

Al Shamal Municipality Vision and Development Strategy



Volume 1 of the Al Shamal Municipality Spatial Development Plan



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***Al Shamal Municipality
Vision and Development
Strategy***

1.0 General Requirements and Procedures

1.1 Al Shamal Municipality Spatial Development Plan

The Al Shamal Municipality Spatial Development Plan (MSDP) seeks to achieve the proper and orderly planning and development of land and infrastructure across the Al Shamal municipality in response to expected growth.

It sets out a clearly defined urban structure and a coordinated development approach for the municipality over the next 20 years. The MSDP is made up of the following parts:

1. **Strategic Context** - The Vision and Development Strategy for the Municipality.
2. **Zoning and Land Use Regulations** – Land uses and development standards applying in each zone.
3. **Zoning Maps** - Showing the existing and future land uses across the municipality.

In addition, **Action Area Plans** (AAP's) will be prepared from time to time and progressively added to the MSPD for specific locations within the municipality, in order to provide a more detailed level of planning.

1.2 Purpose and Effect of the MSDP

The Al Shamal MSDP provides the land use planning framework and regulations for the entire Municipality and the strategic context for growth and change to 2032. The detailed land use zoning maps and regulations set out the rules against which development will be assessed and conducted.

The Al Shamal MSDP has full legal force and effect in the assessment, decision-making and enforcement of land use development applications, and the manner in which land use development is undertaken within the municipality.

It will be reviewed every 5 years to ensure it responds appropriately to community changes at local, regional and National levels.

Developments are also required to separately address the requirements of the Building Regulations and codes.

1.3 Management of Development

Al Shamal Municipality is divided into a series of Land Use Zones identifying the particular uses which may be permitted in the zone. Development within each zone is controlled by way of a Zoning Regulations Matrix containing:

- the Purposes and Objectives of the Zone;
- a Land Use Table showing the range of uses appropriate within the zone; and
- Zone Regulations specifying the development standards which apply within the zone.

Development within each zone may be classified as being either:

- Permitted - does not require a development application but must comply with the development standards in the relevant Zone Code;
- Conditional - requires a development application which will be assessed against the MSDP and the development standards in the relevant Zone Code, and which may be subject to additional conditions of approval; or
- Prohibited – uses considered inappropriate in the zone and where an application for development approval cannot be made.

Further details are contained in the Zoning and Land Use Regulations in this MSDP.

1.4 QNDF Context

The Qatar National Development Framework (QNDF) is the overarching physical and spatial planning policy and strategy context for the state of Qatar to 2032.

It establishes a series of guiding principles and objectives that have been based on the Qatar National Vision 2030 (QNV2030), and contains Structure Plans developed for each Municipality which provide a strategic planning context for each MSDP.

Based on the QNV 2030 Four Pillars of Sustainability, the following guiding principles for sustainability were established to inform the QNDF:

- **Quality of Life for All** – Improving the living, working, playing and learning environment and offering choice, affordability and access for all people.
- **Economic Growth and Diversification** – Fostering competitiveness, encouraging business investment and stimulating innovation.
- **Connectivity of People and Places** – Providing integration, mobility, accessibility and connectivity to improve social, cultural and economic interaction of people, institutions and businesses.
- **Ownership in Planning and Implementation** – Encouraging coordination and commitment

among stakeholders in the QNDF's planning and implementation.

- **Environmental Values** – Supporting the preservation and rehabilitation of the natural and built environments.
- **Identity** - Acknowledging and respecting the Qatar national identity.

The translation of the National Vision and the sustainable guiding principles into a spatial and physical development dimension gave rise to a vision for the future urban development of the country which has guided the preparation of the QNDF and subsequent Municipality Spatial Development Plans.

The QNDF vision is to:

“Create a role model for Sustainable Urban Living and Livable Towns and Cities in the 21st Century.”

The Al Shamal MSDP has been prepared in accordance with the QNDF as the regulatory framework for managing development in a way that advances the purpose of the QNDF, the National Development Strategy and the Qatar QNV2030.



2.0 Al Shamal Municipality

2.1 Location and Description

Al Shamal means “the north”, and is the most northern municipality of Qatar. It contains a rich heritage and a way of Qatari living not found in the rest of the country.

The municipality covers approximately 7% (860km²) of the total land mass of Qatar. The uniqueness of Al Shamal lies in the fact that it is surrounded on three sides by the Gulf Sea.

Up till the 1960s, Al Ruwais and Abu Dhalouf were the main settlements on the northern coast. These two communities were based on tribal associations. During 1970s, the government established a settlement between these two communities. This came to be known as Madinat Al Shamal. Roads connecting the three settlements, as well as the new port were constructed. The late 1980s and 1990s saw an increase in development mainly within Madinat Al Shamal. The beginning of this century saw an increase in development within Al Ruwais and Abu Dhalouf which were previously relatively untouched. A number of community facilities and urban infrastructure services have been developed to accommodate the growing population.

The Municipality is generally rural in character, with the northern cities of Al Shamal/Abu Dhalouf/Al Ruwais acting as its civic and commercial hubs. Outside the urban settlements the municipality has a series of rich environmental and cultural assets including the Northern

Aquifer, Al Reem Biosphere Reserve (Environmental Protected Area), beaches and habitats for sea turtles, and the largest concentration of archaeological sites in Qatar, including abandoned fishing villages and the UNESCO Al Zubarah World Heritage Site.

Existing economic activities within the urban areas of the municipality are limited to commercial strips and ad-hoc developments. Their scale and intensity vary within Al Shamal, Al Ruwais and Abu Dhalouf cities. Commercial fishing activities are based at the Al Ruwais port. Beyond the urban areas, economic activities within the Rural/Desert Zone are mainly limited to a few rural settlements which have a clustering of agricultural farms.

The rapid development of the country has included the redevelopment of logistical capacity and related commercial facilities at a number of ports throughout the country. One of the largest projects currently being undertaken in Al Shamal is the redevelopment and expansion of the existing Al Ruwais port facilities. The current port currently caters for over 100 vessels, including fishing boats, Customs and Ports General Authority (CPGA), Ministry of Interior and small leisure boats.

The port redevelopment is designed to accommodate dhows, coastal trading vessels and a roll-on/roll-off passenger/car ferry, centering on general cargo, fruit and vegetables, livestock and building materials. The project includes construction of basin, deepening of the channel,

passenger jetty, commercial crew jetty, protection wall, infrastructure, warehousing and storage areas, government offices, workshops and passenger terminal building. In the short to medium term, the upgraded Al Ruwais Port will share the majority of inbound goods and materials for the country. This is likely to add pressure on the existing urban environment and infrastructure for the municipality.

New utilities infrastructure is being proposed to cater for the increasing demands of the country. Initial planning for the Qatar-Bahrain causeway has been undertaken, a new desalination plant is planned on the east coast north of Al Furwairit, and major upgrading of the Al Shamal Road to Doha is being completed. Expansion of the existing sewage treatment plant, located approximately 15km south west of Al Shamal City will increase treatment capacity for the local area and provide TSE for agricultural and watering purposes in the municipality.

2.2 Population and Employment Growth Expectations 2010 – 2032

The permanent resident population of the municipality is expected to grow from 8,000 in 2010 to 29,000 by 2032. Its composition in 2032 is expected to be approximately 11,000 Qatari residents (38%), 7,000 Non-Qataris (24%), 400 Industrial Laborers (<2%), 360 Rural Areas Residents (<2%), and 10,500 other Labor (36%).

The main drivers for the expected population growth are the economic growth opportunities associated with the redevelopment of Al Ruwais Port, building of proposed Qatar-Bahrain causeway, construction of other major infrastructure projects, development of industrial estate, and the potential for expanded fishing, diving, heritage and eco-tourism activities in the area.

Table 1: Al Shamal Municipality Population (2010-2032)

Year	Population
2010	8,000
2032	29,000
Note: Figures are rounded	

2.3 Key Planning Issues

Some of the key spatial land use issues affecting the Al Shamal Municipality include:

- Piecemeal development of Al Shamal City and its neighboring communities of Al Ruwais and Abu Dhalouf have resulted in a fragmented and inefficient development structure.

- The existing form of scattered development does not create a distinct, compact and legible townscape.
- Sporadic development in the Northern Cities hinders the implementation of a cost-effective utilities plan.
- Provision of local urban infrastructure and connections to vacant housing lots in a timely manner.
- The need for public realm improvements to enhance the townscape and create a clear sense of local character and identity.
- No clear open space network and lack of a defined strategy for protecting and enhancing the waterfront natural edge between the sea and the built up area.
- Generating sufficient local economic development and employment opportunities for residents to encourage permanent residential development of allocated lots under the National Housing Program.
- The low population density in the Northern Cities does not provide a sufficient threshold for an economic and efficient public transport network to be established.
- Need to expand the number of light industries in the Al Shamal Industrial Estate to provide employment opportunities and local services.
- Potential adverse impacts from inappropriate developments on the rich historic coastal assets and environmental resources including the Al Reem Biosphere Reserve Environmental Protected Area and Al Zubarah World Heritage Site.

- Creating opportunities for farming and other agricultural activities aligned with the National Food Security Program.
- Ensuring the availability of sustainable water supplies for agriculture while protecting the Northern aquifer and other natural environmental features within Environment Protected Areas.

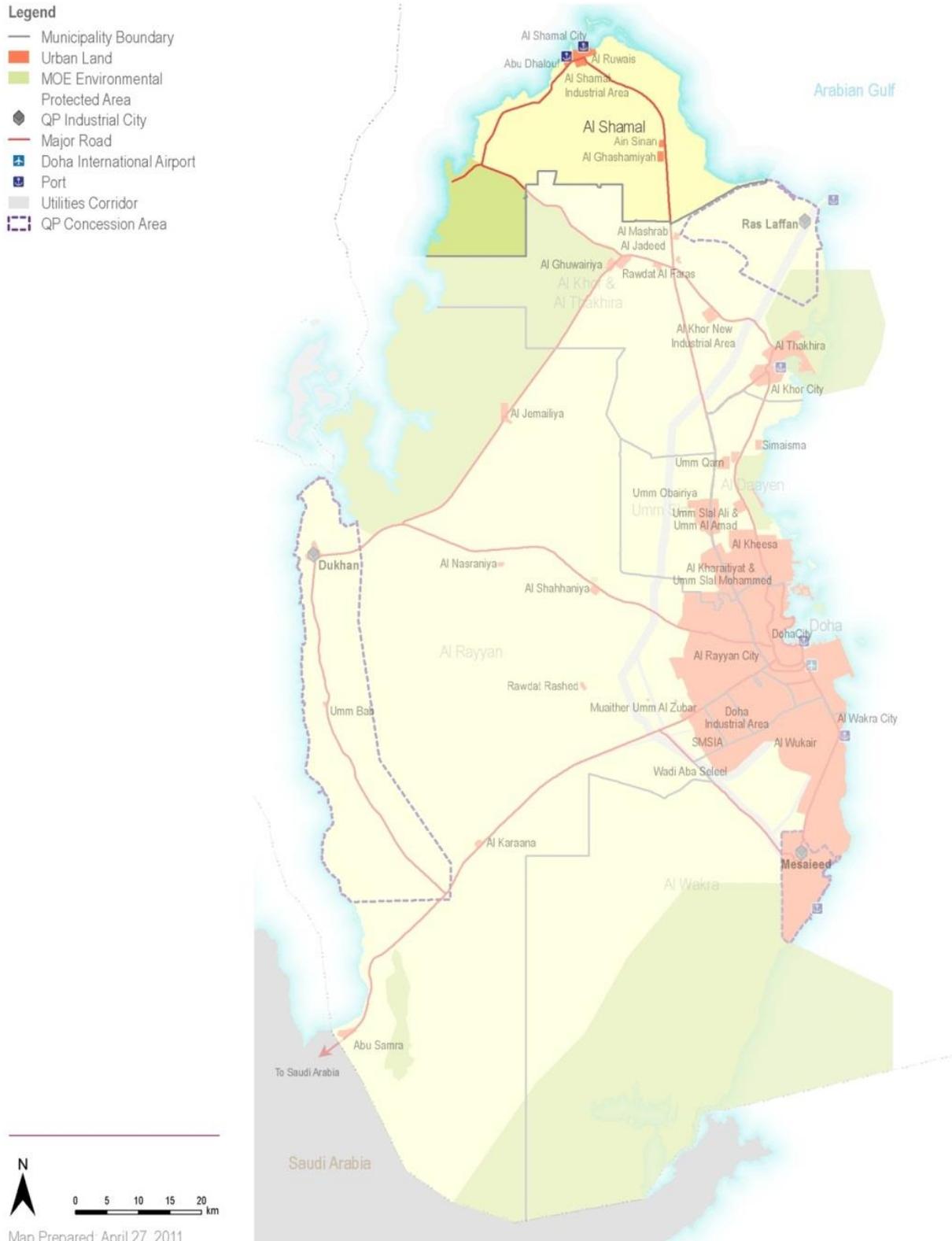
2.4 Municipality Planning Objectives

The planning objectives that apply to Al Shamal Municipality are:

Economic Prosperity

- Promote the growth and diversification of the Port at Al Ruwais, encouraging value added industries at the port and industrial area.
- Promote industrial and commercial activity around Al Ruwais Port and light industries in Al Shamal Industrial Area by allocating additional land to address future demand, building on its maritime traditions and position as the northern gateway to Qatar via the port and Qatar-Bahrain Causeway.
- Support small scale historic, cultural and eco-tourism facilities at Al Shamal and along the eastern coast, ensuring that development respects the unique natural assets.

Figure 1: Al Shamal Municipality Context



Al Shamal Municipality Vision and Development Strategy

- Encourage local economic growth by providing opportunities for small scale commercial and retail activity in the Al Shamal Town Center.
- Maintain and encourage rural uses in the rural parts of the Municipality to sustain agriculture and rural communities in these locations.
- Support efforts by the Qatar National Food Security Program for uses such as farming, livestock, aquaculture, hydroponics etc, whilst ensuring that the amenity of adjoining urban areas is protected.

Living in the Community

- Maintain an urban growth boundary around existing settlements and restrict development outside urban areas to essential transport and utility infrastructure, and on-site accommodation for farm workers.
- Reinforce the Qatari character of the Municipality through the provision of low density housing typologies, including family compounds, that support Qatari's preferred way of living.
- Provide a high quality environment for higher income non-Qatari's, by providing affordable accommodation in the northern cities.
- Promote community cohesion through the provision of daily facilities at the neighborhood level through the creation of a series of local centers.
- Link public open spaces in Al Shamal/Abu Dhalouf/Al Ruwais via an improved public realm that includes a pedestrian oriented waterfront Corniche.

- Concentrate community facilities, healthcare, schools and emergency services in the Northern Cities centers, enhancing public transport provision to these facilities for residents and from rural settlements.
- Provide purpose built, self-contained temporary and permanent accommodation facilities for workers on approved sites with convenient access to essential daily facilities and services.

Natural Environment

- Protect and preserve the natural environment and historical resources, and promote sustainable tourism and leisure uses based on these resources.
- Protect and enhance the overall quality and intrinsic values of the environment, including its pristine maritime setting, indigenous land-based flora and fauna, and cultural heritage resources.
- Enforce development restrictions in the Northern Aquifer Protection Zone and Environmental Protected Areas to protect groundwater resources, biodiversity, and other environmental amenities and natural features.

Built Environment

- Maintain the rural character of the municipality by restricting urban development outside the Northern Cities and Ain Sinan.
- Create a Town Center in Al Shamal through the clustering of commercial services and community facilities in a mixed-use setting.

- Respond to the character of the Northern Cities by ensuring that the design of the Town Center is based on Arabic townscape traditions.
- Develop buildings that are sustainable, address architectural standards, and respond to the climate by taking inspiration from historic Islamic architecture to create a new architectural language within the Municipality.
- Enhance streetscapes in centers and settlements through suitable landscaping and ensuring the public realm and open spaces to promote and support key pedestrian routes.
- Retain the wider cultural assets of the municipality, including the renovated historic mosques in Abu Dhalouf and Al Ruwais.
- Improve the quality of residential neighborhoods to promote family living and community interaction among northern cities through the provision of recreation and open spaces, networks of local parks and public realm amenities, and community facilities.
- Ensure the availability of affordable housing choices in the municipality.
- Provide a range of spaces from nationally significant parks through to pocket parks at the local level that meet the diverse needs of different cultures and age groups.

Movement

- Design streets to provide convenient, safe and high quality connections between the centers and surrounding residential communities to ensure safe,

- legible pedestrian and cycle routes throughout the municipality.
- Promote pedestrian connectivity between built up/urban and coastal areas, especially within the northern cities.
 - Enhance the accessibility of the northern cities by promoting local and inter-city public transport services and a public transport terminal at Al Shamal Town Center.
 - Safeguard strategic transport corridors from inappropriate development and limit new major highway development in and around the Northern Cities to currently committed projects.
 - Ensure the impacts of heavy traffic on surrounding urban areas from the Al Ruwais port and from the Industrial Area, are minimised and mitigated.
- Where possible encourage the co-location of utilities infrastructure within the identified utility corridors and on sites ensuring the incorporation of appropriate safety buffers.
 - Ensure the sewage treatment plant expansion and future desalination plants are adequately separated from surrounding development by providing and maintaining appropriate buffers.
 - Minimize the impact of utility infrastructure construction and operation on the natural and built environment.

Utilities

- Promote the efficient provision and distribution of utility infrastructure to meet the needs of the expected population growth.
- Enhance and expand the utility network in the municipality in a coordinated manner ensuring that the future demands of residents, workers and visitors are met in a timely manner.

3.0 Vision and Development Strategy

“Al Shamal Municipality will continue as an attractive and uniquely Qatari municipality, offering a pristine coastal environment and an authentic Qatari lifestyle that respects the culture and history of the area”.

3.1 Vision 2032

The vision for Al Shamal Municipality is to:

- Rural lands outside defined urban settlements will be protected from inappropriate development.
- Al Shamal Municipality will continue as an attractive and uniquely Qatari municipality offering an authentic yet diverse Qatari lifestyle, set in a pristine coastal environment.
- Al Shamal City will develop as the commercial administrative heart of the largely rural municipality as part of the Northern Cities.
- The settlements of Al Shamal, Al Ruwais and Abu Dhalouf will continue to grow in an integrated fashion by preserving their own distinct character and identity.
- Future growth and development will respect the ecological limits of the municipality by balancing environmental, cultural, social and economic prosperity for present and future generations.

Figure 2 Development Strategy [insert Map]

3.2 Development Strategy

The Development Strategy is summarized spatially in the Al Shamal Municipality Structure Plan.

3.2.1 Development Strategy Summary Future Growth Management

The level of future population growth to 2032 is expected to be relatively modest, and capable of being readily accommodated within the existing city limits and urban land allocations. The careful management of this growth is particularly important in response to the potential future development pressures associated with the construction and operation of the Qatar-Bahrain Causeway and related maintenance and support facilities.

The Municipality will remain predominantly rural in character, with clearly defined urban growth limits confining urban land uses. Development outside these urban limits not directly related to rural industry, National Food Security Program activities and infrastructure, or farming production will not be permitted. The Northern Aquifer Protection Zone, Al Shamal Conservation Area and Coastal Zone Protection Areas, and the Al Reem Biosphere Environmental Protected Area also place strict constraints on urban development.

Future population and employment growth will focus on the existing Northern Cities settlements with Al Shamal Town Center developing as the main location for commerce, social activities, community facilities and services catering for future population and employment

growth. Development will be focused within three settlements (Al Shamal, Abu Dhalouf and Al Ruwais) so necessary infrastructure, services and urban realm projects can be more efficiently provided.

The expansion of the commercial fishing port at Al Ruwais provides opportunities to develop coastal tourism and related leisure uses, which together with the area's rich cultural and historic assets have the potential to diversify economic activities and create local jobs.

In order to protect and preserve natural, environmental and historical resources, as well as promoting leisure and tourism activities, the development of the north-western coastal area will be managed and controlled through the designation of Coastal Zone Protection Areas and the Al Shamal Conservation Area.

Employment development will be focused in the redeveloped port, Town Center and Industrial Area. Development outside the Northern Cities will be limited with only small level of growth proposed in Ain Sinan and other areas.

Transport infrastructure will be provided in response to the level of demand from population and economic growth. Utility infrastructure needs will also be addressed based on future population and economic activity growth. The water supply and sewerage network is planned to be extended to cover all urban areas in Al Shamal, whilst a TSE network will be extended by Ashghal to Al Shamal City and Al Zubara from the Doha North STW in Umm Slal. A new desalination plant is proposed by Kahramaa

at Al Ghariya which will provide potable water to support urban development, and farm irrigation water.

New power stations are proposed at Al Mamlana and Al Khuwair Hissan, and a power station is also proposed in the Ras Laffan Concession Area, in addition to the expansion of the EHV line network.

3.2.2 Strategy Implementation

The broad spatial strategy for Al Shamal Municipality implements the principles of the compact city model, applying them to the specific characteristics and opportunities associated with large rural municipality. This will help guide future investments and infrastructure, the balanced provision of community facilities, and improve the urban amenity for existing and future residents and visitors.

Neighborhoods will be focused around community facilities to enable greater accessibility for residents. Each neighborhood will be composed of a small number of local retail units, a daily or Juma mosque, a convenience store, health clinic or doctor's surgery and a small number of non-retail uses such as men's and women's salon's, dry cleaners and bank branches or ATM. A nursery or primary education facility could also form part of such neighborhood centers which will also include local parks.

Access to neighborhood centers should be via a choice of routes including safe pedestrian and cycling corridors as part of a permeable network.

Neighborhoods will be safe and healthy for residents. This requires the provision of open space for recreation, pedestrian friendly routes and crossing points and low traffic speeds within residential streets. Car parking on pavements should be prohibited as this forces pedestrians onto roads, creating unnecessary pedestrian and vehicle conflict. Safe and healthy neighborhoods will have a pedestrian movement network that consists of pedestrian and cyclist friendly streets and pedestrian only routes.

Key implementation actions for achieving the future spatial strategy include:

- Containing growth in the Northern Cities within defined urban growth boundaries.
- Maintaining the character and identity of the individual settlements of Abu Dhalouf, Al Shamal and Al Ruwais in merging fashion.
- Promoting Al Shamal industrial area as a location for light industry related to the port and wider maritime economy.
- Enhancing the main road route connecting the three settlements.
- Protecting the coastal edge through the implementation of a coastal buffer to new development.
- Maintaining the strategic buffer to the industrial area, introducing a landscaped edge to the industrial area.

- Developing a town center in Al Shamal as the main commercial, administrative and recreational hub for the municipality.
- Developing four local centers, one for each city (Abu Dhalouf Al Shamal, Al Ruwais and Ain Sinan) at appropriate locations to complement the Al Shamal Town Center.
- Ensuring the design of main streets in the Town Center and local centers as public spaces which can accommodate vehicles, pedestrians and spaces for gathering.
- Building heights for residential areas will be limited to G+1+P to maintain the mainly low density, family residential character of municipality settlements.
- The beautification of existing housing areas with improved landscaping and design features, preserving traditional low density, walkable community lifestyles.
- Developing an open space and parks network that provides residents with convenient walking access to them by utilizing the existing open space assets.
- Upgrading the Al Shamal Road corridor borders through public realm and landscape enhancement along the southern boundary of Al Shamal municipality and main entranceway to the city.
- Provision of public transport services which enable residents and workers to access local amenities and services as well as provide efficient connections to major activity and employment.

- Enhancing the availability and access to education, health and religious facilities whilst enhancing the provision of open spaces, particularly in and around the Al Shamal Town Center.

In addition, the Development Strategy comprises several components which work together to realize the Vision for the municipality. Each of these is discussed in turn below:

1. Hierarchy of Centers
2. Key Employment Nodes outside Centers
3. Residential Areas
4. Community Facilities
5. Open Space and Sports Facilities
6. Natural Environment
7. Heritage
8. Movement
9. Utilities

The contribution of each of these elements and their significance for the future form and development of Al Shamal Municipality is outlined below.

3.3 Hierarchy of Centers

The most important component of the spatial structure for Al Shamal Municipality is the QNDF hierarchy of centers. Centers are the main locations of employment, community services, retail and commercial activity, and transport services. The hierarchy consists of a network of mixed-use and mixed-density centers each with a specific role, function and scale serving a surrounding population catchment. A high level of self-containment is sought. The hierarchy as it relates to Al Shamal is discussed below.

Town Centers

Town Centers are the third level of the centers hierarchy and are designed to cater for the weekly and day-to-day needs of the residents of the municipality. They are generally developed around a well-defined central core of public and private facilities, and have good access to public transit services such as a bus interchange station. Residential densities are higher within and around the immediate town center core, but graduate down to lower density residential development in the surrounding residential areas.

There is one Town Center designated in Al Shamal Municipality:

- Al Shamal Town Center

Its purpose is to cater for more local-level mixed density mixed-use

business, convenience retail, small commercial premises and branch offices of government, banking and community services, and local employment. They may also contain lower-order cultural, entertainment, health, and education facilities. High quality, medium to low density residential neighborhoods will be integrated with these centers.

An Action Area Plan (AAP) for the Town Center based on several land use precincts will be developed to ensure a mixed-use, mixed density approach that meets the needs and expectations of the residential catchments served.

Al Shamal Town Center and Vision

The location of Town Center identified on the Zoning Map for Al Shamal is in the central area of the Northern Cities with ample government owned vacant land, public facilities and excellent connectivity with all the settlements within the municipality. It is connected with Al Shamal Road. The site has considerable flexibility and development capacity that can potentially create a viable development proposal as the percentage of vacant land is significantly high.

A traffic department, civil defence station, immigration office, police station, health care center and sports club are located on the site. Buildings are single storey which is consistent with rural character and low density of the cities. The existing heights will be maintained. The site has large plot sizes and low percentage of built up area that will help in preparing a different development pattern by using the land more effectively and efficiently.

The proposed center is to develop a strong and integrated street system with improved sidewalks and street to enhance pedestrian movement between built up areas and the water front. The paths are longitudinal toward the beach front which can be developed as visual and movement corridors.

Al Shamal Town Center will serve the needs of both present and future residents as well as visitors. The existing community of the City and surrounding municipalities will benefit from high quality commercial, community and recreation services.

Key features of the Town Center vision are:

- **Create a Unique Town Center** - Creation of a unique, compact and legible townscape which utilizes the identifiable urban elements from traditional coastal villages. Use and emphasizing the Qatari architecture and urbanism in the center.
- **Provide Community Facilities** - Provision of commercial, office, recreation, retail and institutional uses for the surrounding communities as the main center for Al Shamal Municipality. Other community facilities such as a museum and culture center will be provided to enhance and strengthen the particular role of Al Shamal center as a historical coastal gateway to Qatar and the civic identity.
- **Integration with Coastal Development** - Development of coastal tourism and leisure uses and provision of tourism and retail facilities for visitors to the heritage areas including the abandoned villages, Zubarah World Heritage Site and the Al Reem

Environmental Protected Area. Special treatment of the public domain will be required to ensure integration with the Al Ruwais Port and the proposed Corniche.

- **Provision of Public Transport** – Provision of a bus terminal and bus service to the Town Center.
- **Open Spaces and Pedestrian Movement** – Creation of an effective and well-integrated pedestrian network with green areas and spines, together with landscaping and shade, public art and other public realm enhancements.

The Town Center location takes advantage of its seafront location to recreate traditional elements from the local area and culture. Traditional souks, museums, craft, art and other small scale industries will be encouraged, also boating-related activities such as small craft chandlers, fishing tackle equipment, sea-food stalls and fish markets. The Town Center will meet the daily and weekly convenience needs of residents along with providing a small element of comparison retailing

The building form and design will be a modern interpretation of historic local form and culture and will utilize the environmentally sustainable elements learnt from historic fishing villages such as harnessing sea breezes, shading public spaces and enclosing private courtyards.

The Mixed Use Office Precinct will cater for any other private business which could be associated to the adjacent port and any proposed future relocation of small government service offices e.g. post office. It will be

connected through the pedestrian network and will use the traditional urban design and architectural elements to create a homogeneous built form with other parts of the town center.

The Resorts and Hotels Precinct within the Center will take advantage of its seafront location and provide accommodation for Qatar residents and tourists looking to escape the Doha city life and explore Qatar, such as the historic fishing villages to the west. The appropriately scaled precinct area will be mixed use in form to ensure there are additional opportunities for recreation and retail uses that provide services at different times.

The Commercial and Sports Facilities Precinct will assure the roles of Town Center as a service center and employment hub. Residents of the municipality will be able to benefit from the sports and health services provided.

The Mosque and Daily Souk Precinct will provide a social community gathering area. The mosque will be a major landmark for the city. It will be connected visually and functionally with other precincts in the center via the pedestrian and open space network.

Other Centers

District and local centers will be provided in Al Ruwais, Al Shamal, Abu Dhalouf, industrial estate and rural areas such as Ain Sinan based on the projected population and development plans. The functions of these centers are to provide daily retail and community facilities to decrease

the dependence of the residents on the Town Center and other facilities for daily needs.

These lower order centers will be developed with high quality pedestrian connections linking them with the surrounding residential neighborhoods, park, historic mosque and coast. The linear commercial development containing convenient and other basic shops that meet day to day needs of the community will be retained.

3.4 Key Employment Nodes outside Centers

Employment nodes are located outside the designated centers which are recognized in the MSDP to allow for their continued functioning and development, and to ensure they are adequately integrated into the overall spatial structure of Al Shamal Municipality. These nodes complement the centers hierarchy and contribute to the overall economic vitality of the Municipality.

In order to diversify the economy there is a need for the following key actions:

- Promote cultural tourism and eco-tourism.
- Develop the commercial and administrative role functions of northern cities.
- Regenerate Al Shamal Industrial Area, developing more sites for Small and Medium sized enterprises.
- Redevelop Al Ruwais Port diversify commercial fishing and other sea based economic activities.
- Promote enhanced agriculture opportunities in line with the Qatar National Food Security Program (QNFSP).
- Identify potential government/administrative services, public and private institutions and training facilities, NFSP research activities, manufacturing, logistics or construction enterprises and service industries that could be established or relocated to Al Shamal as new local employment opportunities and a further

stimulus for other secondary support and service activities.

3.4.1 Cultural, Maritime and Eco-Tourism

A key part of the strategy is to strengthen the leisure and tourism opportunities of the Municipality. Al Shamal also presents a convenient and accessible short-break opportunity for other cities residents and tourists.

Currently the area provides some leisure activities associated with boating and fishing. In addition, the Municipality has many coastal sites of historic and cultural significance along with environmental resources which are being identified, protected, and conserved. These resources can underpin and provide further opportunities for small scale eco-tourism and cultural tourism together with support facilities such as hotels and leisure pursuits.

3.4.2 Rural Area

Farming plays an important role in Al Shamal Municipality, contributing economically and culturally to the municipality. As part of QNFSP there is a move to more efficient farming techniques that take advantage of technological advances whilst reducing ground water extraction. The retention of farms on the urban fringe and throughout the Rural/Desert Zone is strongly encouraged.

Al Shamal Municipality can play a key role in delivering the vision of the QNFSP. It is imperative that any

development proposals affecting farmland are considered in the light of the needs of the QNFSP and potential detrimental impacts. The QNFSP will therefore need to be consulted for advice about such proposals within the Rural/Desert area.

3.4.3 Industrial Area

The Al Shamal Industrial Area will be promoted for light and medium industrial uses, targeting sectors that can leverage business from the port as well as with logistics, manufacturing and construction activities associated with major infrastructure development projects. A number of manufacturing activities that could be included are workspaces for small boat-building and boat repair and other marine related industries such as fishing and marine tourism plus logistics facilities which cannot be accommodated at the Al Ruwais Port. Manufacturing of building components for infrastructure projects, pre-fabrication, and engineering and equipment maintenance services, and small scale workshop premises targeted towards light industrial start-ups would be industries suitable for the Industrial Area.

A range of industrial premises can be provided through the redevelopment of existing premises and provision of additional industrial estates. Physical and environmental improvements will be an important part of the regeneration of Industrial Area. The future expansion of the estate will be developed based on best practice for low-medium impact, clean industries.

3.4.4 Al Ruwais Port

Al Ruwais Port plays an important part in local employment and the economy of the municipality. It has been redeveloped to include a commercial marina, a leisure marina, storage areas, government offices and coastguard base, workshops and jetties. It also includes some additional office space. The Port redevelopment accommodates dhows, coastal trading vessels and passenger and car ferries as well. Al Ruwais Port is capable of importing goods into Qatar.



3.4.5 Qatar-Bahrain Causeway

The future Qatar-Bahrain causeway will potentially be a key economic driver for the municipality. When construction commences, Al Shamal can have a significant role in providing logistics, materials, industrial maintenance services, and labor during the construction period, and in the subsequent operation phase of the causeway project.



3.4.6 Malls and Retail

Retail and other related personal services within the northern cities and rural settlements will have a limited role in providing local employment. Such jobs will be mainly limited to small corner shop/baqala/super markets, restaurants, fast food/juice/buffet shops, mechanical repair shops (for ACs, washing machines, fridges etc), laundries, hair saloons etc providing day to day services for local residents. Government and other community agencies located within local service centers will also provide some local employment opportunities.

3.5 Residential Areas

Residential areas comprise a substantial part of the urban land within the municipality, and are predominantly low density and single dwelling in character. There are also significant areas of subdivided residential plots allocated under the National Housing Program which are yet to be built on. The reasons for this are varied but include the need for utility services connecting to individual lots, and the lack of local employment opportunities discouraging people from residing permanently in the area.

The urban area of the Northern Cities is already subdivided into development plots. The focus should be on enhancing the appearance of the existing neighborhoods, providing local utilities, and utilizing the vacant sites within the urban areas. In many instances the development of vacant sites with high quality housing will help repair the fragmented urban form, enhancing the appearance of neighborhoods.

The current form of development has damaged the sense of place of each settlement. In these areas a program of beautification based on the following actions is required:

- Enhance the public realm by providing landscaped streets with pedestrian and cycleways.
- Introduce public parks and meeting spaces in the form of baraha and meyadeen.

- Develop vacant plots with high quality low density housing that reinforces the character and sense of place of the neighborhood.
- Preserve traditional areas where they exist, restoring buildings of historical importance and maintaining the urban structure.



Providing for the future residential growth in Al Shamal will focus on the delivery of the following strategies:

- Promoting the integration of Abu Dhalouf, Al Shamal and Al Ruwais into a more efficient and compact urban form.
- Beautification of the three settlements with a focus on landscaping and streetscape improvements, upgrading of the public realm, and bringing vacant land into use.

- Providing for greater choice and affordability in housing options across the municipality, particularly for local service sector workers, by expanding the existing availability of mainly villas or detached housing, to also include a mixed range of small scale apartments, attached housing, and townhouses.
- Maintaining access to education and health facilities whilst enhancing the provision of open spaces and religious facilities.
- Providing affordable accommodation for industrial estate workers adjoining the industrial estate including facilities such as a mosque, recreational and other essential community services.
- Providing purpose-built temporary worker accommodation compounds to cater for significant labor force increases during the peak construction period for infrastructure projects.

3.5.1 Qatari Neighbourhoods

The development of Al Shamal will be based on the development of largely Qatari neighborhoods outside the town center. The availability of land through the National Housing Program together with the restrictions placed on the transfer of land will ensure that Northern Cities will retain its predominantly Qatari population.

It is important that new Qatari neighborhoods are developed in a way that they meet the aspirations of

Qataris in terms of plot size and accessibility to retail and community facilities, particularly Mosques and Majilis within each neighborhood. The design and layout of Qatari neighborhoods should reflect their traditions, culture and heritage.

which includes the provision of on-site community facilities, open space and recreation, and other support services for residents.

3.5.2 Rural Settlements

Al Shamal Municipality has about 28 small settlements of various sizes located outside the Al Shamal urban area. Most of them are located on both sides of Al Shamal Road. Their main function and role is to provide housing for farm residents and workers in the surrounding rural area of the northern part of the country.

Future growth of these localities will be limited and tied to the future prospects for agricultural and farming. All these settlements are proposed to retain their non-urban characters and additional expansion beyond their existing areas is not proposed.

3.5.3 Worker Accommodation

Worker accommodation provided adjacent to the existing industrial area will be retained and improved as needed. Additional, worker accommodation sites for workers working on infrastructure project construction sites, in the industrial areas, and the port, have been designated near the southern boundary of Al Shamal City and will be developed as the need arises.

The provision of worker accommodation is subject to the requirements of the Worker Accommodation Regulations

3.6 Community Facilities

Livable communities require access to good quality facilities and services. Al Shamal Municipality is characterized by a large rural area and a relatively small and isolated urban area. Most community facilities and services will be located in the Northern Cities.

3.6.1 Education

Government schools are largely concentrated in Northern cities. There is an adequate supply of government schools to meet the existing and future demands of the population. The small compact school prototype will be sufficient to meet the demands of the projected population. The strategy for the education facilities can be summarized as:

- To provide education facilities at Primary and Preparatory level in every center of the three main urban centres of Al Shamal municipality (Al Ruwais, Abu Dhalouf, and Madinat Al Shamal).
- To provide Secondary schools in the town center for both genders.

3.6.2 Healthcare

There is an existing Primary Health Care (PHC) Center in Al Shamal which will need to be upgraded or to be replaced by an advance PHC and wellness center to meet the requirement of the Qatari residents. This facility meets the requirements of the projected population of the

Northern Cities. Residents in Ain Sinan are served by a proposed PHC center in Al Khor.

Residents in Al Shamal will not need to travel to neighboring municipalities to access public hospitals - a proposed new secondary hospital will provide the general healthcare facilities for residents. Private clinics will be permitted in the Al Shamal Municipality. A site for PHC – SML (Public Health Centre – Single Male Labourers) is proposed in Al Shamal municipality.

Specialized and tertiary hospital facilities will be provided through Al Khor General Hospital.

3.6.3 Religious

A number of new daily mosques are required to meet the accessibility standards set by the Ministry of Awqaf and Islamic Affairs. A Juma Mosque is proposed at the district center to meet the requirements of the projected population.

Daily mosques should be easily accessible by foot with a network of safe and convenient pedestrian routes provided within each neighborhood.

The need for additional facilities will be studied on a case by case basis.

3.6.4 Emergency Response Facilities

Al Shamal has two EMS stations that cover most of the Northern Cities. Coverage outside the Northern Cities is

very poor. An advanced standards EMS facility will be provided for Al Shamal municipality, and its settlements.

3.6.5 Other Community Facilities

There are government offices, a post office and a Youth Center in Al Shamal. The provision of a Municipality Library and a Social Community Center are recommended and will be allocated based on distribution standards.

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Community Facility			Aver. Standards	Existing		Demand (2017)		Required (2017)		Required Area (m ²)
Education	Independent Schools	KG	4000	0	0	3	3	3	3	3,500
		Prim. Sch.	2 Sch. \ 15,000	2	1	2	2	-	1	18,000
	Prep Sch.	2 Sch. \ 30,000	1	1	2	2	1	1	20,000	
	Sec Sch.	2 Sch. \ 40,000	1	1	1	1	-	-	25,000	
Health	PHC		30,000	1	-	-	-	1	20,000	
	PHC –C		50,000	1	-	1	-	-	25,000	
	PHC - SML		75,000	-	-	1	-	1	15,000	
Religious	Daily mosque		1200	12	-	15	-	3	2000	
	Joma mosque		3000	3	-	6	-	3	5000	
	Grand Joma		40,000	2	-	1	-	-	10,000	
	Eid prayer		50,000	-	-	1	-	-	50,000	
Social/Cultural Facility	Post Office	local	50,000	1	-	3	-	2	1,500	
	MOI Ser.	Type C	50,000	3	-	2	-	1	3,000	
		Counter ser.	30,000	3	-	2	-	1	200	
	Library	Muni.	50,000	-	-	1	-	1	500	
		Town	>1,000	-	-	1	-	1	500	
	Youth Center	General (S)	>1,000	-	-	1	-	1	2,000 –3,000	
Social Center	SC	1,000 – 10,000	-	-	1	-	1	2,000 –5,000		
Emergenc	Civil defense	Main Station	50,000	1	-	1	-	-	5,000	
		Local Station	+1,000	-	-	2-3	-	2-3	3,000	
	Mid.Emergency	Main Station	50,000	1	-	1	-	-	200	
		Local Station	+1,000	2	-	2-3	-	-	-	
	Police Res.	Main Station	50,000	1	-	1	-	1	6,000	
		Local Station	+1,000	-	-	2-3	-	2-3	4,000	

3.7 Open Space and Sports Facilities

A key part in delivering the vision for the municipality is to enhance the supply and quality of open space.

While the municipality is characterized by large rural areas access to formal parks is limited. The current provision of parks is insufficient to meet the needs of existing and future residents with the main town park located away from the residential areas. A key issue for Northern Cities is to provide parks within walking distance of residential areas. There is also a need to provide a park and recreational facilities for residents of the industrial area.

3.7.1 Municipality Park

A proposed eco-tourism park is proposed at the heart of the coastal line which will be considered as municipality park that can serve the community and will be also a recreational destination for both local and international tourists.

3.7.2 Town Park

Currently there is a town park located to the south of Al Shamal. This park serves residents of all three settlements and also those from the wider rural area. According the current location of the existing town park outside the main urban area, another town park is proposed within the proposed town center within reach of almost all neighborhoods.

3.7.3 District Parks

Al Ruwais has an existing district park, located outside the proposed urban growth boundary. Abu Dhalouf Park is a local park that can be promoted as district park, it is an important part of the character of Abu Dhalouf, overlooking the sea and located close to the center and historic mosque. The relationship the park enjoys with the sea should be maintained. A district park is proposed in western part of al Ruwais City to serve both Al Shamal and Al Ruwais community.

3.7.4 Local Parks

There are three five local parks throughout the municipality. Overtime there will be a need to further enhance the provision of local parks throughout the urban area to ensure that residents have immediate access to a small area of open space for passive recreation.

3.7.5 Green Network

In addition to the town and district parks there are a number of smaller parks which form part of a larger green network. The Abu Dhalouf local park is located adjacent to the coast providing a valuable facility for residents of Abu Dhalouf. It is recommended that a neighborhood park be provided within Abu Dhalouf which includes sports facilities.

The coastline of the Northern Cities, with the exception of the Al Ruwais port, is largely natural. The coastal zone is characterized by shallow beaches that provide a direct connection between the residential areas and the sea.

This connection should be preserved. This will allow the cooling sea breeze to penetrate into the residential areas and the proposed town center. In addition, such an approach would ensure that some of the key unique characteristics of these seaside settlements would be retained. Any coastal route should be pedestrian oriented and not damage the natural coastline.

Access to the coastline will be preserved and enhanced through the creation of two desert corridors that connect the rural desert landscape to the coast. These desert corridors will converge north of the town center to form a large coastal landscape zone with pedestrian connections from the town center to the coast.

3.7.6 Sports Facilities

Sports Venues

Currently there is one sports club In Al Shamal Municipality; (Al Shamal Sports Club) located at the south west part that serve both the urban and rural area of the municipality.

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Al Farjan (Sports Playgrounds)



Two Al Farjan Playground exist in Al Ruwais and Al Shamal Cities. One more is proposed in Abu Dhaluf city to cover the whole municipality.

Ladies Clubs (Indoor Ladies Only sports Playgrounds)



One ladies Club is proposed in the town center that is **dedicated to women** and children to enrich their social and sports culture.

Al Shamal Public Parks Program

Park Type	Existing Parks		Standards & Guidelines			2017 (Pop. 11,236)			2032 (Pop. 17,737)		
	No	Area (ha)	Proposed Area Ranges	Average Area	Catchment Pop.	Total Demand No. 2017	2017 Gap No.	Required Area(ha)	Total Demand No. 2032	2032 Gap No.	Required Area
Neighborhood Park	0	0	0.1 - 0.25	0.2	1200	9	9	2	15	15	2.51
Local Park	3	2.2	0.4 to 2	1.2	3000	4	1	1.2	6	3	3.6
District Park	3	17	2 to 5	3.5	5000	3	0	-	3	0	-
Town Park	1	5.4	5 to 15	10	10000	1	1	10.00	1	1	10.00
Metropolitan/ Municipality Park	0	0	60 to 200	130	1 per Muni.	1	1	60.00	1	1	60.00
National Park	0	0	N/A	N/A	2 million +	N/A	N/A	N/A	N/A	N/A	N/A

Community Oriented Sports Facilities Program (District Level)

Facility Type	Facility Classification	Size		Facility Per User Group				Total No. of Facilities	
		Pitch Dimension	Sqm Plot	Mixed		Female		Quantity	sqm plot
				Quantity	sqm plot	Quantity	sqm plot		
Indoor Sports Field	Sports hall	30*36m	3,200	1	3,200	1	3,200	3	6,400
Outdoor Sports Field (Shaded)	Shaded tartan sports field	15*30m	1,350	0	0	0	0	0	0
	Artificial grass - FIFA standard	68*105m	10,550	0	0	0	0	0	0
	Double FIFA Standard/ Cricket Combined (artificial grass)	120*156m	23,075	0	0	0	0	0	0
	Artificial grass - 5 aside	25*35m	1,550	0	0	0	0	0	0
	Artificial grass - 7 aside	35*50m	3,000	0	0	0	0	0	0
Swimming Pool	Training	15*25m	4,000	1	4,000	0	-	1	4,000
	Standard	25*50m	10,000	0	0	0	0	0	0
Total No. of Additional Facilities				2	7,200	1	3,200	4	10,400

Community Oriented Sports Facilities Program (Town Level)

Facility Type	Facility Classification	Plot Size (Sqm per facility)	Facility Per User Group				Total No. of Facilities	
			Mixed		Female		Quantity	sqm plot
			Quantity	sqm plot	Quantity	sqm plot		
Tennis	Tennis Court	1,300	3	3900	1	1300	4	5200
Squash	Squash Court	350	0	0	0	0	0	0
Beach Volleyball	Beach Volleyball Field	1,500	0	0	0	0	0	0
Athletics	Track and Field	22,000	0	0	0	0	0	0
Total (sqm)			3	3,900	0	1,300	4	5,200

3.8 The Natural Environment

Al Shamal Municipality has approximately 80km of coastline, much of which is untouched natural coastline that has helped preserve sensitive marine environments. A Coastal Protection Zone has been established around the Al Shamal coast to protect the coastal habitats. Inland, most of the rural area is covered by the Northern Aquifer Protection Area.

A major Environmental Protected Area, the Al Reem EPA which is 1,189km² in area, is located in the western sector of the municipality and includes the Al Zubarah archeological site and Al Ishiriq wildlife breeding center. It features numerous important natural features such as limestone cliffs, mesas, wadis, rodah, sabkas, gravel plains and mud flats, and shallow sea waters rich in sea grass beds. Ostrich and Sand Gazelle have been reintroduced. Fauna in the area includes Hawksbill and Green Turtles, Dugong, Spiny-tailed lizard, Ethiopian Hedgehog, Red Fox and a large number of birds.

3.8.1 Climate Change and Risk Management

Sea level rises caused by climate change is one of the main threats to the coastline of Al Shamal. Low lying areas on the coast are potentially susceptible to coastal flooding through sea level rise. Urban developments and essential infrastructure, particularly utilities and emergency services should not be located in at risk areas.

To better understand the potential impacts of sea level rise on the municipality's coastline a Coastal Flood Risk

Assessment should be carried out to inform future mitigation measures, as part of the National Coastal Zone Management plan presently being prepared

3.8.2 Biodiversity

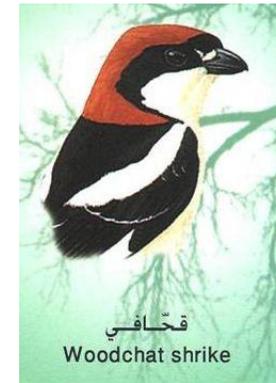
In addition to the Al Reem EPA, Al Shamal Municipality has a number of valuable natural environmental features including the marine habitats plus a number of significant wadi and rodah requiring protection from disturbance. There are also a large number of farms that add to the biodiversity value of the municipality, and opportunities to enhance biodiversity through parks, open spaces, landscaped road corridors and private gardens.

Existing open space corridors require preservation and protection from development with enhancement programs implemented to increase the biodiversity value of the corridors and major green spaces. The desert corridors proposed between the settlements of the Northern Cities should be promoted as biodiversity corridors.

Marine habitats must be protected and enhanced. The protection and replacement of mangroves can help to simulate biodiversity throughout the coastal area. It is recommended that new mangrove habitats are created to replace the biodiversity value lost through the expansion of the port.

Developers will need to demonstrate that developments will not lead to a loss of wildlife habitat however small. The loss of trees will be strongly resisted with existing private gardens reutilized as open spaces if redeveloped.

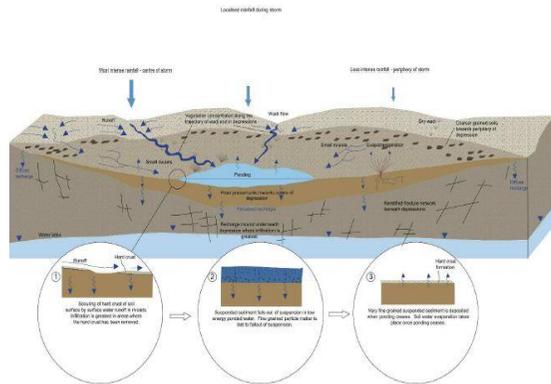
At the urban fringe, development should look to blend the rural landscape within the urban form softening the boundary and creating green corridors that extend throughout the urban areas of the municipality and into the wider surrounding desert landscape.



3.8.3 Groundwater

The Northern Aquifer covers much of the Municipality. Agricultural activity and groundwater abstraction is threatening fossil water reserves. In addition, the degradation of the natural environment through urban development and pollution is undermining natural processes which replenish water reserves. Groundwater resources within the Municipality therefore need to be protected from excessive extraction and harm from development. The wadi and rodah natural features should be considered for storing storm water run-off, reducing the need for expensive flood-mitigation infrastructure.

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Transfer Station, and from there transferred to the New Solid Waste Management Center (NSWMC) for disposal. Associated with this is the need to encourage recycling by introducing recycling facilities in neighborhoods as a means to reduce waste streams and the impacts on the environment.

The Northern Aquifer is a nationally significant asset. Groundwater depletion has adverse impacts, both on the quantity and quality of available potable water in case of emergency. Continued depletion of the groundwater resources risks salination of the groundwater resource.

Development within the Northern Aquifer will be subject to the following measures:

- All new development should be connected to a reticulated sewage system.
- No ground water extraction will be permitted without the prior permission from the Ministry of Environment.

3.8.4 Waste Management

There is no sanitary disposal site in Al Shamal at present and it is unlikely to be required because of insufficient demand. All the solid waste generated in Al Shamal Municipality should be transferred to the planned Al Khor

3.9 Heritage

The municipality is rich in heritage and conservation features. These features have an important social and economic value that forms part of the national identity of Qataris.

The Qatar Museum Authority (QMA) with the consultation of other stakeholders is developing a heritage master plan for all historical and heritage sites including Zubarah. These sites and areas will be zoned under the Zoning Regulations (Heritage Overlay) as historic areas in order to protect and enhance these national assets.

The UNESCO Al Zubarah World Heritage Site includes the archaeological site of Al-Zubarah town and its cultural landscape. It links three adjacent properties:

- i. the archaeological site of Al-Zubarah town;
- ii. the old ruined fort of Qal'at Al-Murair; and
- iii. the fort of Qal'at Al-Zubarah.



The buffer zone includes:

- i. the well-preserved traditional wells representing sustainable ways of managing underground water;
- ii. the ruined forts - ancient coastal defensive systems;
- iii. other relevant tangible evidence of human activities nearby the site;
- iv. other relevant natural features, such as the ecologically valuable sea-grass beds in the shallow inshore waters close to the proposed site.

The archaeological site of Al-Zubarah town is the largest area of early human presence in Qatar. It is located in the northwest of the peninsula, between the Zubarah fort and the sea and consists of an old fortified coastal town. Now completely abandoned, it has cast light on the history of the country and its people, showing evidence of a long-standing community where rich oyster banks and trading connections in and beyond the Gulf ensured prosperity.

3.10 Movement

Movement in Al Shamal is currently dominated by private vehicles. In the future, the municipality needs to be served by a suitably scaled public bus service for local travel and also for longer inter-city trips.

Within the Northern Cities there is a need to consider the role that public transport, cycling and walking will have in future movement patterns. There is also a need to mitigate the role and impacts of Al Ruwais port in generating additional traffic demand and the impact of heavy traffic using the port, on neighboring urban areas.



3.10.1 Public Transport

The existing public transport service to accommodate the Municipality's travel demand is limited to inter-city bus coaches. There are no local circulation public bus services at present. Provision of such public transport

services to cover the three major traffic generation areas (Northern Cities) in the municipality will encourage residents to use public transport. This in turn will lead to a reduction in the number of cars on the streets in the municipality.



The attractiveness of public bus transport services in the municipality can be greatly enhanced by providing convenient and comfortable bus stops and bus shelters, prompt time schedules, real-time information provision, and an integrated ticketing system to make the transfer between the different modes of public transport easier and more convenient. Establishment of a suitably scaled bus terminal within the Al Shamal Town Center is an essential project.

3.10.2 Street Hierarchy

The current road network within the three Northern Cities (Al Shamal, Al Ruwais and Abu Dhalouf) consists of Al

Shamal Road, East-West Streets and North-South Arterials. The streets should be landscaped and developed in a pedestrian and cycling friendly manner to ensure that new road infrastructure does not restrict pedestrian movement or have a damaging impact on the setting and amenity of residential neighborhoods.

Al Shamal Road would be downgraded to a low speed local road as it enters the Northern Cities.

The street system in the municipality is being re-structured to achieve maximum accessibility in a hierarchical manner by way of the Local Roads and Drainage Program. The streets will be developed in a pedestrian friendly manner so that new road infrastructure does not restrict pedestrian movement or have a damaging impact on the setting and amenity of residential neighborhoods.

3.10.3 Walking and Cycling

At present there are no explicit barriers to pedestrian movement in the Northern Cities.

However, it is important to revisit pedestrian and cycle connectivity. Signalized pedestrian crossings are also required with priority given to locations around mixed-use centers and community facilities such as schools and hospitals.

The National Bicycle Master Plan provides the overarching strategy for enhancing routes and facilities for cyclists in Qatar. Priority should be given to those

routes that connect the residential areas to the mixed use centers, with routes forming part of the integrated public realm design in activity nodes. The proposed Corniche plan for northern cities has provision for bicycle track that extends further to the east and west along the coast.

Developers will be required to provide facilities for cyclists in the form of cycle parking in centers and other destinations such as workplace areas. Cycle parking should also be provided as part of the public realm in mixed use centers and at public transport stations and stops as they are developed.



3.10.4 Parking

The Al Shamal Town Center promotes higher land use densities within a convenient walkable distance of many residents and a pedestrian friendly environment. The provision of local bus services throughout the municipality and a bus terminal at Al Shamal Town Center, the

number of parking spaces can be reduced below the standard parking requirements for retail, office and residential land uses. The Al Shamal Town Center center has a unique context in terms of walkable catchment from surrounding residential neighborhoods and public transport provision.

Within centers the visual impact of parking should be reduced through suitable design of parking areas and landscaping of the right of ways.

3.10.5 Transport Infrastructure

Transport infrastructure will be provided in response to the level of demand from population and economic growth.

Al Shamal Road is proposed to become a freeway with 4 lanes in each direction by 2032, and will be the main corridor linking Al Shamal City with the south of the Municipality and the rest of Qatar. The road connecting Al Ruwais with Al Zubara is proposed to become an expressway in the long term, and a freeway extension linking with the Qatar-Bahrain Causeway is planned south of the existing Al Zubara Road.

A long distance heavy railway connection from Doha to the Qatar-Bahrain Causeway is also proposed as part of the National Integrated Railway System.

3.11 Utilities

Significant utility services development will be required over the next few years in response to the expected population growth. Major local utility developments that are programmed include the new Al Shamal Sewage Treat Works, the Local Roads and Drainage Program, the rollout of the broadband network, and the implementation of the Integrated Drainage Master Plan. The water supply and sewerage network is planned to be extended to cover all urban areas in Al Shamal, whilst a Treated Sewerage Effluent (TSE) network will be extended by Ashghal to Al Shamal City and Al Zubara from the Doha North STW in Umm Slal.

Potential future major infrastructure projects of national significance include the Qatar-Bahrain Causeway project, heavy rail, a new desalination plant and additional power generation plants.

3.11.1 Water

The local water supply for Al Shamal Municipality is composed of piped water and tanker water supply. The piped water supply is fed from Ras Laffan Seawater Desalination Plant to a secondary reservoir located near Al Shamal Industrial Area which covers Al Shamal, Abu Dhalouf, Al Ruwais and Al Shamal Industrial Area. Areas not served by the piped water supply system are covered by tanker water supply from two tanker filling stations near Al Shamal Industrial Area.

A new desalination plant is proposed by Kahramaa

at Al Ghariya which will provide potable water to support urban development, and irrigation water. Providing sustainable alternative water supplies for irrigation purposes in this area is fundamental to the success of the Qatar National Food Security Program. In order to accommodate increasing water demand, Kahramaa has scheduled the construction of a water pipeline from the Ras Laffan Seawater Desalination Plant together with a distribution network for the town center.

Accordingly there are no critical issues in terms of total water supply anticipated for the municipality if the planned infrastructure program proceeds. Planning and design of the local distribution network will need to be undertaken in consideration of planning and future development of the proposed Al Shamal town center and associated street development in surrounding areas.

3.11.2 Wastewater

The existing Package Sewage Treatment Plant (PTP) facility which only receives tankered waste, has recently been expanded to a capacity of 300m³/day. This will be decommissioned in the future when replaced by a new Al Shamal Sewage Treatment Works with a capacity of 22,500m³/day. This plant is to be located approximately 15km to the west of Al Shamal approximately 150m to the south of the existing PTP. Construction is to be carried out in 3 phases of 7,500m³/day with Phase 1 to be commissioned by 2015.

A new foul sewer network serving the Al Shamal community will also need to be constructed. Wastewater

flows will be pumped via a new Pumping Station to the new Al Shamal STW for treatment.

Tanker disposal of sewage will continue at the Al Shamal STW for those properties not connected to the sewage network including for the rural settlements of Al Ghashamiyah and Ain Sinan.

Treated Sewage Effluent (TSE) will be reticulated from the Al Shamal STW to provide irrigation water to Al Shamal for open space and recreation parks, and for the irrigation of landscaping along road corridors including Al Shamal Road. TSE will potentially be available for irrigation for agriculture and in relation to National Food Security Program projects.



3.11.3 Stormwater Drainage

There are opportunities to enhance stormwater management and to limit the impact of rainfall on the

transportation network and on the coastal environment through the introduction of sustainable drainage techniques through Ashghal's Local Roads and Drainage Program. There is also the potential to use the wadi and rodah natural features to manage storm water and thereby reduce the need for expensive drainage infrastructure and allowing further promotion of the ecological value of such features.

3.11.4 Electricity

Al Shamal Municipality is currently served by the primary substation (bulk supply point substation) located near Al Shamal Industrial Area. In addition to this, a new primary substation is required in order to meet the future demand.

New power generation stations are proposed at Al Mamlana and Al Khuwair Hissan. There is also a power station proposed in the Ras Laffan Concession Area. In addition to the expansion of the EHV line network, as part of the GCC-wide 400kV grid connection, a link to Bahrain via the Causeway is also committed through the Municipality.



3.11.5 Telecommunications

New mobile phone infrastructure should be integrated to new developments minimizing its visual impact.

The Qatar National Broadband Network will be delivering an open access optic fibre network over the next 5 years. This will support the development of the broadband service offerings to consumers in the municipality from the existing telecommunications providers, Vodafone and Ooredoo.