1 Background to Scheme

The scale of development in the SSGA will result in the creation of a new residential community. In this respect, there is a need to ensure provision of the supporting infrastructure essential to the creation of this new community. A key infrastructure requirement needed to support the scale of new development is the Ryhope-Doxford Link Road. This road will serve strategic purpose as well as providing access to the housing sites, which will provide a means of assisting with its construction.

The Ryhope to Doxford link road is planned to run along the southern boundary of the built up area of Tunstall and Ryhope, linking Ryhope to the A19 with Tunstall and Doxford Park.

One section of this road (adjacent to Tunstall Bank) has been brought forward as a result of developer contributions from new housing schemes in the area. However, the construction of the remainder of the road is subject to funding from developments in the SSGA.

It is proposed that the road will link in with the Southern Radial Route which provides enhanced access from the City Centre to the A19, avoiding the built up areas of Grangetown and Ryhope, yet providing improved access to the Hendon employment area and to the employment site proposed at South Ryhope.

11.6.2 Issues

Each developer will facilitate the delivery of the link road as part of the respective schemes. This leaves a section of the road link between the developer's land between north of Burdon Lane and Cherry Knowle. Additional funding for this section is required to deliver the final piece of highway infrastructure.

11.6.3 Infrastructure Costs

The table below provides an initial budget estimate for the incomplete sections of the Ryhope to Doxford Park Link Road, produced by Sunderland City Council Highways Department and subject to checking and benchmarking by Arup to ensure they are realistic estimates.

	Location	Status	Agreed Cost (a)	Risk and contingencies (+25%) (b)	Optimism bias (+44%) (c)	Total Costs (a+b+c)
1	East A1018 Stockton Road	Constructed				
2	A1018 R/B Stockton Road	Constructed				
3	West A1018_1	Constructed	1.18m	0.29m	0.52m	1.99m
4	West A1018_2	Constructed	0.76m	0.19m	0.33m	1.29m
5	1 st R/B	Constructed	0.75m	0.18m	0.33m	1.27m
6	1 st R/B to 2 nd R/B (Rushford)	New Build Single C/way	2.03m	0.51m	0.90m	3.43m
7	New Footbridge over Burdon Lane	New Build	1.08m	0.28m	0.47m	1.82m
8	NW 2 nd R/B (Rushford) to 3 rd R/B (extg) with Link Road to B1286 / Tunstall Bank	Constructed				
9	3 rd R/B (extg) SW to 4 th R/B (new)	New Build Single C/way	1.48m	0.37m	0.65m	2.5m
10	4 th R/B (new)	New Build R/B	0.75m	0.18m	0.33m	1.26m
Total Constructed Elements			6.56m	1.62m	2.88m	11.08m
Total Non-Constructed Elements			3.11m	0.79m	1.37m	5.25m
Grand Total			8.03m	2m	3.53m	13.56m
Key						
	Not funded					
	To be funded directly by the developer					
	Constructed					

It should be noted that no allowance has been made for utility or sewer diversions in the above. A plan showing the above can be found in **Appendix C**.

11.6.4 Funding Requested from S106

Application 11/03345/SUB by Bellway for 77 units at Burdon Lane provided a S106 agreement of £290,113 towards the construction of Ryhope Doxford link road.

11.6.5 Summary of Costs

The table below provides a summary of costs for the unfunded section of Ryhope to Doxford Link Road.

Infrastructure	Costs	Criticality
Ryhope to Doxford Link Road	£4,965,900	Critical

12 Infrastructure Delivery

12.1 Context

This section provides an outline of the infrastructure required to deliver the SSGA including cost and criticality. Further information regarding the context, requirement and calculation of costs is contained within each relevant chapter of this report.

12.2 Implementation

Infrastructure requirements will be funded by a variety of different mechanisms which will vary over the delivery of the SSGA including:

- **Section 106 Agreements:** Section 106 contributions can only be obtained when they meet three statutory tests (necessary to make the development acceptable in planning terms; directly related to the development; and fairly and reasonably related in scale and kind to the development). In addition, from April 2015 ‘pooled contributions’ for S106 funding will not be allowed, i.e. no piece of infrastructure will be able to be funded by more than five separate S106 obligations.
- **Planning Conditions:** These are the main mechanisms for provision of essential on-site design requirements and critical infrastructure. These could include highway infrastructure agreements, mainly those covered by Section 38 and Section 278 of the Highways Act 1980 which provide discretionary powers for the highway authority to enter into an agreement with a development to adopt a new highway or improve the existing highway.

12.3 Prioritising Infrastructure

The following criticality rating has been made in relation to the SSGA.

- **Critical:** Identifies those items that are vital to bring forward development and to which there is no easily identifiable alternative
- **Essential:** Items are very important but alternative infrastructure and policy approaches could be put in place
- **Desirable:** Items are those that add to the quality of a place - either in terms of functionally or attractiveness as a place to live

The table below provides a summary of the criticality of infrastructure.

Infrastructure	Cost	Criticality
Affordable Housing contribution	None	Critical
Primary school	£8,250,000	Critical
Bus	£891,585	Critical
Public Realm	Nil	Critical

Green infrastructure	£5,055,428	Critical
Play space and Pitch Provision	£2,415,904	Critical
Biodiversity	£1,031,223	Critical
Allotments	£168,000	Critical
Strategic Highways	£2 million (no developer contributions required)	Critical
Local Highways	No costs	Critical
Ryhope to Doxford Link Road	£4,960,000	Critical
Renewable Energy	£11,350,000	Essential
Health Centre	No costs	Desirable
Police	No costs recommended	Desirable
Fire	No costs recommended	Desirable
Ambulance	No costs recommended	Desirable
Leisure Centres	None	Desirable
Libraries	None	Desirable
Community facilities	None	Desirable
Local centres	None	Desirable
Secondary school	No costs	Desirable
Gas	No info available	Desirable
Water Mains	None	Desirable
Drainage	None	Desirable
Electricity	None	Desirable
Telecoms	None	Desirable
Metro	No financial implications expected	Desirable
Cycling	None	Desirable

12.4 Costs

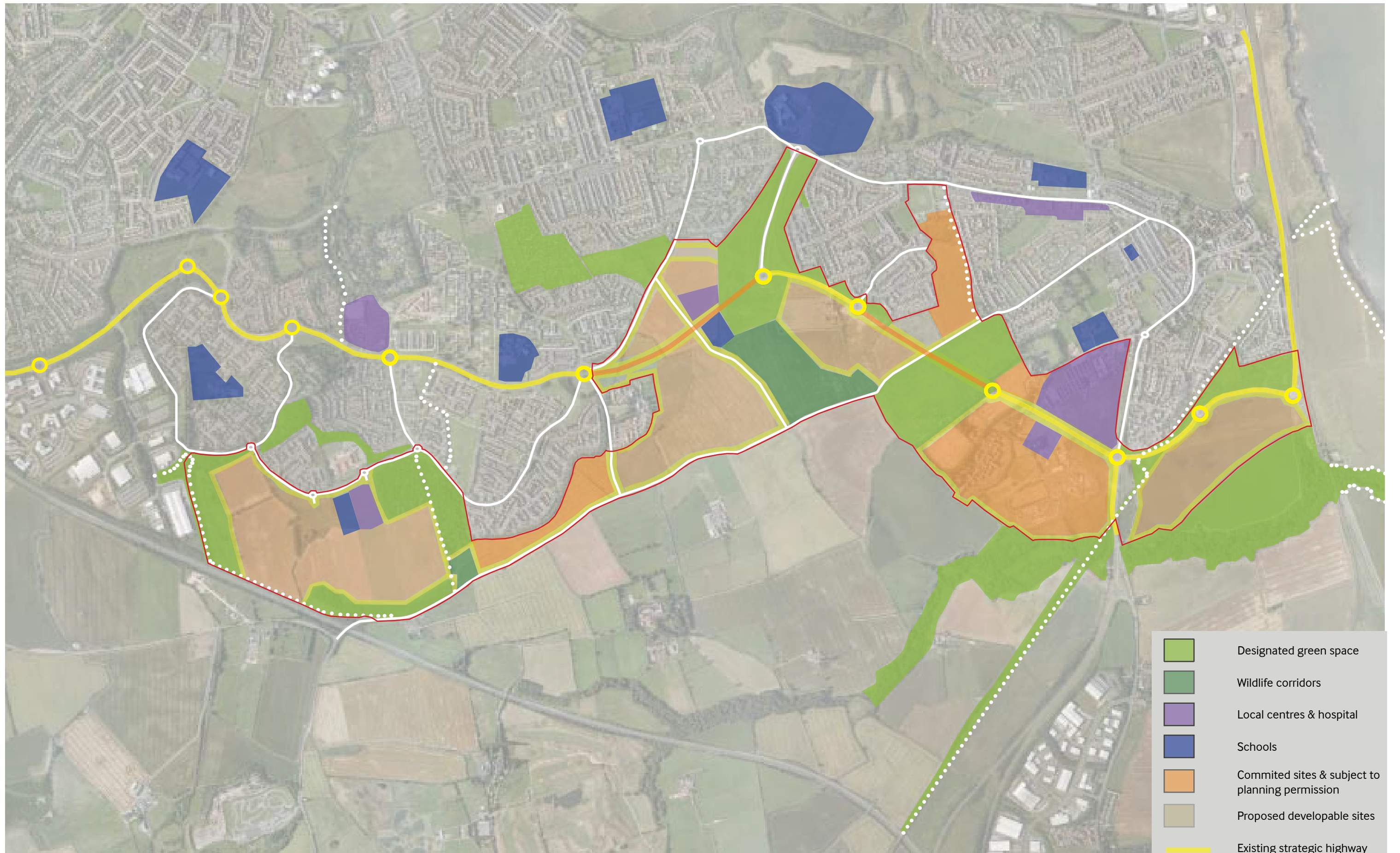
The table below provides an overview of the infrastructure required to deliver the SSGA.

Infrastructure	Total Costs	Funding Secured by 106 Agreements	Other Potential Funding	Total Shortfall	Cost Per Dwelling	South Ryhope	North of Burdon Lane	Cherry Knowle	Chapelgarth
						450	955	770	650
Education									
Primary Schools	£8,250,000	£0	£0	£8,250,000	£2,855	£1,284,599	£2,726,205	£2,198,092	£1,855,532
Total	£8,250,000	£0	£0	£8,250,000	£2,855	£1,284,599	£2,726,205	£2,198,092	£1,855,532
Green Infrastructure and Open Space									
Biodiversity	£1,031,223	£0	£0	£1,031,223	C -£320 NBL - £311 CK - £349 SR - £491	£221,029	£297,311	£268,927	£208,153
HRA Mitigation	£0.00	£0	£0	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Play Space and Pitch Provision	£2,415,904	£0	£0	£2,415,904	£855.19	£384,834.32	£816,703.76	£658,494.13	£555,871.67
Allotments	£0	£0	£0	£0	£0.00	£0.00	£0.00	£0.00	£0.00
Total	£3,447,127	£0	£0	£3,447,127		£605,863.32	£1,114,014.76	£927,421.13	£764,024.67
Affordable Housing									
Total	10%				?	45 affordable dwellings	96 affordable dwellings	77 affordable dwellings	65 affordable dwellings
Utilities									
Renewable Energy	£11,350,000	£0	£0	£11,350,000	£4,017.70	£1,807,965	£3,836,903	£3,093,628	£2,611,504
Total	£11,350,000.00	£0.00	£0.00	£11,350,000.00	£4,017.70	£1,807,964.60	£3,836,902.65	£3,093,628.32	£2,611,504.42
Transport									
Bus	£891,585	£0	£0	£891,585.00	£315.61	£142,022.39	£301,403.07	£243,016.09	£205,143.45
Ryhope to Doxford Link Road	£14,500,000.00	£290,113	£9,250,000	£4,960,000.00	£1,847.00	£831,150	£1,763,885	£960,440	£1,200,550
Total	£15,391,585	£290,113	£9,250,000	£5,851,585	£2,163	£973,172	£2,065,288	£1,203,456	£1,405,693
Grand Total	£38,438,712	£290,113	£9,250,000	£28,898,712		£4,671,598.92	£9,742,410.41	£7,422,597.45	£6,636,754.09

Notes	
Education	
Primary Schools	Cost for the extension of 2 existing primary schools and the construction of a new 1.5 form school. Contributions will also be sought from two non SSGA schemes.
Green Infrastructure and Open Space	
Biodiversity	Cost for biodiversity enhancements which vary on a site by site basis
HRA Mitigation	<p>SANG</p> <p>Developers will be expected to include SANGS on site, therefore no contributions will be sought for implementation.</p> <p>Contributions are based on the maintenance of SANGs per hectare which totals 42.75ha in the SSGA.</p> <p>SAMM</p> <p>Sites which are unable to incorporate SANGs do so will be requested to contribute an amount equal to the estimated cost of onsite implementation.</p>
Play Space and Pitch Provision	Play facilities will be implemented by the developer and then adopted by the Local Authority. Commuted sums will be sought through the S106 process for their maintenance. Contributions also sought towards a wheeled play facility and its maintenance. It has been calculated that one multipurpose pitch and one 3G artificial turf pitch, flood lit pitches and changing facilities will be required.
Allotments	This will be provided by developers' onsite so no costs anticipated.
Utilities	
Renewable Energy	The Renewable Energy Feasibility Study suggests the fee to developers for the implementation of a District Heating Scheme to be in the region of £4,000 per dwelling, plus construction of 1-2 shells for the energy centre to be housed in (£50,000).
Transport	
Bus	Costs for bus services funded until the revenue levels ensure sustainability of the service (10 years). Any revenue would be offset. Costs based on with/ without the development of the RDLR with costs decreasing at intervals to nil cost at 10 years.
Ryhope to Doxford Link Road	Costs based on a review of SCC modelling costs for unbuilt/ unfunded sections of the RDLR. Note that Phase 1 of Cherry Knowle is not required to contribute due to previous contributions. Other contributions are those sections that are either to be funded as part of the development or have already been built. Bellway scheme of 114 dwellings has also contributed.

Appendix A

SSGA Concept Plan



- Designated green space
- Wildlife corridors
- Local centres & hospital
- Schools
- Committed sites & subject to planning permission
- Proposed developable sites
- Existing strategic highway
- Proposed strategic highway
- Local highway
- Pedestrian and cycle routes

Appendix B

Access to Local Centres in SSGA



South Sunderland Growth Area

Access to local centres.

September 2014

Appendix C

Concept Planning Showing RDLR Elements

