PLANNING COMMISSION STAFF REPORT

Northwest Quadrant Master Plan
PLNPCM2009-00168

September 9, 2009

Planning and Zoning Division
Department of Community and Economic Development

Applicant: Salt Lake City Council

Staff: Everett Joyce 535-7930
everett.joyce@slcgov.com

Master Plan Designation:
Northwest Quadrant Community

Council District: District 1, Carlton Christensen and District 2, Van Turner

Applicable Land Use Regulations: *Utah Code* 10-9a-Sections 203, 204 and 401.

Notification:
- Notice mailed on August 25, 2009
- Agenda posted on the Planning Division and Utah Public Meeting Notice websites August 25, 2009
- Newspaper Notice on August 26, 2009

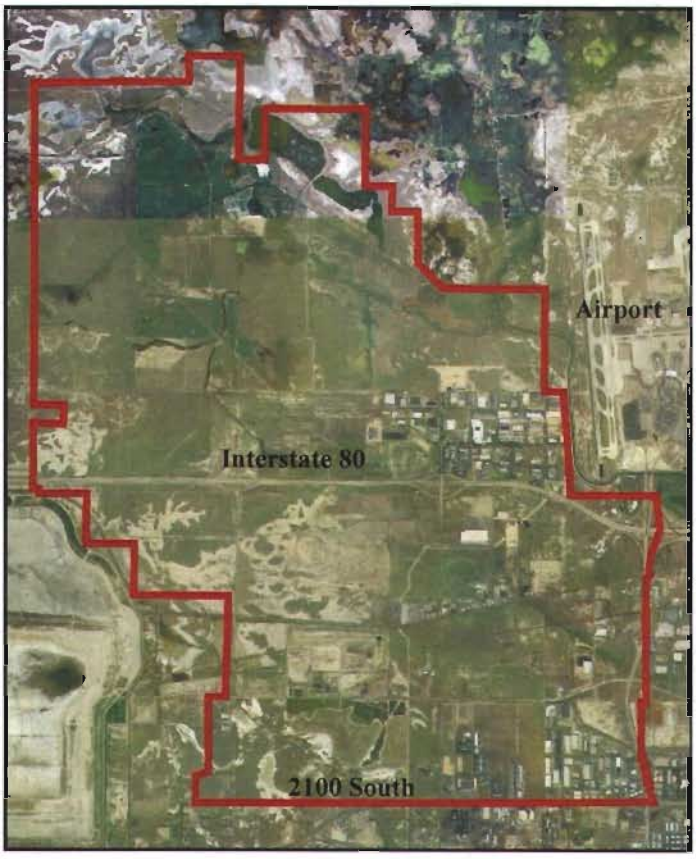
Attachments:
A. Master Plan Draft - Text Modifications
B. Report - City Council Land Use Development Questions
C. SLC Advisory Board Comments
D. Public Comments
E. Comments not included in the revised draft

Request

The Salt Lake City Council funded monies for consulting services to assist the City administration to develop a master plan for the Northwest Quadrant Community. The Northwest Quadrant includes the incorporated area of the City located between the Bangerter Highway and the west City limits (8800 West) from 2100 South to the north City limits (3700 North). The draft Northwest Quadrant Master Plan is the outcome of several years of an extensive planning process. The Planning Commission's role is to transmit a recommendation to the City Council regarding adoption of the plan.

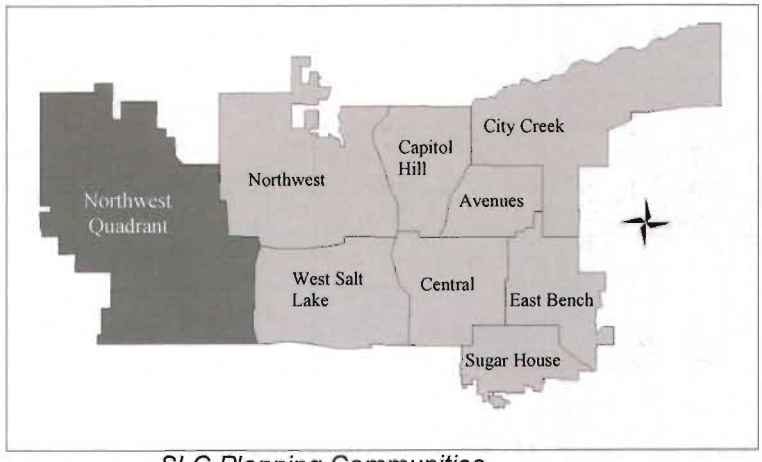
Staff Recommendation

Based on the findings listed in the staff report, it is the Planning Staff's opinion that the master plan meets the applicable standards for general plans and therefore, recommends the Planning Commission transmit a favorable recommendation to the City Council to adopt the Northwest Quadrant Master Plan.



Vicinity Map

The Northwest Quadrant includes the incorporated area of the City located between the Bangerter Highway and the west City limits (8800 West) from 2100 South to the north City limits (3700 North).



SLC Planning Communities

Background

Project Description

The Northwest Quadrant Master Plan represents an important milestone in the continuing development of Salt Lake City. The purpose of this Plan is to apply the community's shared values and goals to the establishment of a basis for rational decision making and planning policy formulation by Salt Lake City's decision-makers regarding future development of the Northwest Quadrant area.

The consulting team for the master plan project consists of several firms that create a comprehensive team to assist in the development of the master plan. The lead team is EDAW, Inc from Ft. Collins, Colorado with key staff, Bruce Meighen and Megan Moore. The secondary team is MGB+A of Salt Lake City with lead staff, Sharen Hauri. These two teams directed the overall tasks necessary to develop the Northwest Quadrant Master Plan. There are three specialty-consulting firms all of which are from Salt Lake City. These firms are responsible for the transportation (Fehr & Peers), environmental (SWCA) and economic development (Bonneville Research) elements of the master plan.

There were two subcommittees established for the development process of the Northwest Quadrant Master Plan. These committees are the Technical Resource Committee and the Master Plan Advisory Committee. The Master Plan Technical Resource Committee consisted of over 30 members including property owners, special interest groups, County and State organizations and City Department representatives. The Master Plan Advisory Committee membership included a diverse group representing various interests of the City as a whole. The individual Advisory Committee members were suggested by former Mayor Rocky Anderson and City Council members. The committee consisted of 16 members.

Planning Process
The process to develop the proposed plan began in 2006 with the start of data gathering of policies and issues from City Departments and holding stakeholder interviews. Additional stakeholder interviews were held in January 2007. A master plan Visioning Workshop was held January 2007. With the information gathered at the workshop, staff and consultants along within input from the Technical Resource and the Master Plan Advisory Committees developed a Visioning Document for the Northwest Quadrant. The Visioning Document established the framework and guided the development of the master plan.

The Visioning Document was approved by the Planning Commission on May 9, 2007 (Exhibit B). The Visioning Document was then transmitted and presented to the City Council on August 21, 2007. After the City Council briefing on the Northwest Quadrant Visioning Document the City Council requested additional information regarding a variety of issues related to development within the Northwest Quadrant area. The response to these land use development questions are provided in Exhibit C - City Council Land Use Development Questions– Northwest Quadrant Visioning Document. The Visioning Document and the land use development information were used as resources in the next step of the plan development process.

The alternatives development step created key concepts and developed alternatives for the master plan. These concepts were presented at a public Alternatives Workshop at the City Library on November 26, 2007. After community input from the Alternatives Workshop, the consultant and planning staff worked with the master plan subcommittees in the development of the draft master plan.

The draft master plan was presented at an Open House on May 21, 2009 and to the Transportation Advisory Board, the Open Space Lands Advisory Board, the Public Utilities Advisory Committee and the Airport Board. The Northwest Quadrant includes portion of four different community councils. The community councils are Jordan Meadows, Glendale, Poplar Grove and Westpointe. The chairs of the Community Councils were given notice of the May Open House.

Plan Summary

At the Plan's inception, City leaders established that: growth will occur, growth can be beneficial, judicious management of critical resources is necessary and the area's unique environmental and cultural qualities need to be preserved.

Future Land Use Map
The Northwest Quadrant Future Land Use Map illustrates a conceptual physical embodiment of the Plan's vision, framework and policies. It is based on three frameworks for a sustainable community: Environmental, Transit, and Centers. The Northwest Quadrant Master Plan is based on three frameworks for a sustainable community: Environmental, Transit, and Centers.

Environmental Framework
A significant portion of the Northwest Quadrant will form a hierarchy of natural systems; create a green edge to Salt Lake City; buffer the Great Salt Lake and Bailey's Lake; and create an internal greenway system within the developed portion of the Northwest Quadrant.

Multi-Modal Transportation Framework
Residents will be afforded a new level of mobility. A dedicated light rail line will extend from Downtown to the Salt Lake Airport and will continue through the Northwest Quadrant.

Center & Employment Districts Framework

New residential neighborhoods incorporating over 25,000 housing units create new housing stock for Salt Lake City. A variety of neighborhoods with a range of housing types for a diverse population will be minutes from Downtown and the Airport. Walkable, quality growth neighborhoods, each with its own distinct character, form the core of the community. Quality high density and mixed-use areas are well-positioned near centers and transit corridors and stations. The job to housing ratio will be substantially increased, resulting in a sustainable urbanized area.

Foundation

Through the guiding principles of the Visioning Document the master plan was developed with eight specific elements or components. Each component arose from direction given throughout City and County policy documents and input by the planning team, advisory committee, stakeholders, and the public. The result was the master plan's Goals, Guiding Principles and Policies are organized into the Plan's eight elements:

- Environmental Attributes,
- Green Design
- Neighborhoods,
- Economic Development,
- Multi-Modal Transportation,
- Parks, Trails, and Recreation,
- Cultural & Landscape Resources, and
- Public Services.

This Plan strives to balance diverse community values and establish a common vision for the creation of a new western gateway to the City – accommodating industrial use and mixed-use development through the use of new sustainable development tools, while at the same time preserving open space and important features of the Great Salt Lake ecosystem. This Plan will be the primary tool for providing guidance in the evaluation of future development of the Northwest Quadrant, and will inform daily choices and decisions about growth, housing, transportation, neighborhood development, the environment, education, and service delivery.

A Sustainable Community

The Northwest Quadrant has tremendous potential to lead the City and the region in sustainable development, which includes the implementation of energy efficiency measures to reduce nonrenewable energy reliance; enhance environmental quality; and ensure sustained economic vitality. Achieving this requires that decisions and choices made today about development in the Northwest Quadrant should not limit the choices and opportunities of future generations. To that end, the Northwest Quadrant community needs to safeguard and, in some areas, enhance resources, prevent harm to the natural environment and human health, and promote economic sustainability to benefit current and future residents.

The Northwest Quadrant community would be sustainable economically, only if it derives the maximum benefits possible from local wealth and resources and invests that wealth back into the community. It would be sustainable socially, only if it meets the basic needs of its residents for food, housing, education, employment, community services, and transportation. It would be sustainable environmentally, if it not only protects significant resources, but enhances them. In order to support such hallmarks of sustainability, there must be specific policies to encourage economic development and growth in the Northwest Quadrant area. Focused economic development efforts can lead to a strong and diversified economy resulting in well planned, viable,

and safe neighborhoods; adequate infrastructure; ample entrepreneurial opportunities; sufficient capital; a nurtured natural and cultural environment; quality jobs; and a well-educated and highly trained workforce.

Furthermore, a sustainable Northwest Quadrant community has the potential to significantly contribute to the vibrancy of the City and the region. It can develop into a complementary center to Salt Lake City's Downtown, strengthening the City's overall tax base. This can be achieved by developing a diverse mixture of businesses anchored by the Salt Lake City International Airport, including vibrant Neighborhood Centers served by neighborhood-oriented local businesses like grocery stores and doctor's offices, and by balancing employment growth and affordable housing.

The following Plan elements indicate how Salt Lake City wants to see the Northwest Quadrant develop, in a sustainable manner.

- The Plan places a strong emphasis on sustainable design, land conservation, compact development, walkability and environmental sensitivity
- Adding households to the NW Quadrant and bringing jobs and housing into balance has the potential to lower average commute distances, relieve congestion, and decrease air pollution. There is significant potential to add jobs and housing
- Interstate-80, the Mountain View Corridor, and airport light-rail line will provide tremendous transportation assets for the Northwest Quadrant to capitalize on
- The creation of open space, parks, trails, and green space will be essential for the community to attract new households and new employment

Implementation

This Plan provides the basis for the preparation of development regulations for the Northwest Quadrant. Development of this new community could begin within the next several years. One of the first steps will be the rezoning of properties from holding zones to an appropriate zoning classification. With only a few landowners, the City may consider new types of zoning (mixed –use zones, planned community zones, etc.) that provide the flexibility, creativity and predictability necessary for large-scale master planned communities. These zoning types evaluate the overall property against the Master Plan, ensuring core concepts such as transit, environmental protection, jobs, housing, and other factors are met.

The next steps after adoption of the Northwest Quadrant Master Plan is to prepare development regulations based upon appropriate studies which establish a substantial and significant nexus between the regulations and the goals and objectives of this Plan. Below are several of the key implementation actions:

1. Identify and delineate more exact parameters of the Natural Areas and Conservation Development Zone.
2. Review the Zoning District Map and initiate and process appropriate zoning petition changes to make the Zoning District Map consistent with the Future Land Use Map, or develop a new Planned Community Zone with appropriate performance standards.
3. Create new zoning district for the Natural Areas that prohibits the development of structures.
4. Amend the Lowland Conservancy and Airport Zones as appropriate.
5. Create a new zoning district and standards for the Conservation Development Zone that promotes development compatible with the natural environment.
6. Develop design standards for the Northwest Quadrant that reflect the character of the area.

Comments

Public Comments

An Open House was held on May 21, 2009 regarding the draft Northwest Quadrant Master Plan. Notice of the Open House was sent to Community Council chairs, business groups and those whose names are on the Planning Divisions List serve. Notice of the Open House was also mailed to all property owners within the Northwest Quadrant area. The notice was also posted on the City's website. The notices sent out on May 7, 2009 included a web link to a copy of the draft master plan that is posted on the City's Planning web page.

Comments on the draft master plan received from the open house and submitted to the Planning Office are included in Attachment D - Public Comment. Comments received have been reviewed by staff and those changes staff agrees with have been incorporated into the master plan text and are highlighted in red within Attachment A – Text Modifications. Comments not addressed in the revised master plan text are included in a report in Attachment E – Comments Not Included in Revised Draft.

City Department Comments

The Salt Lake City Transportation, Public Utilities, Airport, Open Space Lands, Public Services, Police and Fire Departments have been involved as members of the master plan's Technical Resource Committee and/or have reviewed the draft master plan. Comments received from City Department have been addressed and incorporated within the draft master plan.

The following individuals were members of the Technical Resource Committee for the Northwest Quadrant Master Plan.

Kathleen Anderson, *US Army Corps of Engineers*
Brian Carrington, *Property Reserve, Inc. - property owner*
Maureen Davison, *Epperson Associates- property owner*
Sammie Dickson, *SLC Mosquito Abatement*
Rulon Dutson, *Kennecott Land- property owner*
Mike Farmer, *SLC Business Advisory Board*
Russell Fox, *Kennecott Land- property owner*
Carl Duke, *Suburban Land Reserve, Inc. - property owner*
Jason Green, *Envision Utah*
Greg Gruber, *SLC Business Advisory Board*
Craig Hinckley, *Salt Lake County Planning*
Max Johnson, *Salt Lake County Planning*
Nancy Keate, *Utah Division of Wildlife Resources*
Wayne Martinson, *Audubon Society*
Kristine Naser, *SLC Department of Airports*
John McDonald, *Riverbend Holdings, Inc. - property owner*
Richard Morehouse, *Epperson Associates- property owner*
Ann Neville, *Kennecott Utah Copper – Kennecott Inland Sea Shorebird Preserve*
Christine Pedroncelli, *Epperson Associates- property owner*
Max Peterson, *SLC Engineering Division*
Brad Stewart, *SLC Public Utilities Department*
Emy Storheim, *SLC Open Space Lands Program*
Edie Trimmer, *Utah State Parks and Recreation*
Alama Uluave, *SLC School District*
Scott Weiler, *SLC Engineering Division*
Richard West, *Southshore Wetlands Management, Inc.*
Ray Whitchurch, *IBI Group, Epperson Associates Consultant- property owner*
Don White, *Zions Securities- property owner*
Carol Wong, *Salt Lake County Planning*
Steve Woods, *SLC School District*
Kevin Young, *SLC Transportation Division*

Analysis and Findings

Environmental Suitability for Development in the Northwest Quadrant

The environmental baseline depicting, where development is appropriate and the type of appropriate development was defined through the restrictions and limitations of the natural, conservation and open space areas of the Overall Framework Scenario Maps. Alternative framework maps were developed through the guiding principles of the Visioning Document and input received through an Alternative Land Use Workshop for the Northwest Quadrant.

Natural, Conservation and Open Space Areas

The proposed environmental concepts of the master plan utilizes three different green area frameworks, natural, conservation and open space areas. The different levels of the environmental framework (Green Areas) relate to wildlife habitat, wetlands and elevation. The wetland areas are defined as areas with high potential for wetlands, but the plan or the City does not classify any specific area as wetlands. Specific classification is an action of the US Army Corps of Engineers, only.

However, future detailed analysis of smaller areas will provide specific information related to environmental attributes that may modify the general environmental framework designation within specific areas. The framework scenarios are the general guiding concepts related to environmental and developmental land use activities.

Consideration of the fluctuation of the Great Salt Lake water level is a major concern relating to both protection of wildlife habitat, which areas change as the lake expands and recedes and the protection of public and private development form flooding. Therefore an elevation of 4217 feet above sea level has been established as where habitable development cannot occur below this elevation. The 4217 foot elevation includes the 4212 high water level of the Great Salt Lake plus five feet to account for wind and weave action on the lake.

In defining the natural and conservation areas it is imperative that the planning approach uses some specific numbers, elevations and the areas related to those elevations. The historic Great Salt Lake high water elevation level is 4212 foot. The development limitations elevation of 4217 foot is an existing adopted policy identified within the Northwest Community and Jordan River / Airport Master Plan. Salt Lake City adopted this policy as a means to assure the protection of health, safety and welfare within areas of potential flooding.

A quotable elevation source is from The Utah Department of Natural Resources, Great Salt Lake Planning Team, 2000, "The Utah Department of Natural Resources considers the Great Salt Lake floodplain to extend 5 feet above the historical static lake high to an elevation of 4217 feet". While this statement obviously reinforces the 4217 elevation, the City does not want to rely solely on it without any background. Additional analysis, on a property-by-property basis, would be required to determine more precisely the impacts of the lake on each property. Isolated areas below the 4217 foot elevation, but without a direct relationship to the Great Salt Lake water level may be allowed to develop.

Certain areas located between 4215' and 4217' elevations are designated as Conservation areas in the plan. These areas are designated for further study due to possible significant wetlands as identified in the Functional Assessment of Wetlands of the Salt County Shorelands SAMP. Salt Lake City has development regulations that allow for fill of two feet on developable properties. Therefore, in general a property with a 4215 foot elevation may be filled two feet and then developed. However certain areas that lie within the City's Lowland Conservancy Overlay Zone prohibit property owners from making overall site grade changes.

Developable Areas
Areas defined for potential development would still be subject to review and consideration of the existing environmental conditions that constrain development. These constraints are surface drainage, flood control, wetlands, soils, water table and seismic activity issues.

Surface Drainage, Flood Control and Wetlands
The Northwest Quadrant drains poorly. The flat nature of the land and lack of surface and subsurface drains contribute to the problem. A 1986, Salt Lake City comprehensive surface drainage study resulted in recommendations that development in this area would require the design of a comprehensive network of surface drains and regulations. The recommendations address: subsurface drainage of saturated soils, detention and containment of storm flows, drainage of impermeable surfaces, seasonal flooding control, and fresh water flows to wildlife habitats.

The State of Utah prepared a State Hazard Mitigation Plan that called for the designation of a Beneficial Development Area around the perimeter of the Great Salt Lake. The plan recommended that no development be allowed unless specific measures are taken to prevent flooding. The Beneficial Development Area is the area below the 4,217 foot elevation line and represents the most confident "safe line" beyond which the lake is not realistically expected to intrude.

Soils, Water Table and Seismic Activity
The soils of the Northwest Quadrant are characterized as dense, slow draining and susceptible to shifting, shrinking or swelling, and liquefying during seismic events. The locally shallow ground water table worsens these hazards, high amounts of alkali in the soil and presence of nearby active geological faults. Because of the soil problems, special care must be taken to assure the stability of buildings.

In order to cope with these uncertainties construction of buildings in the Northwest Quadrant should adhere to the following principles:

- The design of footings and foundations in all parts of the Northwest Quadrant should conform to generally accepted principles of construction. Special soil tests should be required when it is believed that hazards exist.
- The approval of any land subdivision will require certification by a qualified engineer identifying suitability for construction through normal building practices or if they can be made suitable through reasonable mitigation modifications.

Existing Airport and Salt Lake International Center development has occurred in similar soil, water table and liquefaction levels as the undeveloped portions of the Northwest Quadrant. The high liquefaction potential and a water table of less than 10 feet is a factor that relates to significant portions of the developed city. Areas within the Northwest and West Salt Lake Communities have successfully developed with these similar environmental conditions.

Environmental Suitability Planning Tools
The Northwest Quadrant Master Plan will provide general development policy for the community. Implementation of these policies is anticipated to occur through future zoning implementation actions. The following potential tools could be put into place to protect buffers, uplands, and wetlands as well as require review of developable areas for suitability.

- Planned Community Development Zone. The Northwest Quadrant Master Plan will provide general development policy for the community. These policies would guide future implementation actions. One concept being considered for the major undeveloped portions of the Northwest Quadrant is the

development of a Planned Community Development (PC) zoning classification. The creation and mapping of the PC zoning classification would be subject to detailed analysis that will require identification of wetlands, and appropriate and adequate buffering of environmentally sensitive lands including the identification of jurisdictional wetlands prior to the PC Zone being placed on any area designated for potential Planned Community zoning classification.

- Designation of Natural and Conservation Areas. The different levels of the environmental framework (Natural and Conservation Areas) relate to elevation and functional wetlands. The identified wetland areas are areas with high potential for jurisdictional wetlands, but the plan does not classify any specific area as wetlands. Specific wetlands classification is an action of the Army Corps of Engineers, only. The framework concepts are the general guiding concepts related to environmental and developmental land use issues. When the Northwest Quadrant Master Plan is adopted, it is through the master plan implementation process where more refined land use planning analysis with respect to environmental constraints would occur.

- Resource Protection Toolbox. Development of a Resource Protection Toolbox for buffer and barriers between desired protected resources and development is being considered. The toolbox concept would be an adaptive approach that supports preservation of ecological functions identified in the vision of sustainability for the Northwest Quadrant. The toolbox concept evaluates land use intensity and resource sensitivity to determine appropriate scale of buffering and mitigation impacts.

  The toolbox approach provides for a predetermined set of factors to evaluate more detailed and specific analysis during the implementation stage of the Northwest Quadrant Master Plan. Whether the evaluation is used for rezoning of properties, the application of a Planned Community Zone process or specific development proposals will be an aspect of the implementation of the adopted master plan.

- Lowland Conservancy Overlay: The Lowland Conservancy Overlay District is an existing zoning district that is applied to portions of the Northwest Quadrant. The purpose of the Lowland Conservancy Overlay District is to promote the public health, safety and general welfare of the present and future residents of the City and downstream drainage areas by providing for the protection, preservation, proper maintenance, and use of the City's watercourses, lakes, ponds, floodplain and wetland areas. The LC Lowland Conservancy Overlay District encompasses areas consisting of waterbodies such as streams, lakes, ponds and wetlands west of Interstate 215. Permitted uses are agricultural uses, open space and recreational uses, provided such uses are permitted in the underlying district and do not involve any grading, earthmoving, modification of site hydrology, removal of wetland vegetation or construction of permanent buildings/structures.

- Airport Flight Path Protection Overlay: The Airport Flight Path Protection Zone is an existing overlay zone that addresses incompatible land uses based on airport related operations. The Flight Path Protection Zone includes Airport Noise Influence Zones. Airport Influence Zone "A" prohibits residential and institutional uses. The Airport Influence Zone "B" requires air-circulation systems and sound attenuation for residential, institutional, hotel and motel uses. The Airport Influence Zone "C" requires air-circulation systems and sound attenuation for residential and institutional uses.

Summary

The potential Planned Community Zoning process and / or overlay zoning district approach could require that soils and hydrology information be provided as part of the process for review and approval of any planned community area or subdivision. An implementation action item of the plan can address methods to require geotechnical studies for building locations and specifically the design of footings and foundations related to the soils, water table and high liquefaction conditions existing in the area. The Lowland Conservancy overlay can

prohibit grade changes in areas below the 4217 elevation. The Airport overlays require avigation easements and notice to future property owners of related airport noise issues. With appropriate processes and regulations set in place to guide development activity, the Northwest Quadrant can have a significant amount of land suitable for development.

Code Analysis

Analysis: The Utah Code Annotated section 10-9a-204 identifies the procedures for adopting and or amending general plans. The plan should address the growth and development of land within the municipality. The code identifies several elements that may be included in the plan such as a land use, circulation, environmental protection, conservation and public services. The code also includes an adoption process that mandates a ten-day notification requirement including a notice in a newspaper of general circulation.

The State Code identifies that a General Plan or Master Plan may provide for:
(a) health, general welfare, safety, energy conservation, transportation, prosperity, civic activities, aesthetics, and recreational, educational, and cultural opportunities;
(b) the reduction of the waste of physical, financial, or human resources that result from either excessive congestion or excessive scattering of population;
(c) the efficient and economical use, conservation, and production of the supply of:
- (i) food and water; and
- (ii) drainage, sanitary, and other facilities and resources;
- (d) the use of energy conservation and solar and renewable energy resources;
- (e) the protection of urban development;
- (f) the protection or promotion of moderate income housing;
- (g) the protection and promotion of air quality;
- (h) historic preservation;
- (i) identifying future uses of land that are likely to require an expansion or significant modification of services or facilities provided by each affected entity; and
- (j) an official map.

Finding: The draft Northwest Quadrant Master Plan includes elements as allowed in the State Code and the mandated adoption procedures have been followed.

Attachment A
Northwest Quadrant Master Plan
Text Modifications

Please Note: Attachment "A" highlights the proposed text modifications to the public draft (April 2009) of the Northwest Quadrant Master Plan. A copy of the complete Public Draft of the Northwest Quadrant Master Plan Master Plan is available on the City's website at: http://www.slcgov.com/ced/planning/pages/NWQMasterPlan.htm

Plan Modifications – The following text edits are based on Planning staff response to comments received from the following sources:

1. City Advisory Board presentations
2. Master Plan Public Open House held May 21, 2009
3. Public Comments received by the Planning Office

FOUNDATION

The Northwest Quadrant, Salt Lake City's western edge, includes 19,000 acres of the last ~~prime~~ major development area within the City. This area, which is located adjacent to the Salt Lake City International Airport and the International Center, with immediate access to Interstate 80 and only minutes from Downtown (Figure 1), is strategically situated to accommodate additional growth. The area also includes important agricultural lands, industrial lands, environmentally sensitive lands (including the Great Salt Lake shorelands), ongoing mining operations, and lands needing reclamation.

Purpose

This Northwest Quadrant Master Plan represents an important milestone in the continuing development of Salt Lake City. The purpose of this Plan is to apply the community's shared values and goals to the establishment of a basis for rational decision-making and planning policy formulation by Salt Lake City's decision-makers regarding future development of the Northwest Quadrant area.

This Plan was developed through a community-based planning effort involving landowners, community leaders, Salt Lake City residents, agencies, and key interest groups. The Plan presents a future for the Northwest Quadrant based on methods of development that will sustain and support the community in a sensible and responsible manner.

This Plan strives to balance diverse community values and establish a common vision for the creation of a new western gateway to the City – accommodating industrial use and mixed-use development through the use of new sustainable development tools, while at the same time preserving open space and important features of the Great Salt Lake ecosystem.

This Plan will be the primary tool for providing guidance in the evaluation of future development of the Northwest Quadrant, and will inform daily choices and decisions about growth, housing, transportation, neighborhood development, the environment, education, and service delivery. This Plan will provide the basis for the preparation of development regulations for the Northwest Quadrant and serve as the foundation for its capital improvements program. The Plan will be used by the City Council and the City's Boards and Commissions to evaluate policy changes and make funding and budgetary decisions. City staff will refer to the Plan when evaluating development and building proposals, and take into account its guiding principles and policies when making recommendations. The Plan will also be used by residents, neighborhood groups, and developers to understand Salt Lake City's long-range plans for the Northwest Quadrant.

CONTENTS

Goals of This Master Plan

Salt Lake City's leaders are looking to the Northwest Quadrant to significantly contribute to the City's overall effort of meeting the needs of the residents of Salt Lake City, from open space amenities to new, vibrant, mixed-use neighborhoods. This Plan represents a unique opportunity to make informed decisions on a community-wide scale in an effort to create one of the greatest areas of Salt Lake City. Envision Utah's Quality Growth Strategy identified primary goals to protect the environment and maintain economic vitality and quality of life as the Greater Wasatch Area accommodates anticipated growth. Achieving this vision for the Northwest Quadrant requires clear, attainable goals that address the central issues facing the Northwest Quadrant and the City as a whole. At this Plan's inception, City leaders established that the Plan must:

- Help the City create an environment that fosters an enhanced quality of life for Salt Lake City residents;
- Ensure that the City responds effectively to citizens' social, environmental, and developmental concerns;
- Achieve rational and logical patterns of growth; and
- Maintain a desirable level of environmental quality.
- Additionally, the Plan is based on the following assumptions:
- Growth will occur
- Growth can be beneficial
- Judicious management of critical resources is necessary
- The area's unique environmental and cultural qualities need to be preserved
- The supply of essential services must be coordinated with City agencies in a cost-effective manner

Fulfilling these goals will be challenging. Nevertheless, City leaders, technical and advisory committees, stakeholders, and the public are motivated by the challenge of creating a sustainable community in an economically viable fashion, and are committed to a successful outcome. This Plan is guided by the following direction:

"Whatever occurs in this area must be based on the concepts of sustainability: environmental, social, and economic ~~and environmental~~."

Planning Process

The creation of the Northwest Quadrant's first master plan for a new sustainable community within Salt Lake City has required an unprecedented amount of community involvement. Community outreach included 15 Planning Team meetings, ~~15~~ 9 Master Plan Advisory Committee meetings, ~~6~~ 11 Technical Resource Committee meetings, 60 stakeholder interviews, work sessions with property owners and environmental groups, site visits, and presentations to the Chamber of Commerce and Salt Lake City advisory groups, including the Airport ~~Authority~~Board, Public Utilities Advisory Committee, Open Space Lands Advisory Board Transportation Advisory Board, and the Business Advisory Board as well as public hearings before the ~~City Council, and~~ Planning Commission and City Council. Two public workshops sought input from the entire Salt Lake community.

The first public meeting, a Visioning Workshop, was held in January 2007 at the Salt Lake City Main Library to define the components of a new sustainable community. The purpose of the Visioning Workshop was to outline the Vision for the Northwest Quadrant by recommending components of a sustainable community. Attendees were asked to describe the components of a sustainable community that formed the basis of the Vision.

The second public meeting, a Big Ideas Workshop, was held in November 2007, and focused on review and refinement of the new sustainable community based on three frameworks: Environmental, Transit, and Centers. These three frameworks overlay to determine where development should occur. Sustainability indicators were later identified to evaluate the success of the final Master Plan in meeting the Vision.

The public was notified of both meetings through the Salt Lake City Planning Division website, utility billings, City Council mailings, Planning ~~Department~~ Division email list, the Technical Resource Committee, Master Plan Advisory Committee, City television ads, and newspaper articles.

As described in Figure 2, the planning process contained five phases conducted over a two-year period:

Vision of a Sustainable Community

Opportunities and Constraints
Framework of a Sustainable Community
Testing Sustainability
Implementation of a Sustainable Community

FUTURE ENVISIONED

The Northwest Quadrant will be a new sustainable community that embodies the principles of sustainable development in order to:

balance and integrate the environmental, social, and economic~~, and environmental~~ components of the community;

meet the needs of existing and future generations;

respect the needs of other communities in the region and globally; and

preserve and enhance natural ecological functions.

This diverse community should be:

active, inclusive, and safe – fair, tolerant, and cohesive with a strong local culture and other shared community activities;

environmentally sensitive – providing places for people to live, work, and recreate while protecting natural resources and systems;

well-designed and built – featuring a quality built environment;

well-connected – with good transportation linking people to jobs, schools, health, other services, and Downtown Salt Lake City;

economically thriving – with a flourishing and diverse local economy;

well-served – with public, private, community, and voluntary services that are appropriate to people's needs and accessible to all; and

self-sustaining – supporting a new population without jeopardizing the City center.

INVENTORY & ANALYSIS

Physical Description

The Northwest Quadrant is a vast, flat tract of land in the western portion ~~directly west~~ of Salt Lake City, totaling approximately 29 square miles or nearly 19,000 acres. The Great Salt Lake forms a northwestern boundary for half of the Northwest Quadrant: to the west lie the Oquirrh Mountains; to the east are the Salt Lake City International Airport, the Jordan River, and the West Salt Lake Community industrial area; and Magna and West Valley City lie to the south.

Historically, ~~the vacant areas~~portions of the Northwest Quadrant, north of Interstate 80, have been used for grazing, light farming, and hunting. Today, several hundred acres include a working ranch (Gillmor) that has been recognized as a Centennial Ranch, being operated by the same family for over 100 years. In the past, large canals and ditches were dug for irrigation purposes and to carry spring runoff from the mountains to the Great Salt Lake, and more recent stormwater management systems have bifurcated the natural water regime. Habitat and scenic resources found in the area include the Bailey's Lake floodplain. While outside the Northwest Quadrant, it is noteworthy that as mitigation for mining operations, Kennecott Utah Copper has established the Inland Sea Shorebird Reserve adjacent to the western boundary.

The area adjacent to the Great Salt Lake is highly affected by seasons, drought and flood cycles, groundwater levels, changing lake levels and impacts from human activities, including recreation, vandalism, illegal dumping, noise, stormwater runoff, and closed landfills. Nearby development is comprised of a significant amount of industrial land uses, including the Salt Lake City International Airport, the International Center~~'s~~ and the Western Industrial areas' warehouses and distribution facilities, mining operations, and landfills.

Zoning & Land Use

Current Zoning

As shown in Figure 4, the Northwest Quadrant is currently zoned Agriculture, Industrial, General Commercial, and Open Space. Vacant areas are primarily zoned Industrial, Agriculture, or Open Space. The Agricultural zoning is intended to act as a holding zone until final zoning is determined, yet allows for single family development on 10,000-square-foot lots.

Other applicable regulations include the Landfill Overlay, the Airport Overlay Zone, which restricts certain development types around the airport; and the Lowland Conservancy District, which protects canals, drainages, and lowland areas from substantial development impacts.

Current Land Use

As shown in Figure 4, approximately three-quarters of the land in the Northwest Quadrant ~~is~~are undeveloped, with uses including wildlife management, ranching, farming, and brownfields (i.e., landfills needing reclamation). Thirty-five percent of the community consists of agricultural uses. A relatively small group of property owners control the majority of the Northwest Quadrant's undeveloped land, providing a unique opportunity for quality planning. Developed lands consist of light industrial, intermodal facilities, airport related uses, distribution, commercial, and office. The tailings impoundment and existing landfills are located adjacent to industrial property. A major regional rail line and extensive highway infrastructure, which exist throughout the area, support many distribution and warehouse businesses. The Lee Kay Center for hunter education and shooting range facilities, owned by Division of Wildlife Resources and located between 1350 South and 2100 South and west of 5650 West, is the largest public open space in the Northwest Quadrant.

Demographics & Businesses

The Northwest Quadrant is one of the City's key employment areas. It contains numerous industrial warehousing and distribution uses, but lacks necessary residential households to balance employment. To that end, with careful and imaginative planning, the Northwest Quadrant has potential to become the City's premier mixed-use development area. In 2007, fewer than 20 households were located in the Northwest Quadrant.

Including the International Center and the Salt Lake International Airport, over 30,000 jobs exist within and immediately adjacent to the Northwest Quadrant, reflecting a job to housing balance of 1,500 to 1. This ratio suggests an untapped opportunity for additional housing and support services to maintain a housing/employment ratio similar to the development pattern in the Wasatch Front region.

Market

Market studies and state estimates forecast a large demand for new employment uses in the region. In 20 years, Salt Lake County should expect to add approximately 400,000 new jobs, focusing on education and health services; professional and business services; government; and trade, transportation, and utilities sectors.

With the lowest vacancy rate in the County, the Northwest Quadrant has the opportunity to provide new office uses at an annual regional absorption rate of over 500,000 square feet per year. Due to the existing transportation network, large lot sizes, low vacancy rates and a focus on industrial and warehousing uses, the Northwest Quadrant could fulfill the City's need for industrial land, annually supporting over 250,000 square feet per year of industrial space. New hotel uses will also be supported in the area.

Over 25,000 households in the next 20 years could be supported by new employment areas. New housing should provide a variety of housing types and numerous price points to attract a diversity of residents to the area. New retail areas, including a large town center, could provide services to local residents.

A significant increase in housing within the Northwest Quadrant, along with employment growth, will help minimize the impacts of the region's development pattern, shorten travel times, and aid in improving the area's air quality.

Roadways & Transit

Interstate 80 bisects the Northwest Quadrant, Bangerter Highway borders the east edge, and SR-201 traverses the south edge; all provide regional access to developed sites. North of Interstate 80, large expanses of undeveloped land are served by unmaintained dirt roads.

The Utah Department of Transportation (UDOT) 2006 traffic counts, which represent the Average Annual Daily Traffic (AADT) for segments of roadway, indicate that the highest traffic volumes in the Northwest Quadrant occur on SR-201, and the lowest volumes occur on Amelia Earhart Drive within the International Center. Interstate 80 is currently underutilized and could handle larger traffic volumes. Traffic on selected segments of roadways is indicated in Figure 4.

The Utah Transit Authority (UTA) operates six bus routes, serving various destinations in the Northwest Quadrant. Routes 50, 51, 53, and 54 serve the International Center, while routes 48 and 56 serve the industrial park area at the intersection of Bangerter Highway and SR-201.

Planned Transportation Improvements

A great opportunity exists to create a multi-modal, environmentally sensitive, and well-connected transportation system that provides appropriate transportation choices. The 2006 Salt Lake City Transportation Master Plan identifies several roadway and transit improvements within and adjacent to the Northwest Quadrant.

The Mountain View Corridor is currently undergoing an Environmental Impact Statement (EIS) to determine the most appropriate location for a new North/South transportation corridor for the western side of the valley. UDOT's preferred alignment runs just west of 5600 West, and involves a system to system connection approximately halfway between the two existing interchanges on Interstate 80. The proposal also includes Bus Rapid Transit (BRT) as the most suitable transit option for integration into the Northwest Quadrant.

The future Airport Light Rail Transit line (LRT) extension should be considered as an additional opportunity for the area, and is also currently undergoing an EIS. This TRAX line could be extended from the airport through the International Center and into the identified Town Center of the Northwest Quadrant.

Kennecott's West Bench Master Plan proposes a transit corridor to follow the 7200 West alignment, connecting communities along the West Bench to Interstate 80. Although BRT is proposed initially, the opportunity to introduce an LRT line in the future remains. A connection between this LRT route and the proposed Airport LRT line would create a transit loop around the western edge of the Salt Lake Valley.

Planned improvements for arterial streets focus on increasing capacity near existing job centers, specifically by providing a "ring" road north of the International Center and improving roadways around California Avenue. Planned improvements for collector streets focus on the area between Interstate 80 and 700 South and around 5600 West, and include 5700 West, 6600 West, 5500 West, 5200 West, and 300 South.

Parks, Trails & Recreation

Due to its undeveloped nature, there is presently very little in the way of existing developed parks, trails, and recreation facilities in the Northwest Quadrant. Wingpointe Golf Course, owned by the Airport Authority and operated by Salt Lake City, is located just north of Interstate 80, adjacent to the Salt Lake City International Airport. There is also an off-street shared use trail along West North Temple and Lee Kay to the airport that connects to dedicated bike lanes on West North Temple. A dedicated trailhead for this off-street section of the Airport ~~Trail~~ trail lies at the intersection of West North Temple and North 2400 West. Due to airport security regulations, the trail is open to the public during the day but is restricted at night and during times of national emergency. The 2004 Salt Lake City Bicycle and Pedestrian Master Plan indicates a proposed trail around the west side of the airport, planned as a 10-foot wide shared use trail connecting 2200 North with the existing shared use path south of the airport. It is envisioned that besides being a popular route for bicyclists, this new route may also become a favorite for hikers and nature viewers since it passes through the large wetlands and playas along the shores of the Great Salt Lake.

The 1992 Salt Lake City Open Space Master Plan recognized that the Northwest Quadrant should be protected where necessary, and celebrated and utilized for public recreation and enjoyment where appropriate. These resources offer an opportunity to establish an entire community integrated with the landscape, whereby residents can enjoy the scenic views, recreational opportunities, and ecological functions naturally afforded to them.

Active recreation, parks, and trails are envisioned as significant components within this Master Plan, to serve all residents and promote a healthy and active lifestyle.

Schools

Currently no schools exist within the Northwest Quadrant, but with the expectation that the Northwest Quadrant will attract families with school-age children, the Northwest Quadrant could expect enrollment numbers of up to 15,000 children. Based on these figures and consistent with current Salt Lake School District standards, there is a potential need for 15 new elementary schools, ~~8~~ eight middle schools, and at least two high schools. Specific school facilities should be planned for the community, in conjunction with the school district.

Salt Lake City International Airport

The Salt Lake City International Airport is located adjacent to the Northwest Quadrant, but designated future airport expansion lies within the eastern edge. The need for a fourth parallel runway was addressed in an "Airport Layout Plan Update "study in 2006. The timeframe for the new runway is uncertain, however the study recommends that additional capacity should be considered before the airport begins to experience significant operational delays. As a proactive measure to comply with the study recommendation, the airport has begun the process of acquiring land as it becomes available, and as shown on the Future Land Use Map as the Airport Influence Zone.

THE LAND USE PLAN

The future land use framework depicted in Figure 7 illustrates a conceptual physical embodiment of the Plan's Vision. It is based on three frameworks for a sustainable community: Environmental, Transit, and Centers, all further envisioned below and illustrated in Figure 6.

Environmental Framework

A significant portion of the Northwest Quadrant will form a hierarchy of natural systems; create a green edge to Salt Lake City; buffer the Great Salt Lake and Bailey's Lake; and create an internal greenway system within the developed portion of the Northwest Quadrant.

Natural Areas, consisting of the most sensitive resources, are characterized by restricted human access and impact and form the core of the Environmental Framework. Consolidated wetland systems, key uplands, and the Lake's floodplain are included in these areas. Bailey's Lake and the edges of the Goggin Drain are within this area and could be restored, recreating the historic lake bed and enhancing wildlife habitat. Buffers, including a variety of barrier features such as open space, roads, swales, fences, and berms should be used to restrict human intrusion into the area.

Lands to be included in the Natural Areas will be identified based on characteristics described in Table EA-2.1, and through processes described in the Implementation Table, the Constraints Table and the Buffer Toolbox Framework. One of the first steps in implementing this Master Plan is to conduct the necessary field work, studies and analysis to more precisely identify and delineate the boundaries of the Natural Areas and Conservation Development Zone, as referenced in the Buffer Toolbox Framework. Such boundaries may be influenced by proposed enhancement ~~and~~ or restoration work, the intent being to consolidate areas to be protected within sensible and contiguous boundaries susceptible of efficient and effective management.

The Conservation Development Zone is intended to buffer Natural Areas while managing development. This area would allow for conservation neighborhoods and preservation of important uplands, while providing necessary park and open space areas that could include interpretive and educational components along the edge of Natural Areas. After delineation of the Natural Areas, buffers within the Conservation Development Zone will be established, based on the identification of proposed uses and using the Buffer Toolbox.

Greenways can serve as linear parks, open space and multipurpose utility corridors, connecting neighborhoods, providing green infrastructure, creating pedestrian corridors, providing active recreational uses, and creating wildlife corridors. Greenways may connect the developed areas north and south of Interstate 80 and provide links to regional trail corridors serving the greater Salt Lake Valley.

Multi-Modal Transportation Framework

Residents will be afforded a new level of mobility. A dedicated light rail line will extend from Downtown to the Salt Lake City International Airport and may continue through the Northwest Quadrant. This new corridor would run through a new Transit-Oriented Development (TOD)/ Employment Corridor, including existing businesses within the International Center, new offices and employment areas, hotels, commercial and retail, terminating at the Town Center. Light rail stations would serve the estimated 18,000 residents anticipated to live and work within a half-mile of the transit corridor. The terminus of the transit corridor would be a large Town Center, including approximately 6,000 households and 3,200 jobs. A new commuter rail stop on the south side of the Town Center would provide a regional rail connection to Tooele County. A transit loop will connect the neighborhood centers with the Town Center.

Two north-south dedicated transit routes will connect the area to the rest of the Valley. The Mountain View Corridor BRT System forms the central north-south spine, spanning over Interstate 80 to complete a critical connection. An additional north-south transit corridor along 7200 West will connect the West Bench communities to the new Town Center, the Airport, and Downtown.

Complementing convenient regional access from Interstate 80 is a fine-grain road system that will distribute traffic in a highly efficient fashion. On and off-street bike and pedestrian trails are located within all arterials and would connect to regional trails located in greenway corridors. Within the northern development area, an arterial road will surround the community, containing development within the interior of the site and creating a separation between higher impact land uses and the Conservation Development Zone.

Easy access to other modes of transit will reduce automobile trips in this community. Travel times to Downtown, the Airport, and employment centers will be under 20 minutes. Employees will be able to live in the community where they work. Doing so has the potential to lower average commute distances, relieve congestion, and decrease overall carbon impact.

Center & Employment Districts Framework

Compared to other metropolitan areas of approximately the same size, Salt Lake City could support several additional centers without competing with Downtown. The 2007 Update to the Envision Utah Values Study found that people prefer future growth within existing communities or within centers. The Northwest Quadrant is the Wasatch Front's largest opportunity to create both new Town Centers, while incorporating a compact residential and employment base in proximity to Downtown and other developed areas and existing infrastructure. Currently boasting 30,000 existing jobs within and adjacent to the Northwest Quadrant, the area already has a substantial employment base. But with a lack of residential areas, the area has been contributing to sprawl and greenfield development in outlying areas and adjacent counties. With such a significant potential to add both jobs and housing within the area, it reduces the possibility that employers and residents would locate elsewhere, outside the City and County.

Over 60,000 employees could one day work in the Northwest Quadrant. A new Town Center forms the livable core of the new community, including mid-rise buildings, walkable commercial, a high school, 6,000 households, 3,000 jobs, and a local and regional transit hub, creating an appropriate gateway to Salt Lake City.

Located approximately one mile northwest, a complementary Village Center forms a community-oriented center with walkable retail, 1,500 households, 400 jobs, schools, and civic amenities. Seven smaller Neighborhood Centers would form the heart of each residential neighborhood and provide neighborhood services, recreation centers, civic plazas, and elementary and middle schools.

The industrial base of Salt Lake City is ensured through the identification of additional industrial lands, reuse of underutilized industrial lands, redevelopment, and the cleanup of key brownfield sites. At least 60% of developed lands will remain as employment or industrial uses, protecting the employment and industrial base of Salt Lake City.

New residential neighborhoods incorporating over 25,000 households create new housing stock for Salt Lake City. Those who work in the area and Downtown will have an opportunity to live in the area. A variety of amenitized neighborhoods with a range of housing types for a diverse population will be minutes from Downtown and the Airport. Conservation-oriented neighborhoods located in the Conservation Development Zone will surpass all metrics of sustainability on the edge of the area. Walkable, quality growth neighborhoods, each with their own distinct character, form the core of the site. Quality high density and mixed-use areas are well-positioned near centers and transit corridors and stations. The job to housing ratio will be substantially increased to approximately 3 jobs per household, resulting in a sustainable urbanized area.

A New Sustainable Community

The Northwest Quadrant has tremendous potential to lead the City and the region in sustainable development, which includes the implementation of energy efficiency measures to reduce nonrenewable energy reliance; enhance environmental quality; and ensure sustained economic vitality. Achieving this requires that decisions and choices made today about development in the Northwest Quadrant should not limit the choices and opportunities of future generations. To that end, the Northwest Quadrant community needs to safeguard and, in some areas, enhance resources, prevent harm to the natural environment and human health, and promote economic sustainability to benefit current and future residents.

The Northwest Quadrant community would be sustainable economically, only if it derives the maximum benefits possible from local wealth and resources and invests that wealth back into the community. It would be sustainable socially, only if it meets the basic needs of its residents for food, housing, education, employment, community services, and transportation. It would be sustainable environmentally, if it not only protects significant resources, but enhances them. In order to support such hallmarks of sustainability, there must be specific policies to encourage economic development and growth in the Northwest Quadrant area. Focused economic development efforts can lead to a strong and diversified economy resulting in well planned, viable, and safe neighborhoods; adequate infrastructure; ample entrepreneurial opportunities; sufficient capital; a nurtured natural and cultural environment; quality jobs; and a well-educated and highly trained workforce.

Furthermore, a sustainable Northwest Quadrant community has the potential to significantly contribute to the vibrancy of the City and the region. It can develop into a complementary center to Salt Lake City's Downtown, strengthening the City's overall tax base. This can be achieved by developing a diverse mixture of businesses anchored by the Salt Lake City International Airport, including vibrant Neighborhood Centers served by neighborhood-oriented local businesses like grocery stores and doctor's offices, and by balancing employment growth and affordable housing.

The addition of the Northwest Quadrant community as one of Salt Lake City's sustainable communities will also ensure that Salt Lake City remains the core of services in the region. As such, the Salt Lake metropolitan area will enhance its regional economic competitiveness as a great place to live and do business.

Sustainability Indicators

Sustainability indicators at the community-wide level answer a question posed at the inception of this plan – can we meet the Salt Lake community's definition of a new sustainable community, environmentally, socially, and economically? This would mean that this community protects key environmental resources in perpetuity, balances jobs and housing, redevelops brownfield sites, intensifies underutilized areas and provides new social services. Found on the following page are twelve community-wide indicators that set the stage for the implementation of this community. Indicators vary from new sustainable neighborhoods to a range of protected natural areas. For many, they may also ask the next question - have we also met global standards for sustainability? The planning consultant's, EDAW,~~'s~~ recent studies demonstrate that from 50% to 80% of carbon reduction community-wide is related to one factor – transit ridership. Since the Northwest Quadrant Master Plan is premised on access to three dedicated transit systems, including a new light rail connecting to the Salt Lake City Airport and Downtown, we are able make this statement – the new Northwest Quadrant ~~Salt Lake~~ Community meets the definition for a new sustainable community; locally, nationally and globally.

GOALS, GUIDING PRINCIPLES & POLICIES

Achieving the Vision for the Northwest Quadrant requires clear, attainable goals that address the central issues facing the development area and the City as a whole. This Plan is a primary tool for guiding the future development of the community.

To achieve a balanced development approach, this Master Plan contains policies on character and design; land use; open space and the natural environment; business and economics; community services; neighborhood vitality; and transportation. While its focus is on shaping the physical form of the Northwest Quadrant area, it also includes policies on quality of life and regional growth and development.

Goals, guiding principles, policies and illustrations, applied to each of these components, help translate the overall Vision for the Northwest Quadrant into a more substantive form. Together, these goals, guiding principles, policies, and illustrations help describe the intended look and feel of the Northwest Quadrant. They should be reviewed in tandem with applicable ordinances, which are yet to be developed, to provide additional information for defining the Plan's elements.

A **"goal"** (presented in blue text) identifies components of the Vision and defines what is intended to be accomplished. A goal is broad and is not specifically measurable, but provides a tangible direction.

A **"guiding principle"** identifies a measurable component of the goal statements and may be used to differentiate specific topic areas within the broader goal statement. Each element includes principles and policies at a community-wide level and (where appropriate) additional guiding principles and policies that directly relate to specific sub-areas of the Plan.

A **"policy"** is defined as a definite course or method of action intended to guide future decisions. Generally, the policies are the most referenced portion of this Northwest Quadrant Master Plan and are used to guide the day-to-day decision making of elected officials and administrative staff. In this Plan, each policy is named and identified by letters that designate the element of the Plan, where it is located, and numbers that indicate the sequence of guiding principles and policies within each section. In the Environmental Attributes Element, for instance, a policy might be called "EA-2.1." This would be "EA," an Environmental Attributes policy under guiding principle "2,". The "1" shows it is the first policy under that guiding principle.

An **"illustration"** can accompany a policy to clarify its intent. Illustrations can occur as artistic renderings, cross-sections, reference tables, maps, etc. Illustrations are included solely to aid in understanding the depth and complexity of this Northwest Quadrant Master Plan. These graphic embellishments are typically described with terms such as "illustrative," "concept," or "example" to emphasize that several approaches could be applied to achieve a specific policy. Illustrations are called out as "Figure," followed by the element acronym for ease in referencing (i.e., Figure EA-2.3 illustrates Policy 2.3. in the Environmental Attributes Element).

Goals, guiding principles, and policies are organized into the Plan's eight elements:

Environmental Attributes (EA)

Green Design (GD)

Neighborhoods (NH)

Economic Development (ED)

Multi-Modal Transportation (MT)

Parks, Trails & Recreation (PT)

Cultural & Landscape Resources (CLR)

Public Services (PS)

Each of these elements is described below along with the associated goals, guiding principles, and policies. The bullets below the stated policy identify specific strategies for achieving the policy, and should be implemented where feasible. It is possible that proposed strategies under one policy may conflict with those under another policy, or with legal, reasonable financial, physical or other constraints. It is also possible that innovative and creative solutions may be identified for achieving the stated policy in different ways. Decision makers and planners should be flexible in reconciling any conflicts and in considering alternative or additional strategies, bearing in mind the primary goal of achieving the policy in a environmentally, socially and economical sustainable manner.

ENVIRONMENTAL ATTRIBUTES

"Protect ecological systems."

Guiding Principles

GUIDING PRINCIPLE EA-1. PRESERVE AND ENHANCE NATURAL ECOLOGICAL FUNCTIONS.

Policy EA-1.1. Encourage the protection of our global flyway.

Continue to work at local, regional, and international levels to protect ecosystems along flyways.

Support a collaboration of mechanisms for flyway conservation, both regionally and globally.

Improve knowledge of waterbird population dynamics at the global flyway scale.

Discourage loss and degradation of high-functioning Great Salt Lake wetlands within the Northwest Quadrant.

~~Enhance~~ Seek to improve high-functioning wetlands through appropriate control of exotic vegetation species.

Policy EA-1.2. Contribute to the protection of the Great Salt Lake ecosystem.

Approach the protection of the Great Salt Lake ecosystem holistically through local and regional preservation measures.

Recognize the importance of certain lands in the Northwest Quadrant to the Great Salt Lake ecosystem and as a north-south link in the global flyway.

Seek to protect high-functioning wetlands near the Great Salt Lake, both within and adjacent to the Northwest Quadrant.

Orient development away from high-functioning wetlands.

Take measures to avoid contributing to further degradation of the water quality of the Great Salt Lake.

Develop preservation priorities with conservation partners and property owners for lands to acquire and permanently protect. Coordinate with the Salt Lake City Open Space Lands Master Plan to include these sites.

Policy EA-1.3. Conserve and manage plant and animal communities to preserve biodiversity and ecosystem functions.

Maintain biodiversity by conserving important, consolidated habitat and vegetation that support and are integrally connected with the Great Salt Lake ecosystem, including high-functioning water bodies, riparian corridors, wetlands, uplands, and playas.

Protect landscapes that serve significant concentrations of wildlife and their nesting, breeding, brooding, feeding, and resting areas.

Mitigate isolated habitat and/or species disturbance through the protection and enhancement of consolidated replacement habitat.

Protect and buffer consolidated wetland areas associated with the Great Salt Lake to minimize habitat fragmentation.

Encourage re-meandering of streams, where appropriate, to restore riparian and wetland functions.

Encourage stream revegetation with appropriate native vegetation to support healthy riparian ecosystems.

Provide for wildlife movement corridors to facilitate movement across Interstate 80, other barriers, and appropriate greenways.

Adopt a conservation plan for any species that may be listed under the Endangered Species Act, the State of Utah's sensitive species list, and the Wildlife Action Plan.

Policy EA-1.4. Protect water quality and availability.

Adopt environmentally sensitive water quality control measures within the Northwest Quadrant to prevent the further degradation of existing waterways.

Preserve water quality by protecting streams, reducing erosion, and managing stormwater within the Northwest Quadrant appropriately.

Protect against potential threats to water quality, including sedimentation from flooding and pollutant risks from stormwater/sewer overload or malfunction.

Utilize natural stormwater pollution reduction solutions, such as bioswales, wetlands, pervious surfaces, and other techniques to preserve water quality where appropriate.

Policy EA-1.5. Coordinate with the Salt Lake City Open Space Lands Program for the planning and management of preserved and/or restored lands.

Include the National Audubon Society, the Inland Sea Shorebird Reserve, Nature Conservancy, Utah Waterfowl Association, Utah Open Lands, Legacy Preserve, Southshore Wetlands and Wildlife Management Inc., property owners, and land management agencies in discussions relating to long-term management of preserved areas.

Policy EA-1.6. Develop protection incentives, such as the Northwest Quadrant Buffer Toolbox (defined in Policy EA-3.1).

GUIDING PRINCIPLE EA-2. CONSERVE AND MANAGE OPEN SPACE FOR A HEALTHY NATURAL ENVIRONMENT AND ENHANCED QUALITY OF LIFE.

Policy EA-2.1. Create a system of protected lands in the Northwest Quadrant. Refer to Table EA-2.1, Characteristics of Protected Lands, for characteristics of each system.

Natural Areas. Natural Areas are areas for wildlife habitat, resource protection, and flood protection. Increased development and related human activities in these areas are discouraged to preserve the habitat qualities.

Conservation Development Zone. The Conservation Development Zone is a transition to the Natural Area and augments the protection of natural resources. These areas will serve as a buffer, and in some cases as refuge and nesting areas for shorebird species. Development will occur within this area but will be based on the Northwest Quadrant Buffer Toolbox, which considers each Natural Area's sensitivity, suggested mitigation concepts, and development intensity.

Greenways. Greenways allow residents and visitors to experience the natural environment; to view, touch, and feel the components of the natural system. Greenways will define neighborhoods and create a system that will serve as recreational trail systems, stormwater detention, and wildlife corridors.

CHARACTERISTICS OF NATURAL AREAS			
Purpose	Focus on Natural Resources Protect Wildlife, Habitat, and Native Vegetation Protect High Priority Areas		

	Restore and Enhance Natural Areas Protect Bailey's Lake Complex Protect High-Priority Areas Protect the Great Salt Lake Ecosystem		
100-Year Floodplain	A 100-year flood is the flood that statistically has a 1% chance of occurring each year. For land use planning purposes, the regulatory floodplain is usually viewed as all lands within reach of a 100-year flood. The Federal Emergency Management Agency (FEMA) produces floodplain maps, defining what's in and out of the 100-year (or "regulatory") floodplain in order to implement the National Flood Insurance Program. In addition, Salt Lake County Floodplain Hazard Regulations (Chapter 19.74) "prohibits building in flood ways but allows building in the floodplain with adherence to protection standards." Standards include anchoring, flood resistant construction materials, design of utilities to minimize infiltration of floodwaters, residential construction with lowest floor elevated to a minimum of one foot above the base flood elevation, and flood-proofing for nonresidential development below one foot above the base flood level. The 100-year floodplain is shown to occur along much of the northern portion of the Northwest Quadrant as well as extending into the northern portion of Goggin Drain. The Surplus Canal and the Great Salt Lake have not yet been mapped for FEMA flood insurance purposes. The Northwest Quadrant will need additional study to determine floodways and floodplains.		
Below 4,217' Elevation	The water surface elevation of 4,212 feet above sea level represents the recorded historic high water elevation for the Great Salt Lake, which occurred in 1986 and 1987. During this period, pumping by the West Desert Pumping Station occurred to lower the lake's surface water elevation. Water levels also reached this elevation in 1866 and 1867. The historic low water elevation for the period of record (1845-present) was recorded in 1965 at an elevation nearly 20 feet lower at 4,191 feet above sea level. The current water surface elevation is approximately 4,196.5 feet. Wind and wave action may pose a hazard risk five feet or more above the historic high water elevation, making the hazard risk elevation 4,217 feet. Salt Lake City does not permit habitable development below elevation 4,217 feet. Up to two feet of fill may be allowed through the City's site development process. Fill within the Natural Areas should only be allowed for restoration and enhancement of Natural Areas and as needed for life and safety reasons with possible exceptions for substantially isolated areas. ~~in certain areas with elevations of 4,215.~~		
Utah Sensitive Species	Species included on the Utah DNR's Utah Sensitive Species List.		
Protected Lands	Protected lands include the lowland portions north of the Bailey's Lake Meadow Mitigation Bank and the Airport Wetland Mitigation Site.		
High-Functioning Wetlands Systems	These areas include the highest functioning wetlands preliminarily identified through the Functional Assessment of Wetlands and Wildlife (SWCA, 2006). These wetland areas tend to be below the 4,217-foot elevation, within the recommended conservation area, near other sensitive wildlife habitat, and in closest proximity to the Great Salt Lake. Wetland types found in the Northwest Quadrant include: open water, emergent marsh, wet meadow, transitional wet meadow and playas. Various waterbirds, wading birds, shorebirds and several raptor species use these habitats for foraging. Much of the northern boundary of the Northwest Quadrant is located in an area identified by the Utah Division of Wildlife Resources as wetlands of state importance for a number of different animal and plant species. Additional study should be encouraged to identify the specific locations of high-functioning wetlands.		
Bailey's Lake Complex	Bailey's Lake is a geological landform that originated during a period when prehistoric Jordan River ran through the area. For thousands of years the main channel of the river flowed south of Bailey's Lake. Alluvial materials deposited as the river slowed to enter Great Salt Lake built a large delta. When the river changed course and began flowing outside its previous channels and banks, it eroded unconsolidated Lake Bonneville sediments and cut deeply to create the incised meander channel which today is referred to as Bailey's Lake (SLR, 2007). The Jordan River continued to alter its course, moving to the east to its present location, and no longer courses through Bailey's Lake. The meander channel extends over three miles in length and consists of a series of large scallop-shaped river meanders. The distance from rim to rim exceeds half a mile in some areas. The interface between the upland and Bailey's Lake is sudden, abruptly dropping in elevation. A cross sectional view of the sloped sides of the meanders shows distances ranging from 65 – 300 feet between the upper edge of the meanders down to the floor of the oxbows. A dynamic system of wetlands occurs in and throughout the relatively level bottoms of the meanders. The Bailey's Lake incised meander channel is a relatively unique feature ~~on~~ near the Great Salt Lake (SLR, 2007).		
Areas Adjacent to the Inland Sea Shorebird Reserve	The Inland Sea Shorebird Reserve was created to mitigate loss of migratory bird wetland habitat resulting from the expansion by Kennecott Utah Copper Corporation (KUCC) of the tailings ponds associated with the Magna Smelter. KUCC worked with the Utah Division of Wildlife Resources, the US Fish and Wildlife Services, the Environmental Protection Agency, the Nature Conservancy, the National Audubon Society, and the US Army Corps of Engineers on developing the site, which was opened in 1997. The area was recognized as part of an Important Bird Area (IBA) and is now part of BirdLife International's IBA		

	Program. The purpose of the program is to identify, monitor, and protect a global network of IBAs to conserve birds and other wildlife.
Recreation & Access	Controlled Limited Access No Domestic Pets Controlled Human Activity
Protection Measure	Acquisition and dedication to an accredited land trust or public agency Conservation easements with an accredited land trust or public agency Conservation easements

CHARACTERISTICS OF THE CONSERVATION DEVELOPMENT ZONE

Purpose	Conservation-Oriented Neighborhoods (see Policy NH-3.1) Upland Preservation Transition between densely populated areas and natural area, with lower density and conservation oriented housing Ranching, Agriculture and Local Food Production Interpretation and Education Wildlife Refuge Area Community Parks and Golf courses that are certified Audubon Cooperative Sanctuaries or summarily qualified
Below 4,217' Elevation	Wind and wave action could pose a hazard risk up to the elevation 4,217 feet (based on historic high lake level of 4,212 feet). 4,217 feet is the elevation used by Salt Lake City as the development limit, although there is an allowance to add two feet of fill on land above 4,215 feet to bring the elevation up to 4,217 feet. The Sacramento District Corps of Engineers (Corps) reviews and requires a permit for all activities that would affect waters of the U.S. below elevation 4,217 feet adjacent to the Great Salt Lake. Fill of areas between the 4215 – 4217 elevations should only be permitted in areas approved for development.
Sensitive Wildlife Habitats	Areas that include significant concentrations of the following key wildlife habitats or species. Key habitats include: Areas containing large concentrations of nesting colonial wading and waterbirds, which include Western Grebe, Black-Crowned Night-Heron, White- Faced Ibis, Forster's Tern, and Black Tern. These species are found in the areas of the Airport Wetland Mitigation Site, Goggin Drain and Bailey's Lake. Areas containing large concentrations of nesting colonial shorebirds include nesting Black- Necked Stilts and American Avocets. These species are found in areas of mudflats, inundated playas, wet meadows, and partially vegetated playas in areas around the Goggin Drain and Bailey's Lake. Concentrations of migrating shorebirds, which can be found in the areas of the Airport Wetland Mitigation Site, Goggin Drain and Bailey's Lake.
Areas Adjacent to the Bailey's Lake Complex	As described above under Characteristics of Natural Areas, Bailey's Lake is a geological landform that originated during a period when the prehistoric Jordan River ran through the area. Areas adjacent to the Bailey's Lake Complex should ~~be protected with~~provide an appropriate buffer from intensive development, as noted in the 2007 SLR study.
Buffers & Location of Development	Determined by the Northwest Quadrant Buffer Toolbox.
Recreation & Access	Managed access with seasonal trail closures as needed Managed human activity
Protection Measure	For those portions that are not developed or developable, develop a conservation easement with an accredited land trust or public agency.

CHARACTERISTICS OF GREENWAYS	
Purpose	Multipurpose Corridor Active Recreation Interpretation Parks/Trails Community Gardens Stormwater Detention/Utilities Defines Community's Identity Community/Neighborhood Separators Green Infrastructure Native Landscapes
Other Wetlands Systems	These areas include wetlands not classified as high-functioning according to the Functional Assessment of Wetlands and Wildlife (SWCA, 2006), and may include wetlands and significant playas within development areas.
Channels & Canals	Channels and canals in the Northwest Quadrant carry irrigation, storm, artesian well, and treated wastewater toward the Great Salt Lake. Channels and canals include the Surplus Canal, North Point Consolidated Canal, Bailey's Lake, Goggin Drain, West Branch, Brighton Drain, and Lee Creek. A series of connected paleo channels are present in the central portion of the Northwest Quadrant north of Interstate 80, and appear to have historically been connected to the Jordan River. Channels and canals are often associated with wetlands, which occur along their margins. These areas should include appropriate design to allow for water quality related functions, but may still allow trail systems.
Community/Neighborhoods Separators	In conjunction with other natural features such as channels and canals, community separators should be created between communities, and would also serve as view preservation corridors.
Parks, Commercial & Civic Use	Where practicable, parks, commercial, institutional, and civic areas should be linked by greenways.
Utility & Drainage Corridors	Where practicable, greenways should be located to coincide with natural drainage. When appropriate, drainage facilities and utilities should be placed within or adjacent to greenways.
Wildlife Corridors	Where practicable, corridors should be established to provide for wildlife movement between Natural Areas and Conservation Development Zone areas.
Recreation & Access	Open Access Encouraged Activity Domestic Pets on leash. Off-leash pets must be in designated and controlled areas only
Protection Measure	Owned and maintained through homeowners associations, government entities, or nonprofit groups.
Buffers	Barriers recommended in Buffer Toolbox Areas located within developed areas and adjacent to riparian, wetland, and natural pond areas Locations separating neighborhoods or individual communities

Table EA-2.1, Characteristics of Protected Land

~~*GUIDING PRINCIPLE EA-2. CONSERVE AND MANAGE OPEN SPACE FOR A HEALTHY NATURAL ENVIRONMENT AND ENHANCED QUALITY OF LIFE.*~~

~~Policy EA-2.1. Create a system of permanently protected lands in the Northwest Quadrant. Refer to Table EA-2.1, Characteristics of Protected Lands, for characteristics of each system.~~

~~**Natural Areas.** Natural Areas are areas for wildlife habitat, resource protection, and flood protection. Human activities in these areas are discouraged to preserve the habitat qualities.~~

~~**Conservation Development Zone.** The Conservation Development Zone is a transition to the Natural Area and augments the protection of natural resources. These areas will serve as a buffer, and in some cases as refuge and nesting areas for shorebird species. Development will occur within this area but will be based on the Northwest Quadrant Buffer Toolbox, which considers each Natural Area's sensitivity, suggested mitigation concepts, and development intensity.~~

~~**Greenways.** Greenways allow residents and visitors to experience the natural environment; to view, touch, and feel the components of the natural system. Greenways will define neighborhoods and create a system that will serve as recreational trail systems, stormwater detention, and wildlife corridors.~~

Policy EA-2.2. Ensure long-term management of native vegetation, wildlife, habitats, water bodies, and wetlands.

Encourage adequate funding and the creation of funding mechanisms to ensure the long-term management of protected areas.

For areas protected by conservation easements, determine who will own the easement, manage and monitor the area, and ultimately be responsible for funding maintenance.

GUIDING PRINCIPLE EA-3. MANAGE ACCESS TO SENSITIVE RESOURCES.

Policy EA-3.1. Protect the Natural Areas through the use of buffers designed in accordance with the Buffer Toolbox.

The Buffer Toolbox will provide the developer with the flexibility required to develop land adjacent to Natural Areas (see Policy EA-2.1, System of Protected Lands) within the Conservation Development Zone. These resource protection parameters are not "one size fits all" solutions. Developers can be flexible to react to market forces and be creative in developing solutions to protect, enhance, and create wetland and wildlife habitat. The size and nature of the buffers will be determined based on the resource type and land use intensity, and may be supported by additional study and review of specific sites. (See Buffer Toolbox at page 31).

The developer can propose a land use type with an understanding that the proposed land use type and the presence of various resources will require different buffers. The range of buffer distances can be reduced by changing the nature of protection, such as using barriers and visual screens.

The resulting buffer distances from the Natural Area and within the Conservation Development Zone will be determined based on factors identified in the Buffer Toolbox, including available data and demonstrable need, as well as input from Salt Lake City and other resource agencies and stakeholders.

Policy EA-3.2. Create buffers from high-functioning, consolidated nesting areas with large concentrations of wildlife sensitive to human and domestic animal intrusion.

Utilize the Northwest Quadrant Buffer Toolbox to protect Natural Areas.

Limit human activity in high-functioning consolidated nesting areas within ~~in~~ Natural Areas.

Prohibit domestic animal activity in Natural Areas, excluding ranching and farming activities.

Limit certain types of human development in the Conservation Development Zone.

Promote human use of developed areas and greenways.

Encourage and incentivize the consolidation and enhancement of habitats to maximize wildlife benefits, especially within the Natural Area.

Mitigate isolated habitat and/or species disturbance through the protection and enhancement of consolidated replacement habitat.

Utilize barriers such as natural features, open space, moats, berms, swales, roads, and fencing to protect sensitive areas.

GUIDING PRINCIPLE EA-4. PROTECT HUMAN LIFE AND PROPERTY BY MINIMIZING HAZARDS.

Policy EA-4.1. As required by City ordinance, regulate development within the 100-year floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA) or state and local floodplain management.

Policy EA-4.2. Restrict occupied development below the elevation of 4,217 feet, consistent with City code.

Policy EA-4.3. Require developers to provide purchasers such disclosure statements of hazards and nuisances (i.e., unremediated brownfields, tailings containment, odor, insects, and noise due to the Salt Lake International Airport, Duck Club, and industrial areas adjacencies) as may be required by law.

GUIDING PRINCIPLE EA-5. RESTORE NATIVE HABITATS.

Policy EA-5.1. Encourage the restoration of native habitats, water bodies, and wetlands. Use only native plants and control invasive species in preserved areas.

Policy EA-5.2. Encourage and incentivize the cleanup of brownfield sites and landfills.

Policy EA-5.3. Avoid disturbance or impacts to consolidated high-functioning wetlands or playa habitats. Any such impacts, and impacts to isolated or unconsolidated habitats and/or species, will be compensated by on-site or off-site acquisition or restoration of equal or greater amounts.

Policy EA-5.4. Encourage the restoration of the Bailey's Lake Complex.

Restoration has the potential to benefit some categories of birds, including:

- Any federally designated endangered and threatened species.
- Utah State Sensitive Species List wildlife species of concern, including the bald eagle, American white pelican, and long-billed curlew.
- Species listed under the Migratory Bird Treaty Act, including the American avocet, peregrine falcon, etc.
- Species listed under the Bald and Golden Eagle Protection Act.
- Nesting colonial wading and waterbirds, including the American white pelican, cormorant, grebe, heron, egret, gull, tern, and ibis.
- Nesting colonial shorebirds, including the American avocet and stilt.
- Concentrations of migratory shorebirds, including the American avocet, stilt, dowitcher, yellowlegs, sandpiper, and plover.
- Concentrations of migratory waterfowl, including the green-winged teal, mallard, northern pintail, cinnamon teal, northern shoveler, gadwall, and American widgeon.
- Concentrations of migratory wading birds, including the American white pelican, ibis, egret, and heron.
- Guilds, including the snowy plover, migrating swallows, and peregrine falcon.

Restoration activities could include:

- Designation of the Bailey's Lake Complex and associated buffer as part of the Salt Lake City Open Space Lands Program.
- Creation of a permanent conservation easement/ donation of lands to an accredited land conservation group, and/or the Salt Lake City Open Space Lands Program.
- Restoration of areas inside the Bailey's Lake Complex.
- Augmentation of water in key locations to improve wetland systems.
- Management of invasive weeds.
- Management of terrestrial species.
- Protection of managed wetlands north of the Goggin Drain.
- Creation of buffers.
- Creation of an adaptive management plan, which would seek to include long-billed curlew protection within the Bailey's Lake Complex and associated buffers.

GUIDING PRINCIPLE EA-6. FOSTER PUBLIC UNDERSTANDING AND STEWARDSHIP OF THE NATURAL ENVIRONMENT.

Policy EA-6.1. Create a sense of place by preserving areas near the Great Salt Lake, allowing the public to view and participate in the enjoyment of natural resources.

Policy EA-6.2. Develop opportunities to encounter the natural environment in order to appreciate and learn from it.

Encourage the development of education curricula and programs focused on the Great Salt Lake.

Encourage the development of interpretive features, such as signage, trails, boardwalks, and viewing towers.

Highlight the Lee Creek Area as a destination for people to come see the Great Salt Lake in Salt Lake County

GREEN DESIGN

"Conserve water and energy resources, enhance air and water quality, and protect natural environments."

Guiding Principles

GUIDING PRINCIPLE GD-1. DEVELOP THE NORTHWEST QUADRANT IN AN ENVIRONMENTALLY SUSTAINABLE MANNER.

Policy GD-1.1. Establish sustainable development principles and best management practices to set the standard of development for Salt Lake City and the Great Salt Lake ecosystem.

Encourage LEED design principles, including LEED Neighborhood Development and LEED Site Design, along with consideration of the developing Sustainable Site Initiative.

Establish best practices for construction to protect conservation areas and buffers from damage during the construction and development process.

In connection with other considerations, reduce light pollution in sensitive nighttime environments by utilizing full or near full cutoff luminaries, low-reflectance surfaces and low-angle spotlights, consistent with City CRT objectives and requirements.

Utilize mosquito abatement technologies that reduce impacts on natural systems and wildlife.

Prohibit introduction of invasive plant species.

~~Utilize~~ Seek to utilize integrated pest management where appropriate.

Seek to control wildlife and domestic pet conflicts with environmental design or policies that could prevent domestic animals, pests (such as raccoons, skunk, and fox), and edge species from disturbing conservation areas. Domestic pets should not be allowed outside of developed areas within Conservation Areas except when on leash.

Engage in active weed management, and invasive terrestrial species management.

Build infrastructure to minimize impacts on wildlife and natural systems, such as natural stormwater retention and dispersion, underground power lines and wildlife crossings under roads where appropriate.

GUIDING PRINCIPLE GD-2. ADDRESS FUTURE CONSIDERATIONS FOR CLIMATE CHANGE.

Policy GD 2.1. Attempt to reduce the carbon footprint of those who would live or work in the Northwest Quadrant through low impact development (LID) and green design techniques.

GUIDING PRINCIPLE GD-3. UTILIZE INNOVATIVE DESIGN TO CONSERVE LAND, WATER AND ENERGY.

Policy GD-3.1. Encourage compact neighborhoods that promote less auto-dependence, more green space conservation, and better water efficiency and protection, while allowing for a variety of housing types, styles, sizes, and designs.

Policy GD-3.2. Encourage the use of alternative methods of transportation by providing ample bicycle storage facilities, convenient access to public transportation, and preferred parking for carpools and low/alternative fuel vehicles.

Policy GD-3.3. Encourage environmentally friendly landscaping and irrigation practices.

Use appropriate landscaping for the area that does not require extensive modifications to the native soils.

Implement green infrastructure options that can enhance tree health and permanence.

Use native, adaptive, and drought/ salt-tolerant vegetation for landscaping.

Minimize irrigated landscape areas and utilize naturalized swales.

Encourage the maintaining of native soils and native landscaping in large public areas.

Reduce heat islands to minimize impact on microclimate and human and wildlife habitat through the following mechanisms where feasible:

Shade hardscape.

Use light-colored roofing.

Install vegetated roofs, i.e., green roofs.

Use light-colored paving materials.

Minimize the size of parking lots.

Reduce street widths.

Policy GD-3.4. Develop a drought mitigation, conservation plan that will establish a level of preparedness for prolonged periods of less than average rainfall.

Encourage improved landscape performance in periods of water shortage to lessen initial infrastructure cost.

Generate and implement a conservation plan with specific targets for water use.

~~Offer financial incentives to~~Require property developers in all stages of development to ~~encourage~~ implement~~ation~~ and use ~~of~~ the conservation plan.

Devise strategies for decreased water use during drought periods.

GUIDING PRINCIPLE GD-4. ENCOURAGE NEW DEVELOPMENT TO UTILIZE CURRENT ENVIRONMENTALLY FRIENDLY MATERIALS, TECHNOLOGY AND CONSTRUCTION PRACTICES.

Policy GD-4.1. Provide incentives for development that utilize on-site renewable energy sources, such as solar, wind, biomass, ~~low~~and low-impact hydro or geothermal energy.

Policy GD-4.2. ~~Provide incentives for~~Encourage development ~~that~~ to include water efficient design.

Encourage the reuse of gray water for nonpotable purposes.

Encourage high efficiency irrigation systems.

GUIDING PRINCIPLE GD-5. UTILIZE GREEN BUILDING TECHNOLOGIES AND PRACTICES.

Policy GD-5.1. Encourage the design and construction of buildings to meet LEED-NC Gold standards.

Encourage the incorporation of energy reduction strategies:

Orient buildings parallel to or within 15° of the east-west axis.

~~Maximize~~ Use natural ventilation in buildings.

~~Maximize~~ Use natural daylighting in buildings.

~~Install~~ Use high efficiency lighting control systems.

~~Install~~ Use high efficiency thermal control systems.

~~Install~~ Allow solar panels.

~~Install~~ Allow wind turbines.

Encourage the incorporation of water conservation measures:

Install high efficiency irrigation systems.

Enforce responsive and efficient irrigation system management.

Utilize low water use plumbing fixtures and appliances to minimize interior water demand.

Utilize recycled wastewater or recycled gray water for irrigation uses.

Explore opportunities to construct a secondary water system (purple pipe system) for irrigation purposes using a secondary water source.

Encourage the use of recycled, salvaged, rapidly renewable, and locally produced materials.

Encourage the use of sealants, finishes, paints, and flooring that have zero or low volatile organic compound (VOC) content.

~~Provide incentives to~~Encourage builders that divert significant amounts of their waste (>50 percent) away from landfills through reuse or recycling.

Policy GD-5.2. Design residential buildings to Energy Star® Qualified Home standards.

GUIDING PRINCIPLE GD-6. IMPLEMENT A COMPREHENSIVE STORMWATER MANAGEMENT PLAN TO REDUCE FLOODING, EROSION AND POLLUTANT LOADS IN STREAMS AND WATER BODIES.

Policy GD-6.1. Encourage stormwater management that infiltrates, reuses, or evaporates or transpires rainfall, decreasing runoff volume.

Policy GD-6.2. Implement stormwater management infrastructure on local and neighborhood levels to minimize the size of large-scale collective detention and retention basins.

Policy GD-6.3. Incorporate greenways (see Policy EA-2.1, System of Protected Lands) throughout new developments to serve as multipurpose corridors.

Incorporate appropriate recreation areas, stormwater management, and detention and utility infrastructure corridors within greenway systems.

Incorporate appropriate transportation systems, trails, and bike paths within large pipeline, power utility, and stormwater management corridors.

Utilize small stormwater detention areas as park space.

Policy GD-6.4. Use detention and drainage areas to intercept and filter stormwater.

Policy GD-6.5. Use water reuse systems to maximize water efficiency in the community and to decrease the size of supply and conveyance infrastructure.

Policy GD-6.6. Utilize bioswales in place of traditional curb and gutter systems to manage surface runoff.

GUIDING PRINCIPLE GD-7. IMPLEMENT AND MANAGE A WASTE CONTROL SYSTEM, INCORPORATING RECYCLING AND MINIMIZING OTHER NEGATIVE IMPACTS TO AREA.

GUIDING PRINCIPLE GD-8. PROVIDE HOUSING IN PROXIMITY TO JOBS TO REDUCE TRAVEL DISTANCES, CONGESTION, AIR POLLUTION, AND GREENHOUSE GASES.

Policy GD-8.1. Seek to balance the significant employment that currently exists in the area by adding substantial housing of a variety of sizes and price points to allow workers of various income levels to live near where they work.

Policy GD-8.2. Design mixed-use communities where people can travel to work, stores, or recreation by short auto trips, and where many people can walk or bike.

Policy GD-8.3. Develop sufficient housing in the Northwest Quadrant to allow ~~people to live~~a community close to downtown Salt Lake City ~~and~~ that utilizes transit and existing freeway capacity to travel to downtown Salt Lake City, ~~in order to prevent~~rather than having such housing being developed in more distant locations outside of the Salt Lake Valley.

Policy GD-8.4. Extend multi-modal transportation network to maximize accessibility from residences, jobs, and commercial establishments.

NEIGHBORHOODS

"Create residential communities that allow residents to live, work and play in their neighborhoods, and foster a sense of community."

Guiding Principles

GUIDING PRINCIPLE NH-1. CREATE VIBRANT, SAFE, HIGHLY CONNECTED AND WALKABLE NEIGHBORHOODS.

Policy NH-1.1. Provide appealing and comfortable pedestrian street environments to promote pedestrian activity.

Provide direct and safe connections for pedestrians and bicyclists to local destinations and centers.

Orient building entries to public spaces, such as streets, squares, parks, or plazas.

Incorporate traffic control measures, such as traffic signals, where warranted.

Minimize off-street parking lots.

Provide bicycle and/or carpool parking spaces.

Policy NH-1.2. Increase walkability by creating compact communities; attractive destinations; and convenient, direct routes.

Develop a street network that supports a range of transportation alternatives, such as low-speed, highly connected streets that include bike lanes and sidewalks.

Locate the majority of residential areas within walking distance of a Neighborhood Center (1/4 to 1/2 mile).

Reduce the community's overall vehicle miles traveled by providing pedestrian access to a variety of services.

Promote public health through physical activity by facilitating walking to school, employment, shopping, and other destinations with a highly connected trail and on-street bike route network.

Provide a variety of recreational uses close to work and home to encourage walking, physical activity, and time spent outdoors.

Locate the majority of civic spaces, pocket parks, greens, plazas, or squares within 1/4 mile of residential areas and businesses.

Locate neighborhood recreation facilities within 1/4 mile of the majority of residential areas and centers.

Locate multi-use trails within 1/4 mile of the majority of residential areas and centers.

Locate community recreation facilities (e.g., general playfields, soccer, baseball, basketball, and other sports fields) within 1/2-mile walking distance of the majority of residential areas and centers.

Policy NH-1.3. Provide access to transit for the majority of neighborhood types through a transit loop that connects Neighborhood Centers with the Town Center.

GUIDING PRINCIPLE NH-2. ENCOURAGE SOCIAL INTERACTION AND SUPPORT FAMILY AND COMMUNITY RELATIONSHIPS.

Policy NH-2.1. Encourage community participation in the design and planning process.

Policy NH-2.2. Design communities to create life-sustaining environments, providing residents with recreational and healthy living opportunities.

Create neighborhood areas that provide attractive public spaces, such as civic spaces, community centers, parks, plazas, community gardens, and natural greenways.

Emphasize walk-to destinations, including schools, parks, restaurants, and retail throughout the community.

Promote community-based and local food production to minimize the environmental impacts from transporting food long distances, and to increase direct access to fresh foods.

Encourage appropriate interaction with and appreciation of the natural environment.

Strengthen land use connections to greenways and amenities through building orientation.

GUIDING PRINCIPLE NH-3. CREATE NEIGHBORHOODS THAT INCLUDE RESIDENTS OF ALL AGES, ECONOMIC LEVELS AND LIFESTYLES.

Policy NH-3.1. Include high quality housing options across price points, from smaller, high density attached units, live-work units, accessory dwelling units to more traditional single family homes, consistent with market demand.

Housing Type	Primary Product Types & Amenities	Average Density	Location

Low Density Mixed-Use Neighborhood	Single Family Detached, Patio Homes, Townhomes, Accessory Dwelling Units, Neighborhood Commercial / Mixed Use, Parks, Elementary Schools, Transit Access	5 - 8 Dwellings Units Per Acre (Gross)	Walking distance to Centers Walking distance to transit stops
Medium Density Mixed-Use Neighborhood & Neighbor-hood Center	Single Family Detached, Townhomes, Patio Homes, Accessory Dwelling Units, Live-Work Units, Multi-Family Units, Neighborhood Commercial, Community Commercial, Parks, Elementary Schools, ~~Apartments/Condos~~, Transit Access	8 - 15 Dwelling Units Per Acre (Gross)	Walking distance to Centers Adjacent to transit systems Adjacent to connectors
High Density Residential Mixed Use, Neighborhood/ Village Center	Townhomes, Multi-Family Units, Live-Work Units, Community Commercial, Parks, Middle Schools, ~~Apartments/Condos,~~ Transit Access	15 - 30 Dwelling Units Per Acre (Gross)	Within or adjacent to Centers Adjacent to transit systems Adjacent to arterials
TOD Residential Mixed-Use Neighborhood/ Town Center	Multi-Family Units, Live-work Units, Mixed Use, Community Commercial, Parks, High Schools, ~~Apartments/Condos,~~ Transit Access	20 - 50 Dwelling Units Per Acre (Gross)	Within Centers Adjacent to transit systems Adjacent to arterials
Conservation-Oriented Neighborhood	Low-to-Medium Density Residential clustered in appropriate locations with additional sustainable design criteria, (e.g., low level street lighting, no ~~cats~~domestic pets off-leash in public areas, native plant materials, color palettes, preservation of wildlife corridors, etc.)	1 - 8 Dwelling Units Per Acre (Gross), with 30% or greater open space including buffers, and exclusive of Natural Areas.	Within Conservation Development Zone At edges of development to buffer Natural Areas Development zones based on Toolbox

Policy NH-3.2. Enable a wide spectrum of people, regardless of age or ability, to more easily participate in their community life by increasing the proportion of areas that are usable by people of diverse abilities.

For each residential unit type developed, design units to comply with the Fair Housing Amendments Act (FHAA) and Section 504 of the Rehabilitation Act (Rehabilitation Act), as applicable.

Travel paths between residential units and other buildings, facilities, and rights-of-way shall comply with the accessible design provisions of the FHAA and Rehabilitation Act, as applicable.

For any nonresidential areas, apply the accessible design provisions of the American with Disabilities Act (ADA) to facilities and rights-of-way.

Policy NH-3.3. Provide housing densities that complement alternative and public transportation. Mixed-use areas and activity centers near transit stations will likely include both rental and for-sale units; and may include a vertical mix of uses, where residential units are located above ground floor retail and office uses.

Policy NH-3.4. Provide for live-work opportunities in mixed-use areas near activity centers and transit stations.

GUIDING PRINCIPLE NH-4. ENCOURAGE HIGH QUALITY CONSTRUCTION AND DESIGN OF ALL NEW NEIGHBORHOODS.

Policy NH-4.1. Promote distinct community identity by incorporating quality architectural styles, landscapes, and details into residential units, especially those unique to the Great Salt Lake and Salt Lake City area.

Incorporate landscapes that are compatible with groundwater and soil conditions of the Great Salt Lake area.

Encourage variation in house models, lot width and depth, and block size and shape to avoid a monotonous streetscape and limit the appearance of standardized subdivisions.

Policy NH-4.2. Encourage green design construction techniques, particularly the standards of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) principles.

Policy NH-4.3. Create community separators between communities to create a sense of arrival and identity and to highlight natural features. Community separators provide a noticeable distinction between large communities.

Develop a hierarchy of gateways, signage, or other identifiers that reinforce the identity of the Northwest Quadrant.

GUIDING PRINCIPLE NH-5. INTEGRATE THE NATURAL AND BUILT ENVIRONMENTS.

Policy NH-5.1. Concentrate development in unconstrained portions of the property.

Locate conservation development and cluster development in the conservation zone.

Utilize barriers, such as arterial roads, vegetated swales, fences, berms, signage, and other tools to encourage use away from the edge of the site.

Policy NH-5.2. Preserve existing critical ecological connections throughout the built environment (see Policy EA-2.1, System of Protected Lands), particularly along riparian corridors and in high-functioning wetland areas.

Utilize bridges or underpasses in an effort to provide continuous greenway corridors (see Policy EA-2.1, System of Protected Lands) where streets bisect significant habitat areas.

Policy NH-5.3. Incorporate and emphasize the area's natural elements when making architectural and design choices to preserve the visual character of the area.

ECONOMIC DEVELOPMENT

"Encourage a balanced community with a diversity of employment opportunities."

Guiding Principles

GUIDING PRINCIPLE ED-1. CREATE A HIERARCHY OF PEDESTRIAN ORIENTED, NEIGHBORHOOD AND VILLAGE CENTERS WITH A DIVERSITY OF COMMERCIAL, OFFICE, EMPLOYMENT AND HOUSING OPPORTUNITIES.

Policy ED-1.1. Create pedestrian-oriented Town, Village and Neighborhood Centers in the area.

Centers should be pedestrian friendly through the use of planting, coordinated site furnishings, pedestrian-scale lighting and building facades, and awnings for shade and protection from weather.

Centers should include opportunities for gathering places, like plazas, sidewalk seating areas, and courtyards.

Connect the Northwest Quadrant centers and other employment areas to Downtown Salt Lake City and other centers with roads, trails, and transit.

CENTER CHARACTERISTICS			
ELEMENTS	TOWN CENTER	VILLAGE CENTER	NEIGHBORHOOD CENTER
Recommended Number of Centers	1	1 - 2	4 - 10
Approximate Distance Between Centers	N/A	1 - 2 Miles	½ Mile - 1 Mile

Character	Regional Serving	Regional Serving	Neighborhood Serving
Commercial	Large Retail and General Merchandise, Restaurants, Lodging, Entertainment, Employment	Retail and General Merchandise, Restaurants, Small Lodging, Entertainment, Employment	Locally-Serving Retail, Grocery Store, Restaurants
Office	Large-scale office	Mid-scale office	Small-scale / mixed-use
Civic	Community Parks, Recreation Center, Library, Municipal Services, Places of Worship, Festival Space	Community Parks, Recreation Center, Library, Municipal Services, Places of Worship, Festival Space	Neighborhood Parks, Recreation Center, Library, Places of Worship
Education	High School	High or Middle School	Middle or Elementary School
Transit	Transit Center	Transit Access	Transit Access
Supporting Residential	Medium-, High-Density, Mixed-Use Residential	Low-, Medium-, High-Density, Mixed-Use Residential	Cluster, Low-, Medium-, High-Density Neighborhoods, Mixed-Use Residential
Approximate Walking Distance to the Majority of Residential	¼ to ½ mile	¼ to ½ mile	¼ mile

GUIDING PRINCIPLE ED-2. PRESERVE AREAS FOR FUTURE INDUSTRIAL, MANUFACTURING, RESEARCH OR DISTRIBUTION.

Policy ED-2.1. Preserve land for industrial expansion south of Interstate 80, ensuring the City's economic sustainability.

Policy ED-2.2. Encourage the continuation and expansion of the Salt Lake International Airport and airport-related industry.

Reserve some land adjacent to the Airport to allow for future runway expansion.

Coordinate with the Airport on future expansion plans.

Maintain the high level of compatible land uses that exist around the Airport today.

Capitalize on the future TRAX line that will connect the Airport and Downtown, and extend it through the TOD/ Employment Corridor and into the Town Center.

Policy ED-2.3. Encourage the continuation of mining operations in an environmentally responsible manner.

Recognize the significant social, cultural, and economic contribution that the mining industry has had on the well-being of the State of Utah and the Salt Lake Valley.

Reserve land adjacent to existing mining operations to allow for future expansions.

Recognize that land adjacent to the tailings impoundment may be utilized for future expansion.

Coordinate with Kennecott and other affected owners regarding future expansion plans.

Maintain the level of compatible land uses that currently exist around the tailings impoundment.

Consider social, economic, and environmental impacts and benefits when considering proposals to expand mining operations.

Comply with federal and state rules and regulations for the expansion, management, monitoring, reclamation, and cleanup of mining operations.

Utilize buffers and /or other protective features between new development and existing industries, such as fencing, screening, barriers, and earth berms.

Policy ED-2.4. Create additional economic opportunities by linking existing and future jobs with nearby transportation and housing options.

Policy ED-2.5. Use appropriate industrial and office uses to buffer natural resources.

GUIDING PRINCIPLE ED-3. CONCENTRATE COMMERCIAL AND INDUSTRIAL DEVELOPMENT NEAR MAJOR TRANSPORTATION CORRIDORS.

Policy ED-3.1. Encourage industrial, manufacturing, regional retail, and major office uses adjacent to Interstate 80, near existing industrial lands, the Airport, and around the intermodal rail facility.

Create new transit-oriented corridors adjacent to proposed transit systems.

Policy ED-3.2. Create a more diverse and vibrant environment within commercial areas.

Encourage architectural diversity along commercial street frontage.

Encourage signage that identifies businesses without dominating the setting.

Within large business parks, incorporate prominent gateway features at high visibility locations and along roadways, and screen maintenance, service, and parking areas with landscaping and materials consistent with the building's design elements to create an attractive environment.

Design commercial buildings, public facilities, and multifamily residential developments with architectural character that complements the natural surroundings.

Design shared parking within large developments, and divide large parking lots into several smaller lots with landscaping.

Locate off-street parking facilities at the side or rear of buildings to create pedestrian-friendly streetscapes.

GUIDING PRINCIPLE ED-4. EXPAND THE REGION'S ECONOMIC BASE BY SUPPORTING BUSINESS RECRUITMENT AND DEVELOPMENT AND JOB CREATION.

Policy ED-4.1. Recruit new business enterprise that would bring higher wages and primary jobs to the Northwest Quadrant.

Encourage employers to establish or relocate to the area to increase its long-term economic sustainability.

Support ongoing efforts to encourage nonretail, small business development with programs that include management training, employee training, mentorships, and similar programs.

GUIDING PRINCIPLE ED-5. PROVIDE HOUSING OPPORTUNITIES THAT SUPPORT ECONOMIC DEVELOPMENT AND HELP ATTRACT HIGH-WAGE BUSINESSES.

Policy ED-5.1. Develop a variety of housing types that allow workers of various wage levels to live close to their employment.

~~Policy ED-5.2. Encourage the development of "executive" housing that is targeted at higher-wage employees and executives to help attract high-wage businesses.~~

GUIDING PRINCIPLE ED-6. PROMOTE THE INFILL AND REDEVELOPMENT OF UNDERUTILIZED AREAS.

Policy ED-6.1. Promote infill and redevelopment of vacant or underutilized parcels within the area.

Encourage brownfield redevelopment and cleanup, including the closed North Temple and Cannon Pioneer landfills.

Encourage utilization of developable lands within the Northwest Quadrant through the consolidation of Natural Areas, and the use of habitat mitigation strategies.

Where appropriate, utilize incentives such as reimbursement/ credit of fees, density bonuses, site design flexibility, the fast tracking of infrastructure and planning, Redevelopment Agency tax-increment financing of improvements, and other options to encourage infill, redevelopment, and remediation.

GUIDING PRINCIPLE ED-7. PROMOTE THE REALIZATION OF THE VISION EMBODIED BY THIS PLAN THROUGH ~~SUPPORTING~~ ENHANCING ECONOMIC VIABILITY ~~THROUGH SUSTAINABLE DEVELOPMENT PATTERNS~~.

Policy ED-7.1. Recognize the unique opportunity to promote economically sustainable development through public/private partnership.

Seek opportunities for innovative funding and financing opportunities.

Recognize the financial contribution to the City created by development of the Northwest Quadrant.

Undertake formal review of impact fees applicable to the Northwest Quadrant to comply with legal constraints and to fairly allocate the costs of implementing this Plan and providing necessary services within the Northwest Quadrant.

Explore equitable and creative allocations of the costs of implementing this Plan among all stakeholders.

MULTI-MODAL TRANSPORTATION

"Establish and maintain a balanced multi-modal transportation system that provides effective, efficient and safe mobility for residents."

Guiding Principles

GUIDING PRINCIPLE MT-1. CREATE A TRANSPORTATION HIERARCHY THAT ACCOMMODATES TRAVEL AT THE REGIONAL AND LOCAL LEVEL.

Policy MT-1.1. Provide efficient regional access to the site with transit, freeway, arterials, and bikeways.

Plan for premium transit service to access the Northwest Quadrant. Light Rail or Bus Rapid Transit should be considered.

Consider transit first between Salt Lake City and the Northwest Quadrant, with a logical extension from the Airport TRAX line.

Serve the most densely populated site within the Northwest Quadrant with premium transit. This should be the Town Center.

Link phasing of infrastructure with development to ensure critical density levels to enable a successful transit system.

Ensure freeway access to the Northwest Quadrant with interchanges from Interstate 80.

Provide secondary access to the Northwest Quadrant with arterials. Arterials should ideally be extensions of existing roadways.

Complete the proposed bikeway between the International Center and Saltair to provide regional bike access to the Northwest Quadrant.

Policy MT-1.2. Provide efficient internal circulation between development nodes within the Northwest Quadrant with local transit, collectors, and bikeways.

Provide local transportation service with bus or shuttle bus (possibly streetcar) as appropriate.

Coordinate local and regional transit service to provide seamless transfers between nodes.

Provide secondary access between development nodes with collectors.

Develop off-street bikeways to connect development nodes. Off-street bikeways should be a minimum of 12 feet wide and be designed to accommodate both higher speed cycling (commuting) as well as recreational uses.

Develop on-street bikeways to connect development nodes where off-street connections do not exist. If accommodated on an arterial, on-street bikeways should be separated from auto traffic with infrastructure. If accommodated on a collector, a signed striped bike lane, 5 feet wide, should be provided.

Consider branding throughout the bicycle network with special signage and wayfinding to increase visibility of the system and ease of use.

Provide bicycle facilities for regional travel, including bicycle lockers, racks, and shelters.

Policy MT-1.3. Ensure connectivity between areas developed in the Northwest Quadrant to Salt Lake City International Airport, Downtown, and the West Bench communities.

Plan for the extension of the proposed Airport light rail system through the Northwest Quadrant, connecting to the planned 5600 West fixed-guideway transit line and continuing farther west into the center of the proposed mixed-use centers north of Interstate 80.

Work with the Wasatch Front Regional Council (WFRC), the Utah Transit Authority (UTA), and others to plan and preserve corridors for light rail transit, and seek funding to advance construction of an extension of the Airport light rail system.

Policy MT-1.4. Integrate the proposed Mountain View Corridor into the Northwest Quadrant.

Plan for and encourage a direct connection from the planned Mountain View Corridor freeway to the area north of Interstate 80.

Policy MT-1.5. Provide a network of streets based on a roadway typology that accounts for multi-modal travel, as well as automobiles.

Size roadways for efficient access to major nodes of development, while respecting the natural landscape and visual quality of the area.

Policy MT-1.6. Connect new residential areas with the West Bench community and other areas of the City.

Policy MT-1.7. Scale roadways with the density of surrounding development.

Incorporate landscaped medians to divide travel lanes in high-capacity corridors.

Plan roadways on a grid or modified grid system to ensure distribution of automobile trips, while respecting the natural landscape and visual quality of the area.

Policy MT-1.8. Partner with the Utah Department of Transportation (UDOT), UTA, and WFRC to continue to improve transportation options, including the funding and improvement of existing and future interchanges.

Work with UDOT and WFRC to advance planning for and funding of such connection.

GUIDING PRINCIPLE MT-2. ENCOURAGE CONCENTRATED GROWTH ALONG EXISTING AND PLANNED TRANSPORTATION CORRIDORS AND TRANSIT NODES.

Policy MT-2.1. Offer a variety of transportation choices and encourage use of alternative modes of transportation.

Create and implement a comprehensive transportation demand management (TDM) program aimed at reducing weekday peak period trips.

Provide transit service (with vans, shuttles, buses) to rail or other major transit facilities and/or another major destination, such as a retail or employment center.

Reduce vehicle trips, overall miles traveled, traffic congestion, air pollution, and greenhouse gas emissions through center design, pedestrian amenities, and the provision of transit.

Reduce energy consumption and pollution from motor vehicles by encouraging less use of motor vehicles through creative design.

Policy MT-2.2. Encourage transit use and reduce driving times and vehicular trips by creating safe and comfortable transit facilities.

Provide covered and partially enclosed shelters with seating and lighting at each transit stop.

Provide kiosks, bulletin boards, and/or signs devoted to providing local transit information, including basic schedule and route information at each transit stop.

~~Policy MT-2.3. Increase land use densities at major bus and rail transit nodes along transit corridors.~~

~~Plan higher intensities and a mix of land uses, including residential, commercial, and office around transit nodes to promote higher ridership and reduced automobile travel.~~

~~Consider the location of transit lines and nodes prior to approving development.~~

~~Develop locations that exhibit superior performance in providing transportation choices.~~

GUIDING PRINCIPLE MT-3. INCREASE LAND USE DENSITIES AT MAJOR BUS AND RAIL TRANSIT NODES ALONG TRANSIT CORRIDORS.

Policy MT-3.1. Plan and seek to develop a mix of land uses, including residential, commercial, and office around transit nodes to promote higher ridership and reduced automobile travel.

Policy MT-3.2. Consider the location of transit lines and nodes prior to approving development.

Policy MT-3.3. Develop locations that exhibit superior performance in providing transportation choices.

GUIDING PRINCIPLE MT-4. PROMOTE DEVELOPMENT AND INFRASTRUCTURE THAT IS TRANSIT, PEDESTRIAN AND BICYCLE FRIENDLY.

Policy MT-4.1. Provide appealing and comfortable street environments to promote pedestrian activity, transit ridership and bicycle use, and to increase trips internal to development.

Provide a network of bicycle facilities, including separated bike paths, bike lanes, and bike routes.

Include detached bike lanes and detached sidewalks along corridors.

Provide highly visible, safe pedestrian crossings.

Include attractive, uniformly designed street lighting and furnishings.

Use appropriate but minimal levels of lighting to keep sites darker near Natural Areas.

GUIDING PRINCIPLE MT-5. PURPOSEFULLY INTEGRATE URBAN FORM AND THE TRANSPORTATION NETWORK.

Policy MT-5.1. Utilize roadways as a means to buffer protected lands.

Policy MT-5.2. Modify the cross section of roads to allow for the integration of transit, land use, and other multi-modal options.

GUIDING PRINCIPLE MT-6. PROMOTE THE DESIGN OF TRANSPORTATION CORRIDORS THAT SUPPORT THE NATURAL LANDSCAPE.

Policy MT-6.1. Transportation corridors shall be designed to minimize impacts to natural drainage areas.

Policy MT-6.2. Use native and natural landscaping materials within transportation corridor rights of way.

Policy MT-6.3. Native or natural landscaping materials within transportation corridor rights of way may not interfere with sight distance requirements or any other safety design requirements.

PARKS, TRAILS & RECREATION

"Provide a diverse system of parks, trails, open space and recreation facilities."

Guiding Principles

GUIDING PRINCIPLE PT-1. PROVIDE AND MAINTAIN A DIVERSE, HIGH-QUALITY, SAFE AND AFFORDABLE SYSTEM OF PARKS AND RECREATION FACILITIES THAT PROVIDE FOR ALL AGES, GENDERS AND ABILITY.

Policy PT-1.1. Provide a balanced system of parks, trails, and recreation facilities that is equitably distributed and accessible to all residents.

Construction and location of each park type should adhere to the standards ~~adopted as part of~~ within the 1999 Salt Lake City Parks and Recreation Master Plan.

Ensure the majority of residents are within 1/4 mile of a neighborhood recreation facility and within 1/4 mile of a multi-use trail.

Ideally, locate community recreation facilities within 1/2 mile of the neighbors they are intended to serve, in Neighborhood Centers and in locations that are comfortably and safely accessible by pedestrians and bicyclists.

Provide regional parks within 1 to 2 miles of the majority of residential areas, and on sites that are accessible by trails, bike lanes and major roadways, as well as near Village Centers.

Where possible, co-locate schools, parks, and recreation facilities to utilize shared resources and parking.

Provide off-leash dog parks in appropriate locations to support keeping pets away from conservation and natural areas.

Require that all parks and recreation facilities meet or exceed the requirements of the Americans with Disabilities Act (ADA).

Develop parks at neighborhood nodes or at fringe areas within the Conservation Development Zone.

Policy PT-1.2. Provide a functional and accessible system of recreation facilities and community centers that offers both organized and self-directed activities to citizens of all ages and abilities.

Centrally locate recreation centers, community centers, and other recreation facilities that are heavily used by youth, adults, and seniors on sites with visual and vehicular access from major roadways, within Village or Town Centers, with public transit access, and with direct trail connections.

Policy PT-1.3. Ensure that parks, trails, and recreation facilities will serve the diverse needs of the community, including health promotion, and environmental, economic, and social sustainability.

Design parks and recreation facilities to provide a variety of experiences that appeal to a broad range of interests, abilities, and ages.

Locate multipurpose practice fields for youth sports in neighborhood parks as well as community parks. Size neighborhood parks adequately to allow for such uses.

Be responsive to specialized needs of citizens, such as those activities that could be enjoyed by the elderly, the very young, and the disabled.

Emphasize the use of nonirrigated landscapes, native species, and low water-requiring plant materials that respond to the specific groundwater and soil characteristics of the Northwest Quadrant.

Seek to ~~A~~avoid the use of pesticides, herbicides and fertilizers that impact wildlife and water quality, and use sustainable management techniques. Avoid environmentally sensitive areas when locating developed parks and recreation facilities.

Where appropriate, locate sports fields to also serve as detention areas and buffers for wildlife refuge areas. Protect water quality through implementation of best management practices in the design of stormwater conveyance and detention facilities.

Restore brownfields (old landfills, other potentially contaminated sites) to appropriate productive use areas.

Utilize the most up-to-date, environmentally sustainable design techniques in the construction of new parks, including the use of recycled materials, locally manufactured products, locally available materials, and low energy-requiring facilities and technologies to the extent practicable.

Provide residents with information regarding the benefits of sustainable design in parks and natural areas through demonstration areas, organized wildlife and sustainability programs, and interpretive signage.

Encourage more intensive active recreation uses to the south of Interstate 80, including possibly a BMX/ ATV park at the landfill site.

GUIDING PRINCIPLE PT-2. PROVIDE A SYSTEM OF INTERCONNECTED, NONMOTORIZED TRAILS THAT CONNECT TO NEIGHBORHOODS AND SERVICES, AND REGIONAL TRAILS SYSTEM.

Policy PT-2.1. Design a trail system connecting major destinations (e.g., regional and community parks, greenways, recreation centers, shopping districts, employment districts, Village Centers, Neighborhood Centers, Downtown, etc.) and provide opportunities for trail loops with areas of interest along the route. This trail should occur, at least in part, within greenways.

Policy PT-2.2. Design a perimeter trail system that is located, at least in part, within the conservation zone. The trail should provide an opportunity to experience the unique sense of place of the Great Salt Lake. Follow best practices for locating trails away from high concentrations of sensitive vegetation and wildlife, including avoiding habitat core areas.

Policy PT-2.3. Concentrate trails and recreation use in and adjacent to greenways.

Policy PT-2.4. Connect neighborhood parks and neighborhood schools to the larger community-wide trail system with other neighborhood connector trails (where feasible and appropriate in the context of the neighborhood design) and on-street bike lanes and routes.

Policy PT-2.5. Provide citizens with a variety of multiple-use trails that are appropriately integrated with urban development plans and neighborhood designs.

Design trails at an adequate width for multiple use and ongoing maintenance, and with adequate setbacks from adjacent roadways and private property.

Provide both paved and nonpaved trails to accommodate a variety of users and variety of experiences, from urban to natural landscapes.

Integrate bike and pedestrian improvements into roadway designs. Designate bike routes to encourage commuting by bicycling.

Segregate trail use along highly congested trail segments to avoid trail user conflicts. Encourage the use of signage, speed control devices, and other methods to promote safety in these areas.

Policy PT-2.6. Provide support facilities and amenities along trails, including informational and interpretive signage, resting areas and waysides, viewing towers, and other facilities as appropriate.

Policy PT-2.7. Encourage multi-functional grade-separated crossings, such as bridges, roadway underpasses, and other means at selected locations for the safety of bicyclists and pedestrians.

Policy PT-2.8. Utilize the most up-to-date, environmentally sustainable design techniques in the construction of new trails, including the use of permeable pavements, recycled materials, locally manufactured products, locally available materials, and low energy-requiring facilities and technologies to the greatest extent practicable.

Policy PT-2.9. Minimize conflict between trail users and wildlife by using seasonal closures and prohibiting pets from sensitive areas.

GUIDING PRINCIPLE PT-3. PROMOTE BICYCLING AND WALKING AS WAYS TO ENHANCE PERSONAL HEALTH AND IMPROVE THE COMMUNITY ENVIRONMENT.

Policy PT-3.1. Encourage health, exercise, and educational programs that promote bicycling and walking as ways to enhance personal health and improve the community environment.

Provide incentives to ride or walk to work.

Provide educational materials to the public on the personal, economic, and environmental benefits of walking and bicycling in the community.

Policy PT-3.2. Utilize native vegetation in greenways and Conservation Development Zones.

Policy PT-3.3. Utilize appropriate Natural Areas, Conservation Development Zones, and greenways for recreation. Not all areas are suitable for recreation (see Policy EA-2.1, System of Protected Lands).

Policy PT-3.4. Where possible, locate park amenities to serve as a natural buffer to protected lands.

Policy PT-3.5. Utilize existing brownfield sites, such as the old landfills, to create recreational opportunities.

Policy PT-3.6. Strictly contain recreation with domestic pets to areas suited for their use to protect wildlife and native vegetation.

Policy PT-3.7. Design recreation features suited to the landscape that surrounds them.

CULTURAL & LANDSCAPE RESOURCES

"Preserve those cultural resources, both built and natural, that are a significant part of the City."

Guiding Principles

GUIDING PRINCIPAL CLR-1. PROVIDE ACCESS TO THE ARTS AND CULTURAL PROGRAMS FOR COMMUNITY MEMBERS OF ALL AGES AND SOCIOECONOMIC LEVELS.

Policy CLR-1.1. Encourage the protection of cultural resources throughout the Northwest Quadrant.

Identify and protect land that is of significant cultural history to the area.

Policy CLR-1.2. Initiate public art installations that reflect and celebrate the area's heritage. This could include gateway features adjacent to interchanges and in the Town, Village and Neighborhood Centers.

Integrate public art throughout the community to celebrate the Great Salt Lake and the Northwest Quadrant's identity.

Encourage publicly funded community arts programs through schools, senior centers and after-school facilities.

GUIDING PRINCIPLE CLR-2. PROMOTE AND EDUCATE VISITORS ABOUT THE NORTHWEST QUADRANT'S UNIQUE RESOURCES. INCLUDE SEMINARS, WALKING TOURS, AND INTERPRETIVE TRAILS AND SITES.

Preserve the Natural Areas for the express purpose of encouraging visitors and greater understanding of the Great Salt Lake ecosystem.

Incorporate natural resources into new parks, where applicable, and protect and preserve those resources.

Where feasible and appropriate, the City or other agencies should assist in permanent protection of these areas.

Encourage partnerships between organizations in the private sector, and engage the community in a nature and heritage education plan.

PUBLIC SERVICES

"Provide coordinated and efficient public services within the area."

Guiding Principles

GUIDING PRINCIPLE PS-1. CREATE RELIABLE, COST-EFFECTIVE, ENVIRONMENTALLY SUSTAINABLE SYSTEMS OF UTILITIES, PUBLIC FACILITIES AND SERVICES.

Policy PS-1.1. Encourage use of native, adaptive, and drought-tolerant landscaping in public facilities and service corridors.

Policy PS-1.2. Design public service facilities with shared public access and stormwater use when appropriate.

Policy PS-1.3. Minimize public service costs in appropriate ways.

Policy PS-1.4. Reduce public costs for stormwater management, flood control, and other forms of built infrastructure by incorporating an efficient stormwater management system that emphasizes green technologies, low impact development, and best management practices.

Policy PS-1.5. Collaborate with adjacent townships and cities, various federal, state, and county agencies, and appropriate service providers to provide coordinated and sustainable development of the region.

Policy PS-1.6. Include mosquito abatement measures appropriate to the landscape.

GUIDING PRINCIPLE PS-2. ~~*DETERMINE THE APPROPRIATE SIZE AND LOCATION OF*~~*PROVIDE EDUCATIONAL FACILITIES IN PROXIMITY TO HOMES, TRANSIT ROUTES AND/OR CIVIC AMENITIES.*

Policy PS-2.1. Encourage the integrated establishment of educational facilities to promote walkability and its benefits, such as increased physical activity, interaction, and engagement.

In coordination with school districts, determine the appropriate size and location of educational facilities in proximity to homes, transit routes, and/or civic amenities.

In coordination with school districts, incorporate the development of at least one high school within the Town and/or Village Center and in proximity to multi-modal connections.

In coordination with school districts, incorporate the development of ~~at least eight~~ middle/junior high schools within the Village and larger Neighborhood Centers and in proximity to multi-modal connections.

In coordination with school districts, incorporate the development of ~~at least 15~~ elementary schools within Neighborhood Centers and residential areas.

Provide opportunities for the development of sufficient housing to support at least one high school in order to promote community sustainability.

Libraries, learning centers, after-school programs, ~~head-start~~early childhood development curricula, senior programs, and other facilities and services that provide educational opportunities should be located in centers and well distributed throughout the Northwest Quadrant.

Policy PS-2.2. Encourage the school district to continue to improve its educational system and facilities.

Construct and renovate schools at an adequate pace for the growing population.

Support a high level of education programs, staff retention, training, and citizen involvement.

Policy PS-2.3. Establish additional safety features (e.g., school crossing lights) to reinforce a commitment to safe travel by foot, bicycle, or transit to school.

GUIDING PRINCIPLE PS-3. DEVELOP A PUBLIC SAFETY PLAN FOR EMERGENCY ACCESS AND TRAVEL.

Policy PS-3.1. Plan for police, fire, and emergency services that are staffed at appropriate levels, creating a sense of security and a high level of protection for the Northwest Quadrant.

GUIDING PRINCIPLE PS-4. PROVIDE A COMMON NORTHWEST QUADRANT DESIGN THEME FOR PUBLIC INFRASTRUCTURE, SUCH AS NATIVE LANDSCAPING, LIGHTING, BRIDGE DESIGN, SIGNAGE, ETC.

IMPLEMENTATION

For many ~~visionary~~ master plans, implementation is decades away. For the Northwest Quadrant, however, development of ~~this~~ the new mixed use community could begin within the next several years. One of the first steps will be the rezoning of properties from holding zones to the appropriate zoning category. With only a few landowners, the City may wish to consider new types of zoning (mixed –use zones, planned community zones, etc.) that provide the flexibility, creativity and predictability necessary for large-scale master planned communities. These zoning types evaluate the overall property against the Master Plan, ensuring core concepts such as transit, environmental protection, jobs, housing, and other factors are met. Found below are over 50 action steps, each one ensuring the vision of Salt Lake City 's sustainable community is met.

This Plan does not attempt to assign funding responsibility or identify funding sources for these or other action steps. The action items below are suggestive of possible implementation strategies, and should be considered neither mandatory in the aggregate, nor exclusive. Where stated proposed policies or planning tools may conflict, decisions should bear in mind the overall goals of the Plan. Decisions regarding the implementation of development policies identified in this Plan shall be made objectively, based on community values and the best science and planning techniques available at the time. Nothing in this Plan is intended to inhibit or preclude the appropriate use of innovative and creative solutions to maximize the Plan's goals of environmental, social and economic sustainability.

PROPOSED ACTION FOR INITIATION OF IMPLEMENTATION	APPLICABLE AREA	ENTITIES INVOLVED	TIME FRAME
FUTURE LAND USE PLAN			
1 Identify and delineate the exact parameters of the consolidated Natural Areas and Conservation Development Zone, based on the characteristics identified in Table EA-2.1, and associated field work, studies and analysis.	~~Community-wide~~ Natural and Conservation Areas	SLC, Property Owners, Developers, State/Federal Agencies	Short-Term
2 Review the Zoning District Map and initiate and process appropriate zoning ~~petition~~ changes to make the Zoning District Map consistent with the ~~final~~ Future Land Use Map, ~~or~~ and develop a new Planned Community Zone with appropriate performance standards for the large undeveloped area.	Community-wide	SLC, SLC OSLP, Property Owners, Developers	Short-Term
3 Create new zoning district for the Natural Areas that prohibits the development of structures.	Natural Areas	SLC~~, Developers~~	Short-Term
4 Amend the Lowland Conservancy and Airport Zones as appropriate.	Community-wide	SLC~~, Developers~~	Short-Term

5 Create a new zoning district and standards for the Conservation Development Zone that promotes development compatible with the natural environment and as described herein.	Conservation Development Zone	SLC~~, Developers~~	Short-Term
6 Develop design standards for the Northwest Quadrant that reflect the character of the area.	Community-wide	SLC, Property Owners, Developers	Short-Term
7 Prepare development regulations based upon appropriate studies which establish a substantial and significant nexus between the regulations and the goals and objectives of this Plan.	Community-wide	SLC~~, Developers~~	Mid-Term
ENVIRONMENTAL ATTRIBUTES			
1 Involve natural resources agencies, consulting firms, or an academic ecologist in identifying, and writing the management plans for, protected areas, addressing wildlife management, periodic flooding, invasive weed burning, etc.	~~Community-wide~~ Natural and Conservation Areas	DWR, SLC, SLC OSLP, USACE, Other Agencies~~, Developers~~	Mid-Term
2 Protect investment in restoration and habitat management (such as canals, created wetlands, etc.) by seeking sufficient buffers and resources to maintain their function.	Community-wide	Nonprofit, DWR, SLC, Property Owners ~~Developers~~	Mid-Term
3 Leverage Salt Lake City Open Space Lands Program funds to purchase conservation easements and/or transfer of development rights to protect sensitive lands.	Community-wide	SLC OSLP~~, Developers~~	~~Short-Term~~ Ongoing
4 Identify high-functioning wetlands suitable for protection and other wetlands that have the potential for enhancement, restoration, or mitigation elsewhere in the Northwest Quadrant. Identify the extent to which water bodies and/or wetlands on the site perform the following functions: 1) water quality maintenance, 2) provide wildlife habitat, and 3) hydrologic function maintenance, including flood protection.	Community-wide	SLC, USACE, Property Owners~~Developers~~	~~Short~~Mid-Term
5 Conduct wetland delineations to determine jurisdictional wetlands and mitigation requirements and opportunities to be applied off site or in the Conservation Development Zone or Natural Areas.	Community-wide	SLC, USACE, Special Interest Groups, Developers	Short-Term
6 Identify funding sources for protection of the Great Salt Lake and adjacent resources.	Community-wide	SLC OSLP, Special Interest Groups, Property Owners, Developers,	Ongoing

		State/Federal Agencies	
7 Conduct wildlife surveys in accordance with the most current, professionally acceptable methods and standards to better understand the wildlife diversity contained within the Northwest Quadrant.	~~Community-wide~~ Natural and Conservation Areas	DWR, SLC, Property Owners, Developers	Short-Term
8 Continue to refine and adopt the Buffer Toolbox process.	Community-wide	SLC, DWR, Property Owners, Developers	Short-Term
9 Delineate the size and parameters of buffers, and general features (moats, berms, fences, etc.), using the Buffer Toolbox process.	Community-wide	SLC, Property Owners, Developers	~~Short~~Mid-Term
10 Establish and extend formal agreements, and identify collaboration mechanisms for flyway conservation regionally and globally.	Community-wide	SLC OSLP, Special Interest Groups, ~~Developers~~Property Owners, State / Federal Agencies	Mid-Term
11 Identify permanent funding sources dedicated solely to the preservation of the Great Salt Lake ecosystem.	~~Community-wide~~ Natural and Conservation Areas	SLC OSLP, Special Interest Groups, Developers	Mid-Term
12 Establish a process for ongoing management of conservation properties, including adequate personnel, budget, weed control, wildlife management, and administration.	Community-wide	SLC OSLP, Special Interest Groups, Property Owners, Developers, DWR	Mid-Term
13 Protect restoration efforts by setting up a sustainable funding mechanism, such as trust or endowment, to continuously fund maintenance activities and to address new threats.	Community-wide	SLC OSLP, Special Interest Groups, Property Owners, Developers, DWR	Short-Term
14 Create a stewardship committee that will collaborate with the City to direct the preservation of the Great Salt Lake ecosystem.	Community-wide	SLC OSLP, Special Interest Groups, Property Owners, Developers	Mid-Term

15 Develop environmental education information.	Community-wide	SLC OSLP, Special Interest Groups.	Short-Term
GREEN DESIGN			
1 Create a sustainability program with metrics for the Northwest Quadrant that addresses energy, water, carbon, economic and other factors.	Community-wide	SLC, SLC DSE, Property Owners, Developers	Short-Term
~~3~~ 2 Support community-based agriculture and create an entity to manage community growing spaces, such as a community group, co-op, homeowners association or public body.	Community-wide	Homeowners, ~~Developers~~Property Owners	Long-Term
~~4 Identify high-quality housing options.~~	~~Community-wide~~	~~Developers~~	~~Mid-Term~~
~~5~~ 3 Identify and require stormwater best management practices, such as bioswales, porous pavement, constructed wetlands, and retention and detention basins, to minimize project impact on the existing hydrologic cycle ~~and~~ to ~~encourage~~ support on-site stormwater infiltration and reuse, as appropriate.	Community-wide	SLC, Developers	Mid-Term
~~6 Identify methods for use of nonpotable water for irrigation and other uses where lower quality water is acceptable.~~	~~Community-wide~~	~~SLC, Developers~~	~~Mid-Term~~
~~7~~ 4 Increase site perviousness to reduce stormwater runoff.	Community-wide	SLC, SLC DSE, Developers	Mid-Term
~~8~~ 5 Design and implement a Drought Mitigation Plan.	Community-wide	SLC, Developers	Mid-Term
~~9~~ 6 Identify methods for use of rainwater and gray water reuse for irrigation and other uses, as appropriate.	Community-wide	SLC, SLC DSE, Developers	Mid-Term
~~10~~ 7 Create landscaping guidelines that address appropriate plant species.	Community-wide	SLC, Developers	Mid-Term
~~11~~ 8 Create a green infrastructure plan to protect natural resources.	Community-wide	SLC, Developers	Mid-Term

NEIGHBORHOODS			
1 Create design guidelines for neighborhood development, including the design and character of housing, streetscapes, civic areas, gateways, signage, etc.	Community-wide	~~RDA,~~ SLC HAND, Planning, SLC, Property Owners, Developers	Short-Term
2 Update market studies to identify appropriate housing types over time.	Community-wide	SLC HAND, SLC, Property Owners, Developers	Ongoing
3 Create neighborhood master plans consistent with the Northwest Quadrant Master Plan.	Community-wide	SLC, Property Owners, Developers	Short Term
4 Identify high quality housing options across price-points.	Community-wide	SLC, Developers	Mid-Term
5 Identify tools for developing affordable housing, such as credit enhancement, land banking, market rate buy-downs, land donations, gap financing, ~~a~~ and technical assistance for tax credit development, donations from foundations, establishment of a trust fund, and development partnerships among the Northwest Quadrant developers, on-site builders, the City, the Utah Housing Finance Agency, and nonprofit organizations.	Community-wide	SLC HAND, RDA, SLC, Developers	Mid-Term
ECONOMIC DEVELOPMENT			
1 Create design guidelines for employment areas (especially along Interstate 80 as the Western gateway to the City), including the design and character of commercial and retail businesses, public streetscapes, civic areas, gateways, signage, etc.	Community-wide	SLC, Property Owners, Developers	Short-Term
2 Create an overlay district that implements design standards for key areas, such as TOD areas, areas along Interstate 80, gateways, etc.	Community-wide	SLC, Property Owners, Developers	Short-Term
3 Enhance the area south of Interstate 80 as a regional freight and distribution hub for Salt Lake City.	Community-wide	SLC, ~~Developers~~Property Owners	Short-Term
MULTI-MODAL TRANSPORTATION			
1 Create design guidelines for transit amenities, including the design and character of transit stops and stations, streetscapes, gateways, signage, etc.	Community-wide	Utah Transit Authority, SLC, Property Owners,	Mid-Term

		Developers	
2 Implement recommendations from UTA's 2009 Westside Transit Study.	Community-wide	SLC, Property Owners, Developers	Mid-Term
3 Preserve corridor for primary transit corridor connecting the Airport line and the Village Center.	~~Community-wide~~ Industrial Areas	SLC, Utah Transit Authority, ~~Developers~~Property Owners	Short-Term
4 Update the Transportation Master Plan to include the Northwest Quadrant.	Community-wide	SLC, SLC Division of Transportation, ~~Developers~~Property Owners	Short-Term
5 Preserve adequate right-of-way for multi-modal transportation in key corridors.	Community-wide	SLC, Utah Transit Authority, ~~Developers~~Property Owners	Short-Term
6 Update the existing Bicycle and Pedestrian Master Plan to include the Northwest Quadrant.	Community-wide	SLC, ~~Developers~~SLC Division of Transportation	Mid-Term
7 Work with UDOT to minimize the Interstate 80 barrier.	Community-wide	UDOT , SLC, Property Owners, Developers	Mid-Term
8 Develop frontage road system to reduce local travel on Interstate 80.	Community-wide	UDOT, SLC, SLC Division of Transportation, Developers	Mid-Term
9 Modify Salt Lake City street standards in the Northwest Quadrant to accommodate environmentally sensitive design.	Community-wide	SLC, ~~Developers~~SLC Division of Transportation	Mid-Term
10 Require developments to provide connections to areas outside of their development.	Community-wide	SLC, Developers	Long-Term; concurrent with

			development proposals
11 Encourage the development community to participate in auto trip reduction.	Community-wide	SLC, Developers	Concurrent with development proposals
PARKS, TRAILS & RECREATION			
1 Coordinate with the Salt Lake City Open Space Lands Master Plan Update to incorporate areas within the Northwest Quadrant.	Community-wide	SLC, SLC OSLP, Developers	Short-Term
2 Prepare a comprehensive open space plan for the Northwest Quadrant that shows all areas to conserve and how they connect and function holistically.	Community-wide	SLC, SLC OSLP, Developers	Short-Term
3 Create a framework for acquisition strategy of open space parcels with value and cost data to create priorities for implementation.	Community-wide	SLC, SLC OSLP, Developers	Short-Term
4 Coordinate parks, trails, and open space planning with federal, state, and county organizations to create a regional trail system.	Community-wide	SLC, SLC OSLP, Developers	Short-Term
5 Develop protection mechanisms, such as direct acquisition, land dedication, application of conservation easements, future zoning, or sensitive land overlays.	Community-wide	SLC, SLC OSLP, Developers	Short-Term
6 Create a strategy for ongoing management of conservation properties, including adequate personnel, budget, weed control, wildlife management, ~~development~~and development of recreational amenities, interpretive features, and administration.	Community-wide	SLC, SLC OSLP, Developers	Short-Term
7 Identify funding tools, including grants, donations, general fund allocations, tax initiatives, and endowments.	Community-wide	SLC, SLC OSLP, Developers	Short term
CULTURAL & LANDSCAPE RESOURCES			
1 Develop an interpretive program and materials that tell the story of the Great Salt Lake ecosystem and the Northwest Quadrant.	Community-wide	SLC, SLC OSLP	Mid-Term

2 Continue to develop and ~~produce~~ enhance the cultural landscape ~~that tells the story~~.	Community-wide	SLC, Developers	Mid-Term
3 Identify key cultural and landscape resources, and ensure greenway corridors and trails to provide public access to view significant resources.	Community-wide	SLC, Developers	Short-Term
PUBLIC SERVICES			
1 Prepare an overall infrastructure plan that shows how water, energy, and other resources are integrated and holistically managed.	Community-wide	SLC DSE, SLC Public Services, SLC Public Utilities, SLC Building Division, SLC Planning, Developers	Short-Term
2 Continue to work with the school district to identify sites and school needs.	Community-wide	SLC, School Districts, Developers	Short-Term
3 Update water, sewer, storm drain, recreation, open space and other master plans to reflect development in the Northwest Quadrant.	Community-wide	SLC, SLC Public Utilities, Developers	Short-Term
4 Review parks, trails, and recreation facility requirements for the Northwest Quadrant~~, and~~, and identify ~~ensure~~ adequate funding ~~is in place~~levels for their implementation.	Community-wide	SLC, SLC Public Services, Developers	Short-Term
5 Review funding needs of major transportation and utility infrastructure to determine if a special funding district is necessary.	Community-wide	SLC, SLC Transportation Division, Developers	Short-Term
6 Analyze Salt Lake City's impact fees structure for the proposed residential mixed-use community north of Interstate 80 and west of the International Center.	Residential and Mixed Use Areas	SLC	Short Term

Acronyms List: SLC – Salt Lake City; SLC OSLP – Salt Lake City Open Space Lands Program; RDA – Redevelopment Agency of Salt Lake City; HAND – Housing & Neighborhood Development; SLC DSE – Salt Lake City Division of Sustainability and the Environment; UDOT – Utah Department of Transportation; DWR – Utah Division of Wildlife Resources; USACE – U.S. Army Corps of Engineers; Developer – Owner, until development is initiated or property is sold for development purposes.

RESOURCE PROTECTION BUFFER TOOLBOX FRAMEWORK

General Description

The Northwest Quadrant is situated on the edge of the Great Salt Lake and includes wetlands ~~and~~ playa and upland habitats for wildlife. It has the potential to be a new sustainable community that embodies the principles of sustainable development – to balance and integrate the social, economic, and environmental components of the community while meeting the needs of future generations, respecting the needs of other communities, and preserving and (in some ways) enhancing natural ecological functions.

The Great Salt Lake is located, at least in part, on a shallow closed basin playa, which results in large changes in lake surface area due to changes in water level elevation. The Great Salt Lake ranges in size from 950 square miles at its low elevation of 4,191 feet, to 3,300 square miles at elevation 4,211.6 feet. At an elevation of 4,215 feet, lake water overflows into the West Desert, further increasing its surface area. These great swings of elevation provide changing conditions that constantly transition between wet and dry. Adjacent shorelands vary as the water level rises and falls, creating interspersed aquatic areas, wetlands, uplands, saline playas, and mud flats of varying degrees and values. Though the Lake averages an elevation of 4,200 feet, annual fluctuations can cause water level changes of up to ~~20~~ feet. Tracking historic lake levels have revealed drought and flood cycles spanning roughly 30 years. The most recent high water level reached 4,211.6 feet in 1987, and more recently, the historic low water level of 4,191 feet in 1963 (USGS, 2007). Due to the size of the Lake's basin and flat topography, a water level rise of just one foot can add an additional 70 square miles to the Lake surface area. These changes in elevation greatly affect the ~~balance between~~levels of freshwater and ~~saltwater~~ saline habitats on the Lake's shorelands.

A Large Resource

The Great Salt Lake is an important natural feature of the western United States and the largest salt lake in the Western Hemisphere. The Great Salt Lake serves as an important migratory stopover in the central flyway, serving several million birds each year, and in 1992, was designated as ~~one of 17 reserves~~part of in the Western Hemisphere Shorebird Reserve Network. The Inland Sea Shorebird Reserve, located near the Northwest Quadrant, provides important habitat for many migratory ~~and~~ shorebirds. The waters of the Lake ~~are home to~~can support a large number of insects, bacteria, and macro-invertebrates that find a home in its saline waters, and are a significant food resource for birds and mammals.

Several streams empty into the Lake. These streams create emergent freshwater, saltwater and mixed marsh wetlands and contribute to diked freshwater bays, including Farmington Bay and Willard Bay located north and east of the Northwest Quadrant. The south and west shores of the Great Salt Lake, where the Northwest Quadrant is located, receive little precipitation and little freshwater ~~return flows~~input from natural rivers and streams, which results in a landscape characterized by saline playas, mud flats, and transition to semiarid upland areas.

Landscape Mix

The edge of the Great Salt Lake lies within the northwestern edge of the Salt Lake Valley, and ~~is characterized by six primary~~includes a mix of landscape types, including functional playas, disconnected playas, salt flat edges, freshwater marshes, canals and/ uplands and evaporative basins.

Functional Playas. Functional playas are depressional wetlands that become inundated with great frequency and have obvious and substantial hydrological connections with the Great Salt Lake. Characterized by highly saline conditions, and mostly bare ground, playas are relatively rare. In addition to draining directly into the Great Salt Lake, there may be some instances where micro depressions exist within these playas that may hold water ephemerally, which likely contribute to the playas' hydrology. High-functioning playas are ranked high due to sensitivity and rarity within the planning area.

Disconnected Playas. Disconnected playas are depressional wetlands isolated from the Great Salt Lake ~~that are~~and are dry much of the year, but can provide additional flood protection and habitat value. Characterized by a high saline content, mostly bare ground, and vegetated with pickleweed and iodine bush, these playas teem with insects and other macro-invertebrates during the wet season and supply nesting, resting and foraging areas for shorebirds. Disconnected playas are ranked low in sensitivity and quality due to the lack of hydrological connections and the infrequency of inundation.

Salt Flat Edges. Salt flat edges are also depressional wetlands, but are characterized by hyper-saline soils and contain little to no vegetation in the dense salt crust. Salt flats within the Northwest Quadrant appear to be at least partially inundated on a regular basis.

Freshwater Marshes. Freshwater marches are depressional wetlands ~~usually~~usually consisting of a wet meadow edge before transitioning to upland vegetation. They are characterized by open water areas with emergent marsh vegetation, such as cattail, bulrush, rushes, ~~sedges~~and sedges. Within the Northwest Quadrant, ~~f~~Freshwater marshes are frequently found in ~~the Northwest Quadrant and~~ duck clubs, wildlife reserves, agricultural ponds, and along canals, ditches and storm drains. Freshwater marshes can harbor diverse wildlife and vegetation, filter pollutants, slow erosion, and absorb stormwater. Most of these conditions in the Northwest Quadrant have been created and supported artificially by way of irrigation water, and much of the water quality is poor due to the poor quality irrigation water source. Freshwater marshes are ranked medium largely due to existing and potential wildlife use, artificial hydrology and easy recreation.

Canals and /Uplands. ~~This condition is comprised of m~~Man-made canals, including the Goggin Drainage, North Point Canal and minor irrigation canals, ~~which~~ convey either stormwater or irrigation water within the area. These are typically steep-sided banks surrounded with dense vegetation including common reed and cattail. Artificial in nature, water levels can fluctuate greatly with precipitation events and management of waterways. These channels and canals, however, could be modified to support an adjacent riparian community of trees and shrubs. Canals are ranked low due to the poor water quality, and habitat and reliance on artificial hydrology keep ranking on the low end.

Uplands, while developable, ~~-~~can complement wetlands and portions can sometimes serve as part of the functioning ecological system, offering different vegetation and conditions for species that utilize a mix of resources and habitats. ~~They can support upland species,~~ ~~-~~such as pheasant, jackrabbit, red fox, pronghorn antelope, voles, shorebirds and coyote. Their edges ~~;~~ buffer wetlands from disturbances and impacts~~;~~ and provide nesting areas and refuge habitat at flood stage.

Evaporative Basins. Evaporative ~~bains~~basins, while rare in this area, are shallow depressions that receive and hold surface flows ephemerally, appearing to lose water only by evaporation or slow percolation. Unlike disconnected playas, ~~T~~these depressions are mostly vegetated with salt tolerant vegetation dominated by little barley and saltgrass, with pickleweed, alkali mallow, and alkaliweed being the less dominant species. Although their soils ~~appear to be~~are somewhat saline ~~in nature~~, the concentrations are much less than playas and salt flats. Evaporative basins are ~~ranked high due to rarity and sensitivity to changes in water quantity and quality.~~commonly found around the Great Salt Lake shorelands, and are highly variable in size and frequency and duration of saturation or ponding. Subsequently, the wildlife values of evaporative basins are highly variable.

An Important Mix

All six of these landscapes, in varying degrees, can be important to the ecosystems found on the southern end of the Great Salt Lake. A varied mix of these lands can be important for regeneration and adaptation. Protecting areas with a mix of these naturally functioning landscape types is important to preserving the character and function of the ecosystem found on the southern end of the Lake.

Protecting Valuable Resources

Great importance has been placed on protecting the resources around the Great Salt Lake, with wetlands and playas playing a primary focus of conservation. Some resource areas have already been protected as part of wildlife reserves, mitigation areas, duck clubs or lands with conservation easements~~, but the protection has been primarily focused on wetlands and less on the uplands and playas~~.

Another concern is conserving and protecting valuable water quality resources. Numerous channels and canals run through the Northwest Quadrant. Water conservation is a region-wide concern, and it is important that sufficient water is returned to the Lake's shorelands to help maintain ~~its salt and mineral balance and, perhaps more importantly, to~~and support the various types of wildlife ~~that depend on its open water and wetland habitat for food and shelter~~habitats.

~~Despite intense industrial use of the water that reaches the Lake, the existing water quality is a testament to the filtering function of wetlands on the edge of the Lake.~~ The high water table of these shorelands ~~adds to this concern~~requires consideration as development continues. ~~Shallow groundwater areas (which are difficult to drain and protect from floods) and additional paving and stormwater runoff require special consideration from a development perspective~~ to avoid significant harmful alterations to groundwater patterns and the overall water regime. The complex chemistry of this highly saline Lake is an additional consideration, as it impacts what will live both in the Lake and on the land around it. It also shapes the viability of various lake-based industries, including brine shrimping, salt evaporation ponds and chemical extraction, which are contributors to the local economy.

Key development constraints are outlined in the table below. This Northwest Quadrant Master Plan seeks to prevent development in Level I areas and reduce development intensity in Level II areas, where necessary, in order to preserve and protect the natural systems associated with the Great Salt Lake. It is also important to recognize that some infrastructure and/or improvements may be made in these areas to protect and/or enhance these sensitive areas and to facilitate their integration with development areas. Level III constraints acknowledge development will occur in these areas, but recognizes that additional study is likely necessary to determine whether special development conditions may be required.

Enhancement of other, more important wildlife habitat may be a preferable alternative to protection of Level III or even Level II constraint areas. For example, enhancement and restoration of Bailey's Lake may provide much better wildlife habitat in a larger contiguous area than would protection of various smaller wetland or habitat areas elsewhere.

Buffer Toolbox

Protection of these resources needs to be balanced with the development rights of landowners and existing uses, thus creating the need for buffers. Resource buffers are not meant to prevent development, but are specifically designed to protect those resource conditions that are intended to be protected, such as wetlands and wildlife habitat along the development fringe.

It is expected that impacts to some resources are unavoidable as part of development in the Northwest Quadrant. Impacted resources will require mitigation elsewhere to continue to preserve the natural ecological function and the site's carrying capacity. Resources intended to be protected require buffers to protect them from the effects of adjacent land uses.

The distance of each buffer is based on a relative scale measuring resource sensitivity and land use type and intensity. The decision-making process for the features of each buffer is illustrated in Figure 11.

The concept of the Buffer Toolbox will provide developers and planners with flexibility while protecting valuable natural resources. By creating resource protection parameters that manage access to sensitive resources and are not the "one size fits all" solution, developers can be flexible to react to market forces and be creative in developing solutions to protect, enhance, and create wildlife habitat. Buffer distance should initially be selected based on the sensitivity and rarity of the resource and the proposed adjacent land use, and then can be reduced by adding other barriers, such as fences and visual screens. A three-step process is outlined on the following pages.

LEVEL I FACTORS (AREAS WHERE EXISTING CONDITIONS, RISKS TO DEVELOPMENT, OR RESTRICTIONS BY OTHER GOVERNMENTAL ENTITIES ARE LIKELY TO PRECLUDE SIGNIFICANT ADDITIONAL DEVELOPMENT)	
100-Year Floodplain	A 100-year flood is the flood that statistically has a 1% chance of occurring each year. For land use planning purposes, the regulatory floodplain is usually viewed as all lands within reach of a 100-year flood. The Federal Emergency Management Agency (FEMA) produces floodplain maps, defining what's in and out of the 100-year (or "regulatory") floodplain in order to implement the National Flood Insurance Program. In addition, Salt Lake County Floodplain Hazard Regulations (Chapter 19.74) "prohibits building in flood ways but allows building in the floodplain with adherence to protection standards." Standards include anchoring, flood resistant construction materials, design of utilities to minimize infiltration of floodwaters, residential construction with lowest floor elevated to a minimum of one foot above the base flood elevation, and flood-proofing for nonresidential development below one foot above the base flood level. The 100-year floodplain is shown to occur along much of the northern portion of the Northwest Quadrant as well as extending into the northern portion of Goggin Drain. The Surplus Canal and the Great Salt Lake have not yet been mapped for FEMA flood insurance purposes. The Northwest Quadrant will need additional study to determine floodways and floodplains.
Below 4,215' Elevation	The water surface elevation of 4,212 feet above sea level represents the recorded historic high water elevation for the Great Salt Lake, which occurred in 1986 and 1987. During this period, pumping by the West Desert Pumping Station occurred to lower the lake's surface water elevation. Water levels also reached this elevation in 1866 and 1867. The historic low water elevation for the period of record (1845-present) was recorded in 1965 at an elevation nearly 20 feet lower at 4,191 feet above sea level. The current water surface elevation is approximately 4,196.5 feet. Wind and wave action may pose a hazard risk five feet or more above the historic high water elevation, making the hazard risk elevation 4,217 feet. Salt Lake City does not permit habitable development below elevation 4,217 feet. ~~Up to two feet of fill may be allowed in certain areas with elevations of 4,215.~~
Developed Parcels	Existing development (commercial and industrial uses) is located primarily in the eastern portion of the Northwest Quadrant.
Protected Lands	Protected lands include the lowland portions north of the Bailey's Lake Meadow Mitigation Bank and the Airport Wetland Mitigation Site.
Major Transportation Facilities	Major transportation facilities in the Northwest Quadrant include a six-mile section of Interstate 80 that runs east-west through the center of the Northwest Quadrant, and two railway lines (Western Pacific and Union Pacific Railways) that run east-west across the lower third of the Northwest Quadrant, as well as a regional hub. Salt Lake International Airport is located immediately adjacent to the east of the Northwest Quadrant.
LEVEL II FACTORS (AREAS IN WHICH DEVELOPMENT WILL OCCUR, BUT WHERE IT MAY BE REGULATED OR WHERE SOME DEVELOPMENT ACTIVITY MAY REQUIRE MITIGATION)	
Utah Sensitive Species	Species included on the Utah DNR's Utah Sensitive Species List.
High-Functioning Wetlands Systems	These areas include the highest functioning wetlands preliminarily identified through the Functional Assessment of Wetlands and Wildlife (SWCA, 2006). These wetland areas tend to be below the 4,217-foot elevation, within the recommended conservation area, near other sensitive wildlife habitat, and in closest proximity to the Great Salt Lake. Wetland types found in the Northwest Quadrant include: open water, emergent marsh, wet meadow, transitional wet meadow and playas. Various waterbirds, wading birds, shorebirds and several raptor species use these habitats for foraging. Much of the northern boundary of the Northwest Quadrant is located in an area identified by the Utah Division of Wildlife Resources as wetlands of state importance for a number of different animal and plant species. Additional study should be encouraged to identify the specific locations of high-functioning wetlands.
Between 4,215'-4,217'	In some areas, wind caused wave and ice action may pose a hazard risk up to the elevation 4,217 feet (based on historic high lake level of 4,212 feet).

Elevation	These elevations are used by Salt Lake City as limits to development. City code allows fill on land above 4,215 feet to bring the elevation up to 4,217 feet. Fill of areas between the 4215 – 4217 elevations should only be permitted in areas approved for development.	
LEVEL III FACTORS (AREAS IN WHICH DEVELOPMENT WILL OCCUR, BUT WHERE ADDITIONAL STUDY OR SPECIAL DEVELOPMENT CONDITIONS MAY BE NECESSARY)		
~~Sensitive~~ Wildlife Habitats	Key habitats include: Significant large areas of developable uplands. Nesting colonial wading and waterbirds, which include western grebe black-crowned night-heron, white-faced ibis, Forster's tern and black tern. These species are found in the area of the Airport Wetland Mitigation Site, Goggin Drain, and Bailey's Lake. Nesting colonial shorebirds include nesting black-necked stilts and American avocets. These species are found in areas of mudflats, inundated playas, wet meadow, and partially vegetated playas in the Goggin Drain and Bailey's Lake area, but which will need to be confirmed through further study. Areas of significant concentrations of migrating shorebirds to be determined by Developer through further study, which may be found in the area of Bailey's Lake, Goggin Drain, and the Airport Wetland Mitigation Site. Areas of significant concentrations of migratory waterfowl, including geese, ducks, grebes, and coots to be determined by Developer through further study, may be found in the area of the inundated playa complex near the KSL radio towers, open water areas in the area of the Airport Wetland Mitigation Site, Goggin Drain, Bailey's Lake, and in the Lee Creek drainage area.	Areas of significant concentrations of migratory wading birds, including egrets and white-faced ibis to be determined by Developer through further study, which may occur in playas, wet meadows, mudflats, and intermittent open water in the area of Goggin Drain and Bailey's Lake. Significant concentrations of other regionally important and unique species to be determined by Developer through further study, which include: snowy plover in the playas adjacent to Lee Creek; migrating swallows on mudflats in the northeast portion of the Northwest Quadrant; and peregrine falcon. Lee Creek is also likely to be used as a wildlife corridor for a variety of terrestrial animals. Sensitive habitats include portions of playas that cannot be recreated.
Other Wetlands Systems	These areas include wetlands not classified as high-functioning according to the Functional Assessment of Wetlands and Wildlife (SWCA, 2006).	
Channels and Canals	Channels and canals in the Northwest Quadrant carry irrigation, storm, artesian well, and treated wastewater toward the Great Salt Lake. Channels and canals include the Surplus Canal, North Point Consolidated Canal, Bailey's Lake, Goggin Drain, West Branch, Brighton Drain, and Lee Creek. A series of connected paleo channels are present in the central portion of the Northwest Quadrant north of Interstate 80, and appear to have historically been connected to the Jordan River. Channels and canals are often associated with wetlands, which occur along their margins.	
Open Space Zoning	The purpose of the OS open space district is to preserve and protect areas of public and private open space and exert a greater level of control over any potential redevelopment of existing open space areas.	
Airport Zoning A & B	Salt Lake International Airport is located immediately east of the Northwest Quadrant. The eastern half of the Northwest Quadrant is mapped as a moderate/high noise impact zone.	
Lowland Conservancy Overlay District	A lowland conservancy district was established by Salt Lake City to provide for the protection, preservation, proper maintenance, and use of Salt Lake City's watercourses, lakes, ponds, floodplain, and wetland areas. Areas under this designation generally require a residential no-build setback of 25 feet; a nonresidential setback of 50 feet for water bodies such as streams, lakes, ponds, and wetlands; and require a natural vegetation strip of 25 feet. The setback is from the boundary line or from the banks of the river. Wetlands and other water features mapped under this Salt Lake City regulation are found at several locations across the northern half of the Northwest Quadrant. These areas are associated with margins of wetlands associated with Salt Lake, in the locations of paleo channels and as isolated wetland areas. Overlay District areas can be found as either emergent wetlands or as playas.	
Landfills	3 closed landfills are located north of Interstate 80 at its intersect with 7200 West north of California Avenue between 4800-5600 West and a portion of the Lee Kay Center property adjacent to California Avenue. The West Branch Canal flows through the closed landfill area north of Interstate 80. The Salt Lake City/County landfill located north of the Lee Kay Center is an active landfill.	

Determining Buffer Distance

Step 1. Analysis

Element 1. Site Resources & Ecological Sensitivity.

An ecological assessment of the Northwest Quadrant should be conducted prior to development. The assessment should include a characterization of natural resources and identify the six specific habitat types identified above under Landscape Mix.

The analysis should assess habitat to determine the presence of state or federally sensitive, threatened or endangered species, and should identify sensitive habitats and lands intended to be left undeveloped. A wetland delineation should be conducted to determine jurisdictional wetlands, non-mitigatable resources, restoration projects, and mitigation recommendations. A determination of the importance and sensitivity should be included in the assessment.

Element 2. Proposed Land Use

Based on a conceptual land use plan, land use types, square footage, units, density, and intensity (including hours of operations) should be provided. The conceptual land use plan should also identify open space, parks, and trails. Since these lands are often located in the Conservation Development Zone the plan should summarize how the purposes of the Conservation Development Zone are met or exceeded. Each land use should be identified as a high, medium or low impact intensity.

Element 3. Mix of Barrier Options

Buffers should be designed to discourage domestic pet and human trespass in the Natural Areas. Buffers are composed of a variety of features, including, but not limited to, the following:

Natural Features/Open Space

Vegetation

Vegetative Screens

Restoration Areas

Fences

Roads

Trails

Berms

Moats

Signage

Land Use Design

Step 2. Buffer Recommendation, Mitigation & Management

Buffers are an important component of protecting wetlands and other aquatic resources. Salt Lake City is being proactive in developing buffers to protect the function and quality of the wetlands that will be preserved along the development fringe, and to be consistent with the Northwest Quadrant Vision.

The protection of ~~True~~ wetland and playa values ~~protection~~ requires the conservation of some surrounding land ~~in addition to the wetlands~~as buffers. Wetland buffers are important for quality improvements, stream bank stabilization, flood control, wildlife habitat and groundwater recharge. The four primary criteria that should be considered when determining wetland buffers are:

Resource functional value

Intensity of adjacent land use

Buffer characteristics

Specific buffer functions

Vegetated buffers can improve erosion control; remove sediment, excess nutrients and metal; moderate stormwater runoff and temperatures; maintain habitat diversity; and reduce the effect of human impacts.

Upland resources can sometimes be used to buffer productive wetland and aquatic resources from the effects of human development and associated activities. Development within the Conservation Development Zone may also contribute toward the effectiveness of buffers. Buffers for wildlife are much more difficult to define than for water quality, since they are based on individual and flock behavior. These terms are used for the measuring of the distance at which animals respond to a certain type of disturbance, such as approaching pedestrians or vehicles.

The size and nature of the recommended buffer shall be a function of both the sensitivity of the resource to be protected, and the intensity of the proposed land use, as illustrated in Figure 11. The buffer analysis should therefore summarize the level of ecological sensitivity, the proposed land use, and the proposed barrier types.

As a general rule, buffers based primarily on natural features and open space should be sized within the following ranges:

Small Buffer: 50 feet to 300 feet

Medium Buffer: 300 feet to 600 feet

Large Buffer: 600 feet to 900 feet

Buffer sizes may be reduced by the use of additional barrier features.

The recommendations should identify lands to be left undeveloped, mitigation recommendations, restoration activities, and management considerations.

The buffers should ideally be vegetated with native vegetation, either upland, riparian, wetland, or a combination of each. The vegetation needs to be dense enough to provide the water quality and visual buffer required to support the continued function of the protected resource.

Step 3. Jurisdictional & Agency Review & Concurrence

Salt Lake City, state and federal agencies, ~~and~~ landowners and developers will review the buffer recommendation reports ~~and~~. They may concur with the assessment, provide comments or request additional studies, which could include species-specific surveys. Based on resulting information, final buffer recommendations, barriers, protected lands, mitigation and restoration activities, and management recommendations can be mutually agreed upon.

Attachment B

Report - City Council Land Use Development Questions

Report - City Council Land Use Development Questions
Northwest Quadrant Visioning Document

January 31, 2008

The following questions came from the City Council briefing on the Northwest Quadrant Visioning Document held on August 21, 2007. The Planning Staff responses to the questions were presented to the City Council of February 12, 2008. This report provides additional background information about the Northwest Quadrant and further defines elements of the Visioning Document.

1) **What are the percentages of the NW Quadrant that could be developed, that are buffer areas, and that have sensitive environmental concerns (Level 1, Level 2, Level 3 within the Vision Document)?**

   Level 1 buffer areas relate to the areas designated Natural Areas within the Framework Map. Level 2 areas relate to areas designated as Conservation Development Zone in the Framework Map. Level 3 areas are the areas designated Open Space. Exhibit A depicts the Framework Map, Option A.

   Level 1 buffer areas or the Natural Areas within the Framework Map consist of approximately 2,300 acres or 12 percent of the Northwest Quadrant area. Level 2 or the Conservation Development Zone area within the Framework Map consists of approximately 1,300 acres or 7 percent of the Northwest Quadrant area. Level 3 would relate to the amount of Open Space zoned areas which is approximately 2,100 acres or 11 percent of the Northwest Quadrant area. The majority of land designated open space is located in the southern portion of the Northwest Quadrant and consists of State lands zoned Open Space and the City/County landfill area. The remainder of Open Space designation is for corridors throughout the developable areas that are used to connect high activity centers to each other and to the conservation zone areas. The remaining 70 percent of the Northwest Quadrant area would be for residential, mixed–use, commercial and industrial land uses.

2) **How much of the NW Quadrant area is below the current elevation of 4215' that prohibits development?**

   The historic peak lake elevation is understood to be 4212. This elevation has been measured three times, 1873, 1986, and 1987. Water movement and wave action of the lake adds another 5 feet. Adding the wave action factor to 4212 gives an elevation of 4217, which is the elevation which one would expect to experience lake flooding at a re-occurring interval. Property at 4215 elevation would require review and approval of at least two feet of fill prior to development of habitable structures.

   There are approximately 2,300 acres of land below the 4215 foot elevation within the Northwest Quadrant. However, the minimum development elevation is 4217 foot USGS. There are 1,300 acres of land between the elevations 4215-4217. The total acreage below the 4217 foot elevation within the Northwest Quadrant planning area is approximately 3,600 acres.

3) **When is it acceptable to use fill to reach on elevation above 4215'?**

   The City Public Utilities Department identifies that there should be no habitable or mechanical spaces built below the elevation 4217. This relates to the historic high water level of the Great Salt Lake and related wind/wave actions that can push water elevations up to the 4217 foot level.

   City site development regulations allow for two foot of fill which could allow for lands located between the elevation of 4215 and 4217 to be developed if approved for site development fill of at least two feet. The fill of lands between 4215 and 4217 may be allowed, however, numerous factors have to be addressed before this could be approved. One key factor is the presence of wetlands. The Army Corps of Engineers would need to identify that any land area below the elevation of 4217 or designated as potential wetlands is either not a wetland or approval has been obtained for wetland mitigation prior to any development in these areas.

It is imperative that the minimum floor elevation, garage elevation, or mechanical space elevation is 4217 foot USGS, not 4215 feet. Potentially any development below elevation 4217 foot USGS may require levees to hold back the Great Salt Lake. A levee and pump system would need to be designed and additional ongoing pump and maintenance costs would need to be added if habitable space is below the 4217 foot level. To allow floor elevations below the 4217 foot level will have very significant impacts on flood control and overall drainage design.

4) What tools are currently in place or could be put into place to protect buffers, uplands, and wetlands?

Current: The Open Space Zoning District and Lowlands Conservancy Overlay Zoning District limit types of development and where development can be located near these sensitive lands. The Open Space Zoning District limits types of development, but does not restrict development. The Lowland Conservancy Overlay District protects areas such as waterbodies, streams, lakes, ponds and wetlands west of Interstate 215 through required building and construction activity setbacks and limitations on uses.

Designation of wetlands by the US Army Corps of Engineers is also a tool that can be used to protect wetlands. Unless such lands are approved for mitigation they would not be permitted to be disturbed.

Potential: Environmental Framework approach proposed in the Northwest Quadrant Plan identifies the following Environmental Framework concepts that support protection of uplands and wetlands.

- Protect sensitive wetland areas
- Protect the community health, safety and welfare with no development below the 4215' elevation
- Buffer Inland Sea Shorebird Reserve and restoration of Bailey's Lake area
- Create a hierarchy of protected areas: Natural Area, Conservation Development Zone, and Open Space
- Incorporate a toolbox to determine appropriate buffers and barriers between specific sensitive resources and development

The following tools could be put into place to provide buffers and protect uplands and wetlands.

Planned Community Development Zone. The Northwest Quadrant Master Plan will provide general development policy for the community. These policies would guide future implementation actions. One concept being considered is the development of a Planned Community Development (PC) zoning classification. The creation and mapping of the PC zoning classification would be subject to detailed analysis that will require identification of wetlands, appropriate and adequate buffering of environmental sensitive lands including the identification of jurisdictional wetlands prior to the PC Zone being placed on any area designated for potential Planned Community zoning classification. The application of traditional zoning districts within the Northwest Quadrant will also require specific analysis of smaller areas prior to the rezoning of properties from Agricultural and Open Space to other zoning classifications.

Designation of Natural and Conservation Areas. The different levels of the environmental framework (Natural and Conservation Areas) relate to elevation and functional wetlands. The identified wetland areas are areas with high potential for jurisdictional wetlands, but the plan does not classify any specific area as wetlands. Specific wetlands classification is an action of the Army Corps of Engineers, only. The framework concepts are the general guiding concepts related to environmental and developmental land use issues. When the Northwest Quadrant Master Plan is adopted, through the master plan implementation process more refined land use planning analysis would occur.

Resource Protection Toolbox. Development of a Resource Protection Toolbox for buffer and barriers between desired protected resources and development is being considered. The toolbox concept would be an adaptive approach that supports preservation of ecological functions identified in the vision of sustainability for the Northwest Quadrant. The toolbox concept evaluates land use intensity and resources sensitivity to determine appropriate scale of buffering and mitigation impacts.

The toolbox approach provides for a predetermined set of factors to evaluate more detailed and specific analysis during the implementation stage of the Northwest Quadrant Master Plan. Whether the evaluation is used for rezoning of properties, the application of a Planned Community Zone process or specific development proposals will be an

aspect of the implementation of the adopted master plan. The establishment of a generalized approach that reflects the overall key land use planning concepts of the Northwest Quadrant Master Plan is a most appropriate and responsible approach for the City's general policy plan for this area of the City.

5) What provisions are in place to allow for schools to be developed in the NW Quadrant?

No school provisions are in place at this time, although the need for such uses has been discussed through the planning process. This issue will be addressed through the development process of the master plan. Through the potential Planned Community Zone approach, required public and quasi public needs could be identified and addressed through the Planned Community Zone approval process. Setting aside specific areas for schools, parks, fire stations, etc would be required at that time. Use of impact fees is an additional option that could be used for providing areas for public infrastructure.

6) What kind of development would be allowed in the NW Quadrant under current zoning?

The Northwest Quadrant Zoning Map is attached as Exhibit B. The specific zoning district and overlay districts are discussed below.

Industrial Zoning: The M-1 Light Manufacturing District provides an environment for light industrial uses that produce no appreciable impact on adjacent properties. Permitted uses include light manufacturing, assembly, offices, warehousing etc.

Agricultural Zoning: The purpose of the AG Agricultural District is to preserve and protect agricultural uses in suitable portions of Salt Lake City until these lands can be developed for the most appropriate use. These regulations are also designed to minimize conflicts between agricultural and nonagricultural uses. Permitted uses are small group homes, single family residences, agricultural uses, seasonal farm stands, and kennels. Agricultural uses do not include stockyards, feed yards, slaughterhouses, rendering plants and commercial operations involving retail sales to the general public, except for seasonal farm stands.

Open Space Zoning: The purpose of the OS Open Space District is to preserve and protect areas of public and private open space and exert a greater level of control over any potential redevelopment of existing open space areas. Permitted uses are cemeteries, community recreation centers, natural open space, parks etc.

Landfill Overlay: The LO landfill Overlay District provides greater control over the locations of both public and private landfills and their design, use, reuse and reclamation, and provides transitional zones adjacent to landfills facilitating the transition from landfills and landfill related uses to other types of land uses. Permitted uses are both public and private landfills, recycling or processing centers, and accessory sorting, recycling and composting of landfill materials, and the deposit or storage of sludge.

Lowland Conservancy Overlay: The purpose of the Lowland Conservancy Overlay District is to promote the public health, safety and general welfare of the present and future residents of the City and downstream drainage areas by providing for the protection, preservation, proper maintenance, and use of the City's watercourses, lakes, ponds, floodplains and wetland areas. The LC Lowland Conservancy Overlay District encompasses areas consisting of waterbodies such as streams, lakes, ponds and wetlands west of Interstate 215. Permitted uses are agricultural uses, open space and recreational uses, provided such uses are permitted in the underlying district and do not involve any grading, earthmoving, modification of site hydrology, removal of wetland vegetation or construction of permanent buildings/structures.

Airport Noise Overlay: The Airport Influence Zones address incompatible land uses based on airport related noise. The Airport Influence Zone "A" prohibits residential and institutional uses. The Airport Influence Zone "B" requires air-circulation systems and sound attenuation for residential, institutional, hotel and motel uses. The Airport Influence Zone "C" requires air-circulation systems and sound attenuation for residential and institutional uses.

7) What is the process for potential development in the NW Quadrant under current zoning?

Potential development under the current zoning would need to be contiguous to existing infrastructure services (water, sewer, electrical, gas, streets) and meet the subdivision and zoning standards applicable to the subject property. Subdivision approval would be the mechanism for undeveloped land and building permit approval would be needed for land already subdivided into lots.

8) What is the process and approximate cost for installing infrastructure and water/sewer service to the NW Quadrant under current zoning?

Subdivision approvals would require infrastructure improvements. These costs would be borne by the property developer. The responsibility for constructing major arterial streets would be shared by both the property owner and the City.

Water – Development in this area would require elevated storage for water pressure and fire needs. Large water transmission lines have been installed that can direct water services to the Northwest Quadrant area. Additional transmission and distribution pipes are also required. The water system will need redundancy (gridding) to provide a more stable system. There is potential to create a secondary water system for this area for irrigation. This would take some of the demand off of the culinary water system.

Development that would require de-watering should not be allowed. The groundwater is very close to the surface throughout the area. Some of the wetland areas are at the elevation of the natural groundwater surface. De-watering for structures would take away storm water capacity. Sizing channels to carry run-off and pass-through water will already be a challenge. De-watering also adds power demands for pumping and flood risk if pumps ever fail. These risks can be avoided by requiring designs that are above the natural grade.

Sewer – A new treatment facility is needed. A mid-sized sewer collection pipe has been installed to take a portion of the Northwest Quadrant generated sewage. The Public Utilities Department has property for a new sewer treatment facility that will be required to service the area.
A possibility in the Northwest Quadrant is to build a "stripping plant" that would remove and treat water that would be used in a secondary irrigation water system. The higher strength remaining waste would be sent to the Rose Park plant for final treatment. There will need to be out-of-the-area improvement to convey this waste water. Because of the flatness of the terrain of the Northwest Quadrant there will need to be a number of sewage lift stations (one about every 5,000 ft). Some existing sewage lift stations will have to be upgraded for additional capacity.

Storm water – Storm water will not leave the Northwest Quadrant area, but there is significant pass-though run-off that runs through the area to the Great Salt Lake. Existing drainage channels will need to be increased in size and perhaps relocated. Additional channels will be needed. Regional storm water detention will be required. Best management practices (BMP's) for storm water quality will be a required part of the design. Even with development being required to stay above 4217 there will need to be storm water lift stations to keep water flowing to the Great Salt Lake.

Streets – Current arterial street construction needs within the south portion of the Northwest Quadrant exceeds $21,000,000. The cost sharing for these improvements would be through impact fees, special improvement districts and Class C general fund monies. The street infrastructure needs for the north portion of the Northwest Quadrant need to be determined through the development process of the master plan and through the implementation of the plan. As a more refined land use policy is developed, the arterial streets needs can be more readily determined as well as the associated costs calculated.

9) What is the City's policy on extending infrastructure to undeveloped areas of the City?

Extension of infrastructure is subject to design approval and placement as part of the subdivision approval process. The long-standing policy has been that proposed development pays for the cost of infrastructure. The wet utility (water, sewer, and storm drainage) infrastructure has been expanded like the rings of an onion – each layer builds on

the previous layer. The developer pays for the cost of the extension to service the new development. The City has extended pipes to the far edge of existing development to accommodate the next level of expansion. Creating islands of development is problematic for utilities because of long transmission lines going through undeveloped property.

10) What is the approximate number of houses that could be built under existing City ordinances, with current zoning?

Under the current zoning only the AG – Agriculture Zoning District allows for residential development. There are approximately 5,100 acres of agricultural zoned land within the Northwest Quadrant. The Lowland Conservancy Overlay District affects 1,500 acres of agricultural land leaving approximately 3,600 acres of land for development. Based on the City's existing land use pattern shown below, approximately 39 percent of undeveloped land would be consumed for streets, schools, parks, institutional and commercial uses. Of the 3,600 acres, a net acreage of 2,200 acres could be developed with single family homes on 10,000 square foot lots. This would allow for 9,600 dwelling units within the existing agriculture zoned land.

Salt Lake City Land Use Development Pattern	
Transportation	23%
Schools and Parks	6%
Institutional	6%
Residential	61%
Neighborhood Commercial	1%
General Commercial	3%

11) What is the approximate number of acres that could be developed under existing City ordinances, with current zoning?

AG – Agriculture	5100 acres
OS – Open Space	4700 acres
M-1 - Industrial	8300 acres
CG – General Commercial	300 acres

12) Can the City prevent development in this area?

Within areas zoned for development particularly the M-1 zoning district it would be difficult to prevent development. Within the AG Zoning District, with its purpose to function as a holding zone, development may be limited, however, it allows certain land uses such single family dwellings on 10,000 square foot lots.

The City can deny water and sewer connections to areas that would be considered sprawl development. This would be for areas isolated from current infrastructure services. However, it would be more difficult to deny services to areas contiguous to existing development. There would be more opportunity to deny development in areas below the elevation 4217 feet with habitable spaces due to life safety issues related to the Great Salt Lake water level and floodplain levels. Denial of approval for development when the property owner is willing to pay for all infrastructure costs could lead to a taking of property claim and /or consideration by the property owners to initiate de-annexation procedures.

13) What is the City's policy on preserving agricultural land for the purpose of producing food or grazing cattle?

Salt Lake City has three Agricultural Zoning Districts that support the production of food and grazing of cattle. These are the AG-2, AG-5 and AG-20 Zoning Districts. The agricultural zoning districts that specifically support ongoing agricultural uses are not located within the Northwest Quadrant. They are in the Northpointe neighborhood of the Northwest Community located northeast of the airport.

The agricultural zoning within the Northwest Quadrant is the AG Zoning District. The AG Zoning District does allow for agricultural uses, however, its purpose statement recognizes the zone as a holding zone. Therefore, through

its purpose statement it is clear that the City's policy is not to preserve land within the Northwest Quadrant for food production or cattle grazing.

14) What is the City's policy on "holding zones" such as the land zoned for Agriculture in the NW Quadrant?

The only zone known to the Planning Division that is identified as a holding zone is the AG Agriculture Zoning District. The purpose of the Agricultural Zoning District is to preserve and protect agricultural uses in suitable portions of Salt Lake City until these lands can be developed for the most appropriate use. These regulations are also designed to minimize conflicts between agricultural and nonagricultural uses.

The AG Zoning District was established as a holding district with the adoption of the 1995 Citywide Zoning Rewrite project. The adoption of the 1995 Zoning Ordinance also effectively became the land use policy plan for the Northwest Quadrant, since there has been no specific master plan adopted for this community.

15) Has the City considered conducting an inventory of agricultural land to determine how much, and of what quality, agricultural land is left in the local area, including the feasibility of using the land for local food production and what yields would be possible from that land?

Salt Lake City, itself, has not conducted any farmland inventory or analysis. However, the Utah Agricultural Experiment Station at Utah State University produced an Important Farmlands research report for Salt Lake County. This report identified Prime Farmlands and Additional Farmlands of Statewide Importance based on soil classifications.

Salt Lake County has approximately 35,000 acres of Prime Farmland. There are approximately 39,000 acres of Additional Farmlands with Salt Lake County. None of the Prime Farmland acreages identified in the report are located within the Northwest Quadrant Planning Community. There are approximately 800 acres of land within the Northwest Quadrant identified as Additional Farmlands. The acreage of Additional Farmlands within the Northwest Quadrant is two percent (2%) of the Salt Lake County total. The Additional Farmlands within the Northwest Quadrant do not qualify as Prime Farmland due to the high water table and the salt and alkali soil problems. These lands have the potential to support small grain and alfalfa production. Over 70 percent (70%) of the Northwest Quadrant farmlands identified in the Salt Lake County Farmland Research Report are located within the Natural and Conservation Development areas identified in the Overall Framework concepts. These areas are not designated for significant development. Some of the identified farmlands currently produce alfalfa crops that support seasonal cattle grazing in the area.

16) Has the City considered incorporating agricultural land into the land use plans of the Northwest Quadrant?

This issue was brought forward in the November public workshop and it will be considered and addressed in the development process of the master plan. There is a potential of modifying existing Open Space zoned areas to an Agricultural Open Space zoning concept. These could relate to areas identified as Important Farmlands at the northern portion of the community.

17) Studies have shown that as fuel prices rise, people and businesses locate closer to each other with a shift of population to city centers. Has the City taken these trends into account when considering the development of the Northwest Quadrant?

The City has considered this issue through the application of sustainable development concepts such as compact land use, transit oriented development and mixed use development patterns within the Northwest Quadrant. Residential development within this area can place housing close to an existing employment base located to the east (International Center and Airport) and to the existing West Salt Lake Industrial District.

Through the master plan development process, the City will analyze development of green infrastructure policies for the Northwest Quadrant that will function as a framework for both conservation and development. This analysis will consider open space connectivity, storm water management and compact development patterns.

18) Has the City addressed potential development issues surrounding the Legacy Highway and the potential impact on the development of the Northwest Quadrant?

Through the development process of this plan, appropriate land use and zoning patterns will be identified in response to the impacts of major transportation corridors serving the region.

Salt Lake City has amended its Official Street map to reflect the Legacy Highway's environmental impact analysis identifying the location and design an arterial north and west of the airport would significantly impact wetlands. The official street map no longer recognizes the potential for a major arterial connection to Legacy Highway through the Northwest Quadrant.

Mountain View Corridor ends at Interstate 80 and will not extend north into the undeveloped area of the community. The City's Transportation Master Plan provides a mechanism for protecting automobile and transit rights-of-way for 5600 West, 5800 West and 7200 West major arterials. Additional transit and arterial street rights-of-way will be further addressed through the development of the master plan.

19) What is the potential of continuing infill within the existing infrastructure of the City outside of the Northwest Quadrant area?

The regional future growth demands exceed the availability of undeveloped lands so the potential for infill development within the existing infrastructure of the City would not be affected by the development of the Northwest Quadrant. The recent Envision Utah regional analysis provided by the Robert Charles Lesser Company for the Wasatch Front, identified primary growth patterns for the Salt Lake area. The Salt Lake area historic growth pattern has been towards the east of downtown Salt Lake City. Due to the Wasatch Range creating a development growth barrier the growth pattern has rotated towards the southeast and will continue to rotate towards the southwest and eventually towards the Northwest Quadrant. The Northwest Quadrant is the least favored development area within the Salt Lake County area. Even so, the market demands of future growth exceed the undeveloped land capacities within the county and market demand for the Northwest Quadrant will occur.

Infill development areas within the City are mostly limited to the Downtown and Gateway areas and along the North Temple and 400 South transit and commercial corridors. These are areas that can support and transition into mixed-use communities. Infill housing within the City consist of redevelopment opportunity areas rather than greenfield development areas. The infill type of development in the City is a different market than the greenfield development of the Northwest Quadrant s and these different markets do not strongly compete with each other.

Envision Utah Wasatch Development Trends Study Conclusions

- The Wasatch Front is projected to experience steady employment and household growth over the next 30+ years.
- Looking at growth in similar sized cities over the last 30 years suggests that there could be an opportunity to outperform demographers' projections.
- There are opportunities to strengthen existing cores in the Salt Lake City metro area, by addressing their specific deficiencies.
- There will be ample demand to support additional cores in the Salt Lake City metro area, even as existing cores, specifically Downtown Salt Lake City, densify and thrive.
- The Northwest Quadrant is an example of an area that is already attached to an existing core with favorable characteristics and a dramatic lack of housing and services, suggesting potential "pent-up demand".
- Significant landholdings controlled by a limited number of entities with similar goals in a constrained market create a powerful opportunity for Salt Lake City to positively influence regional growth.
- Bringing areas such as the Northwest Quadrant into balance with adequate jobs and housing, while promoting mixed-use, transit-oriented development, meets the objective of sustainability laid out in the Wasatch Choices 2040 Report.

20) Has the City considered conducting an inventory of the existing infrastructure and land availability for consideration of infill development within the City, including projections of the number of people the land can support now and into the future?

The City has never conducted a comprehensive study related to infrastructure and land availability for infill development. The City has evaluated smaller geographic areas within community and small area master plans identifying infill opportunities, as well some specific studies such as B-3 Neighborhood Commercial properties that could provide housing and the Westside report on infill and redevelopment of underutilized non-residential areas.

21) Has the City considered implementing conditions at which point development of the Northwest Quadrant Master Plan would be initiated (i.e. existing infrastructure and infill opportunities are tapped out)?

The question of if development in the Northwest Quadrant should occur and if so, when, has been the big question since adoption of the City's Master Annexation Declaration Policy in 1979 that set the stage for annexation of the Northwest Quadrant. In 1985, when the City annexed the north half of the Northwest Quadrant, the City only annexed the land that was considered to have potential for development.

Timing for development in the Northwest quadrant has been informally discussed for several years. The City has previously identified that development within the Northwest Quadrant areas zoned agricultural should not occur until the adoption of a master plan. This action has only been effective due to the lack of demand for development within the area. We are unable to prohibit any contiguous development allowed through zoning, if the developer is willing to pay the costs of infrastructure expansion.

Phasing and timing of future development is dependent upon the rate of development and extension of infrastructure. Development phasing will be addressed in the development process of the master plan and will be part of the implementation strategies developed for the master plan.

Residential: Market analysis provided by Robert Charles Lesser Company for Envision Utah regarding the Northwest Quadrant projects housing development would initially have housing starts first appear in the year 2018. Market demand would continue until 2050, exceeding 27,000 residential dwelling units.

Industrial: Industrial development will continue as the planning process develops due to the amount of currently zoned industrial lands with or adjacent to existing infrastructure. Potential market demand for industrial development in the Northwest Quadrant could absorb 12,476,568 sq. ft. of industrial space by 2050.

22) How are transit options prioritized between existing development and those to be developed in the future?

Transit options identified within the Northwest Quadrant are conceptual. The critical elements are to provide appropriate linkage to the regional system, to recognize desired locations and to protect future transportation corridors. Development of transit lines, stations etc. would be future actions and would not compete with currently identified transit improvements within the City and region.

23) What is the City's policy on commuter impact on air quality?

The Salt Lake City Transportation Plan contains the following policy directions related to air quality.

- The City will implement transportation related policies that are aimed at improving air quality.
- Salt Lake City will cooperate and work with other government agencies in the urbanized area to eliminate the non-attainment status for all pollutants in a reasonable timeframe and maintain attainment status.
- Salt Lake City will consider the impact of various transportation modes on the environment and the community.
- The Transportation Division will work with other agencies to develop transportation strategies that improve transportation service and air quality.

The City regionally supports multi-modal transportation systems, mixed use development and transit oriented development.

24) Has the City considered developing the Northwest Quadrant as an intermodal connection (rail, truck, air) for freight transportation and warehousing of goods?

The Northwest Quadrant already performs as an inter-modal connection via the existing transportation network and regional facilities such as the Airport and the railroad transfer facility. This is happening now with the major street system and several large areas zoned for industrial uses. (Some of these areas are located in the adjacent West Salt Lake Community between Redwood Road and 4000 West) Several industrial parks are dual served by rail and highway. The proximity of the airport also strengthens the efficient movement of freight.

25) Has the City considered a holistic look at infrastructure and transportation options specific to the facilitation of efficient movement of freight given increased fuel shortages and higher fuel prices (within the Northwest Quadrant)?

The Northwest Quadrant Visioning concepts take a sustainable development approach with transit, mixed use, economic development and protection of sensitive lands. These sustainable concepts are to be further developed within the master plan process.

The development of the master plan will consider linking proposed land use development patterns within the Northwest Community and with the surrounding regional transportation system.

26) Has the City considered developing and integrating the Northwest Quadrant into existing and planned transportation and trail systems?

Yes. Through the ongoing process to develop the master plan the City has conceptually considered integration of the Northwest Quadrant with the regional transportation systems. More detail, along with identifying implementation strategies to accomplish such integration, is anticipated as the plan is developed. The Northwest Quadrant Framework land use structure recognizes Intestate 80, the Mountain View Corridor and the Salt Lake County West Bench planning area.

There is great potential to integrate multiple use open space areas, combining wetlands, drainage channels, riparian areas, trails, bike paths, etc. There is also opportunity to cluster development around open-space / multi-use areas. The Northwest quadrant planning process would incorporate the Bailey's Lake and Transvalley Wetlands Corridors of the Salt Lake City Open Space Master Plan. The master plan process will also incorporate and connect bicycle paths identified within the Salt Lake City Bicycle and Pedestrian Master Plan.

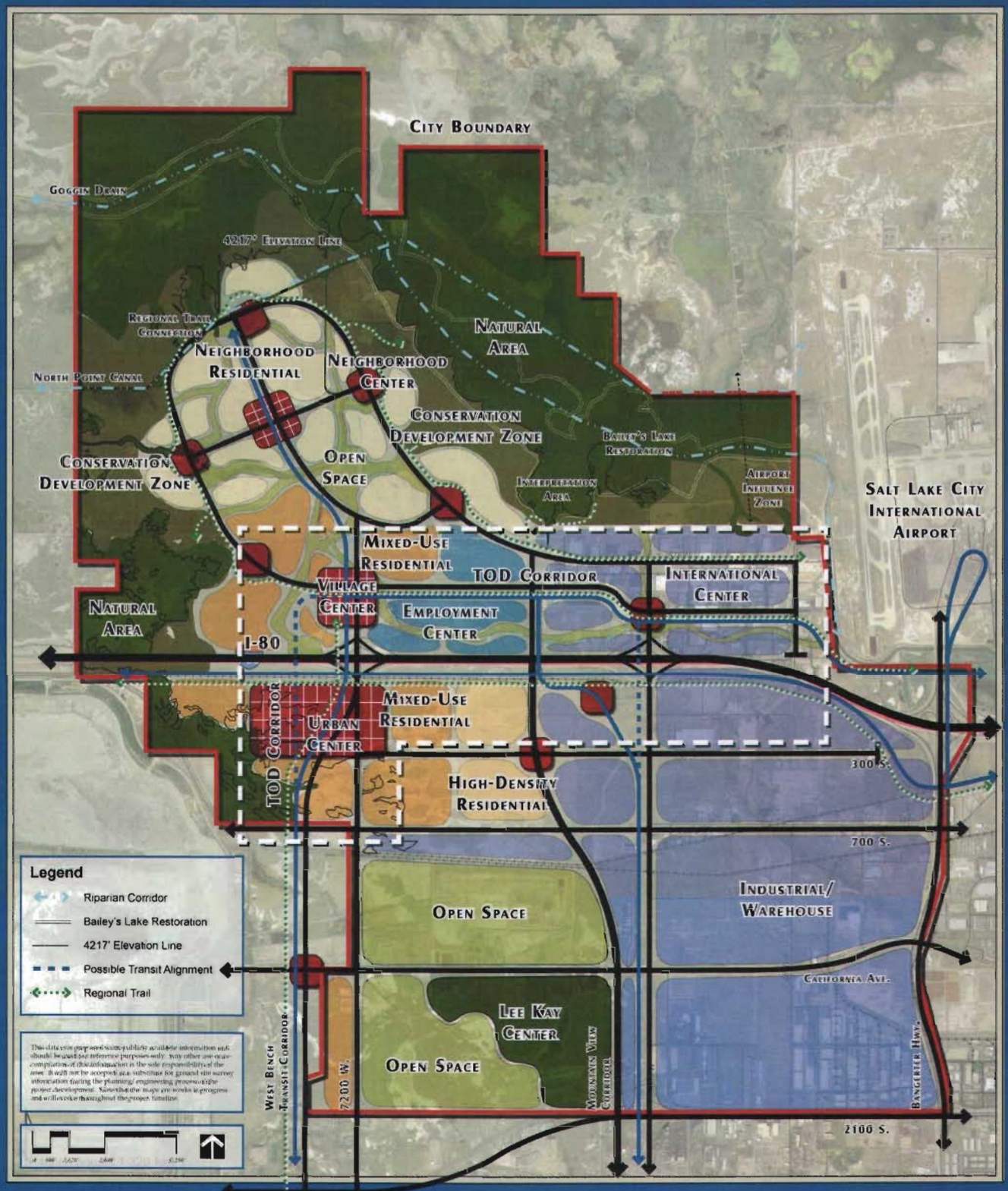
27) Has the City considered developing a transfer-of-development rights program to ensure protection of critical habitat and farmland within the Northwest Quadrant?

Transfer-of-development rights are one option that will be considered through the master plan development process. Another concept being looked at is the use of a toolbox that provides a structure to evaluate the size and type of buffer between protected areas and proposed development.

28) Has the City considered local food processing within the industrial areas in the Northwest Quadrant as a potential economic development opportunity which ties into local food production and farming?

No. Some types of food production may create unusually high demands on water distribution and sewer collection and treatment systems. If these types of uses are to be encouraged they should be clustered and higher capacity infrastructure would need to be designed and provided for such development.

Report - City Council Land Use Development Questions
Northwest Quadrant Visioning Document
Exhibit A
Overall Framework Map



NORTHWEST QUADRANT
OVERALL FRAMEWORK, OPTION A

DRAFT

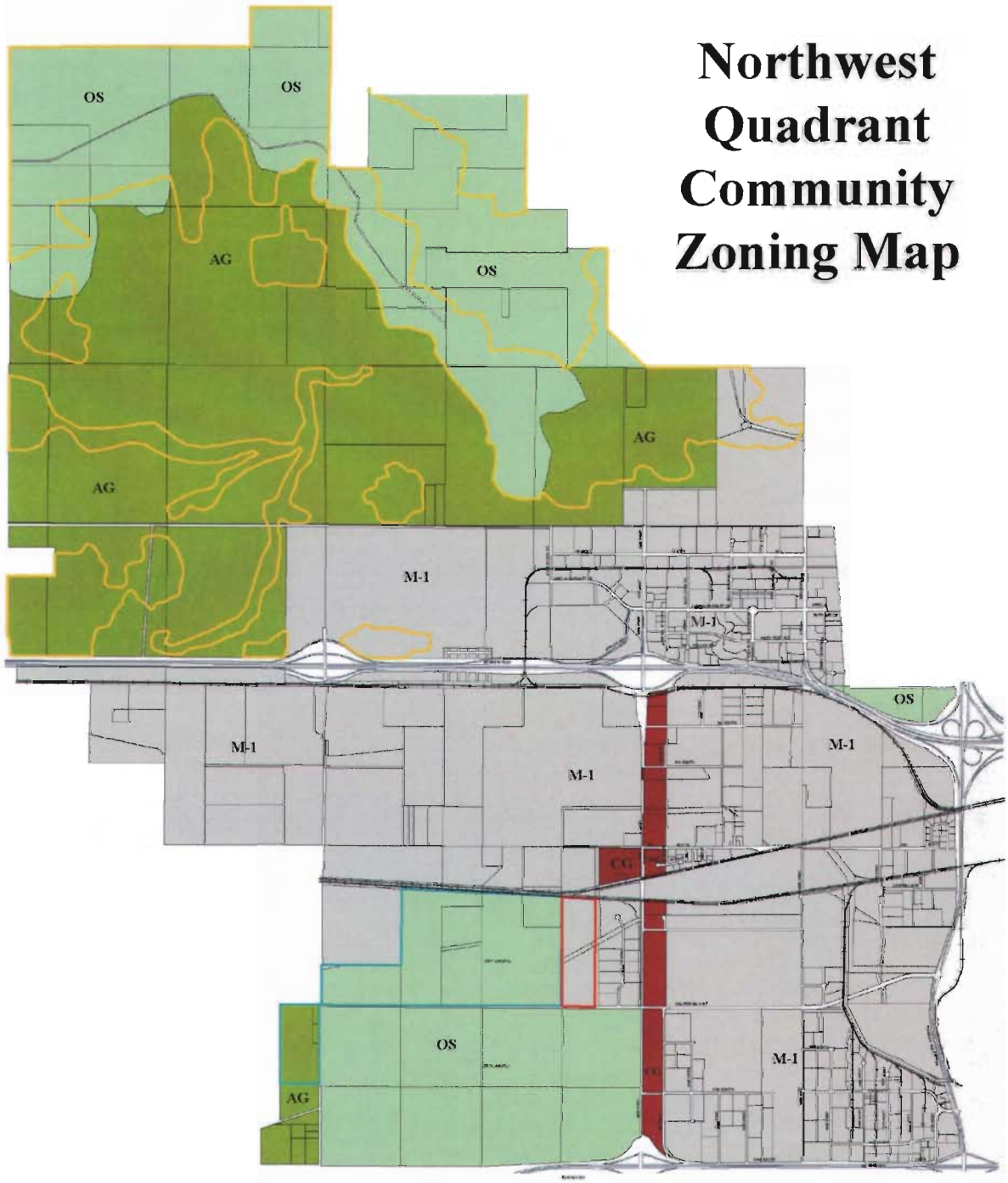
EDAW | AECOM

November 26, 2007

MGB+A, Fehr & Peers, SWCA, Bonneville Research

Report - City Council Land Use Development Questions
Northwest Quadrant Visioning Document
Exhibit B
Northwest Quadrant Zoning Map

Northwest Quadrant Community Zoning Map



Map Legend

- Lowland Conservancy Overlay District
- Transitional Overlay District
- Landfill Overlay District
- AG, Agriculture
- CG, General Commercial
- M-1, Light Manufacturing
- OS, Open Space

Salt Lake City Planning Division
Geographic Information Systems
Last Update: January 2007

Attachment C

SLC Advisory Boards - Comments

Salt Lake City Advisory Boards and Committees Comments

Northwest Quadrant Master Plan

Transportation Advisory Board
Meeting Date: April 6, 2009

The perimeter road located within the residential area north of Interstate 80 should be designed to function and support a future Bus Rapid Transit – BRT route or for similar transportation services route that links the residential community to the town center and other transportation networks proposed.

Open Space Lands Advisory Board
Meeting Date: April 8, 2009

General support, no specific comments were provided.

Public Utilities Advisory Committee
Meeting Date: April 23, 2009

Two key issues were brought forward. First, is the issue of allowing two feet of fill to bring 4215 foot elevation areas up to 4217 feet for development of habitable structures. Second is the plan shows an excessive amount of green landscaping and trees that would be limited due to the large amounts of water usage to maintain. The residential community should be designed with a more native landscaping without bluegrass and trees that require large amounts of water to survive in the soil conditions within the Northwest Quadrant.

Airport Advisory Board
Meeting Date: June 17, 2009

Salt Lake City needs to provide information to above the current avigation easement requirements to let future residential property owners about the existence of the Airport and its operational impacts on the residential areas of the Northwest Quadrant.

Attachment D
Public Comment

OPEN HOUSE
May 21, 2009

Northwest Quadrant Master Plan

Please provide us with the following information, so that we may contact you for further comment (please print clearly, thank you):

Name Brad Bartholomew

Address 871 N Poinsettia Dr
SLC UT 84116

(include zip code)

Phone or email address ~~bbart@~~ bbart76@gmail.com

Comments:

I don't believe that residential is good for this area and that the development goes too far North. All development should stop just North at where this plan has placed the dotted line of the Town Center. And I think that the area North of I-80 that is developed ~~#~~ should be ~~the~~ more of what is allready there and what is along California ~~Rd~~ Industrial/warehouse. The area North of that should be a Preserve with trails. I don't think we should be detracting from downtown and other areas of the City. This area especially South of I-80 is perfect for ~~as~~ a warehouse district.

I would worry very much about flooding / highwater table for areas ~~that~~ North of I-80 and that area would be and is a place for excess water to move during wet years.

Feel free to contact me.

Email Comments to: everett.joyce@slcgov.com
Mail Comments to: Everett Joyce, 451 South State St, Room 406, P.O. Box 145480, SLC, UT 84114-5480

May 26, 2009

Everett Joyce, AICP, Project Manager
Salt Lake City Planning Division

Re: COMMENTS ON:
"NORTHWEST QUADRANT CREATING A SUSTAINABLE COMMUNITY"

Dear Everett:

My comments are primarily directed toward the areas north of I-80; however, some are directed at other areas as well. In general, my comments cover six major objections or observations regarding the document, the plan ideas, and the concepts intended to achieve sustainability.

1. I strenuously object to the idea of filling between 4215 and 4217 – it just is not a sustainable practice, and not in keeping with the over-arching goals of the plan.
2. Sustainable concepts, ideas, technologies should be required and demanded, not encouraged.
3. There should be no potable water to the project except for drinking. A secondary, gray water system should be designed into the project from the start.
4. The landscape design should reflect and respect the landscape in which it will be placed – visually, environmentally, and functionally.
5. Developers and those who chose to live there should pay their own way through appropriate impact fees that accurately reflect the real costs.
6. Those who chose to live there should be expected to modify their behavior and expectations, and adopt a lifestyle that supports that landscape and those conditions.

The following chart references the page, line or paragraph from the document, followed by a specific comment.

Page	Line/Paragraph	Comment
1	2nd line	This area is not "prime", it's sensitive, largely undevelopable.
7	Para 2, line 5	Indicates that the Lake's floodplain will be protected from development; however, the Lake's floodplain is 4217.
14	Box 3, under Characteristics of Natural Areas	Salt Lake City does not permit development below elevation 4217; yet this plan allows filling of two feet in areas that are currently at elevation 4215. Filling is not a sustainable practice; building in the floodplain is not a sustainable practice; tearing down mountains to fill the

		northwest quadrant is not a sustainable practice; moving large quantities of fill from distant areas is not a sustainable practice. The result will not be a "Sustainable Community".
14	Box 9, under Characteristics of Natural Areas	No Domestic Pets: Will the people who live n the northwest quadrant understand that they will not be allowed to have dogs and cats, ferrets, or other pets that pose a threat to the natural fauna? That they certainly will not be allowed outside of their homes, or off-leash? Does the plan make this clear?
14	Box 2, under Characteristics of the Conservation Development Zone	Allowing two feet of fill in order to create safe, developable land is a complete contradiction to all of the good concepts included in the plan, and can only be attributed to kowtowing to developers. This one, major contradiction alone, makes this plan a joke and a farce and the exact opposite of sustainable.
16	Policy EA 4-2	YES!!!!, AND NO EXCEPTIONS.
17	General	LEED does a reasonable job with buildings, but is not great regarding sites. Suggest that the site and landscape receive certification or follow the recommendations found in the "Sustainable Sites Initiative", which is in-process and will become a part of LEED. It is being developed by the USGBC, American Society of Landscape Architects, and Lady Bird Johnson Center. See the Draft on the ASLA website.
17	GD-1, 7th bullet	Domestic pets should not be allowed outside of the residence except on leash.
17	GD-1, last bullet	Development in the Northwest Quadrant should be required to treat its own waste water and storm water. With all of the wetlands and potential wetlands, it is an ideal place to implement many of the sustainable water treatment technologies used all over the world, including many arid environments. Getting potable water to the Northwest Quadrant will be very expensive; none should be used on the landscape. A gray water system should be built into the design of the utility systems.
17	GD-3, first bullet	Appropriate landscaping for the northwest quadrant does not include trees – there are no native trees there now and never have been. Requiring native plants and plants that do not need extensive modifications to the soil and/or manufactured planting techniques is appropriate. Having spent 9 years at the Salt Lake International Center, I know that what is out there is not sustainable by any means. Every tree has a drain built into the planting hole, the landforms are all manipulated to

		accommodate drainage, acres and tons of topsoil were imported, and the amount of water needed to keep plants alive is overwhelming and extremely expensive. And, the water is needed not just to hydrate the plants, it is necessary in order to leach salts from the soil which will naturally return through capillary action if the water is ever turned off. NOT A SUSTAINABLE LANDSCAPE AND NOT A GOOD EXAMPLE FOR LANDSCAPE IN THE NORTHWEST QUADRANT. Will water harvesting be required on all levels, individual residences, commercial developments, schools, etc? Imported topsoil should be prohibited in large public areas especially, and limited around homes where people may want small vegetable gardens – need to create a lifestyle that works with what is there naturally.
17	GD-3.4	All landscape water should be reclaimed; potable water should not be permitted for landscape use. Do not see a need for financial incentives; make it a requirement, period.
17	The sketch at the bottom	It shows trees. I don't know of any "drought/salt-tolerant trees" that are native to that landscape.
18	GD-4.1	Do not see a need for incentives; it should just be required and common practice for this "sustainable" community.
18	GD 4.2	Again, incentives should not even be discussed; it should be an absolute requirement to have water efficient designs that require gray-water. This is our chance to develop a community that meets all the standards of practice for sustainability, and they should not be negotiable. Developers need to understand this right from the beginning.
18	GD 5, bullets 13-14	A secondary water system utilizes gray water or waste water; it should be incorporated into the utility system at the very beginning.
18	Last bullet	Again, why are we providing incentives for practices that are absolutely necessary for sustainable design and building? Achieving LEED Gold (NC) should be demanded; not encouraged. Sustainable practices of all kinds should be demanded. If we don't demand excellence, we won't get it.
18	GD 6	Sustainable stormwater management practices should be required, not encouraged.
19	Second column, last bullet under NH1.2	Sports fields are high resource users; shouldn't the people who live and play in this new community find other recreation opportunities such as biking, hiking,

		wildlife watching, and other sports that take up less space, utilize too many resources, and are not sustainable in that landscape?
19	Center chart	Conservation-Oriented Neighborhood: Expand the no cats to include dogs, ferrets, or any pet that if it escaped could pose a danger to the natural fauna.
19	The pictures	They show too much lawn; too many non-native and high water use plants. They do not represent the sustainable concepts discussed in the plan and send the wrong message about what the development should ultimately look like. It could be confusing to developers too; the pictures are contradictory.
20	Second column, first bullet	Yes, but once again most of the pictures and many of the sketches do not show a landscape compatible with conditions in the Great Salt Lake area. They are contradictory, incompatible, not achievable without major landscape modifications and artificial techniques. Either the pictures or the words are a lie; which is it?
20	NH 4.2	Not encourage, require.
20	NH 5.3	Trees do not fit into the visual character of the area. To fit into the landscape, architectural elements should be low to the ground, not tall and imposing. Think of a small Mexican village in a desert; only wet, with no trees.
21	The pictures	They show too many trees. Growing trees will require extensive modifications to the soils, engineered drainage systems, and other non-natural means to be successful. Requires too much resource use – there are other ways to get shade, define a street, and create a neighborhood – and there should be for that development
22	The sketches	Ditto, ditto, ditto. As landscape architects and planners, we need to be a bit more creative here.
23	The pictures	Especially the middle one; not the appropriate landscape look for the northwest quadrant. The plan requires landscaping, but it should not look like that. It is NOT sustainable.
23	ED5.2	Delete this elitist comment completely. 5.1 covers it.
24	The pictures	Too much lawn and trees – there must be more appropriate photographs to show what is really intended.
25	General	Do we want to provide some guidance on how the transportation corridors are landscaped?
26	General	Lifestyles need to change for those who will be living in the northwest quadrant; at least in the area north of the highway. Could we put large play fields, etc south of the highway where the environment is not so sensitive. The pictures again, show too much lawn and trees.

26	Second column, PT1.3, bullet 5	I agree; there are many organic controls that should be required. Again, this is a totally different environment than what is typically maintained by the Parks Department; changes are in order and needed to meet any level of sustainability.
28	First column	Much of the culture of the area is agricultural, is that preserved or represented? Conservation easements should be a required part of any development agreement for all open spaces, undeveloped lands, etc.
28	PS1.1	Not encourage, require.
28	PS 1.4	Impact fees that accurately represent the cost of development, including public facilities (water, sewer, storm water, roads/transportation, parks, etc.) should be developed and implemented prior to any development approval. The rest of the City's residents should not subsidize development in the northwest quadrant where everything will be more expensive, more design-intensive, and more innovative in order to be truly sustainable. Alternative sources of energy should be demanded. Fossil fuels are not sustainable; its time to utilize other sources as a commitment to sustainable development. Absolutely everything in the Northwest Quadrant Community should be cutting edge, technologically new and fresh, and if nothing else an example of what can be done and should be done.
28	PS 1.6	There must be something that is organic, non-toxic, etc. Mosquito fish?
28	PS 2	Schools should be cutting edge and take advantage of the unique environment. In many parts of the world and in other places in the U.S., schools grow their own vegetables, and provide good healthy food for students. Green houses and simple technologies can be implemented and should.
29	Future Land Use 2.	I new zone that encompasses the entire area is appropriate.
29	Environmental Attributes 5.	Wetlands should be delineated and avoided, not mitigated.
29	Green Design 5.	Really want to see these things required, not encouraged.
31	Disconnected Playas	How can they be rated low when they are a significant source of inserts, and provide nesting, foraging, and resting for the very important shorebirds. Disagree totally that they are not important even if disconnected – they are intermittently connected during high water

		events and important.
31	Freshwater Marshes	Third line – "usually" is spelled wrong. These should also be rated high.
31	Canals/Uplands	Canals are very important culturally, and have historic importance related to the valley-wide irrigation systems and agriculture. They are man-made, and culturally very important to the Northwest Quadrant. They should be protected and maintained.
31	Evaporative Basins	"Basins: spelled wrong.
32	Below 4215 elev.	Two feet of fill should not be allowed for all of the reasons mentioned previously, i.e. "Allowing two feet of fill in order to create safe, developable land is a complete contradiction to all of the good concepts included in the plan, and can only be attributed to kowtowing to developers. This one, major contradiction alone, makes this plan a joke and a farce and the exact opposite of sustainable."
32	High-Functioning Wetlands	They are admittedly (in this Master Plan) extremely important and occur below 4217. Why allow filling to remove them; again it is a complete contraction to the stated goals and objectives of the plan.
32	Between 4215 and 4217	Please show me the code which allows development. In several other places in the document, it states that Salt Lake City Code prohibits development below 4217.
32	Sensitive Wildlife Habitat	If preservation of wildlife habitat is a major goal, why are these areas listed as Level III, which allows development and destroying them?
34	Element 3	For wildlife protection, domestic pets need to be prohibited from those areas not discouraged. If a barrier is needed, it should work.
35	Sections	Trees are not native; there are no native species in the area. Buffers and screening should be provided using only native plants.
37	Sections	Same comment – trees do not fit in that landscape.

Thank you for the opportunity to comment. Please keep me informed of any public meetings or other opportunities to present my views on what I consider to be the most important landscape left in the Salt Lake Valley, and truly worthy of protection and preservation.

Respectfully,

Jan Striefel, FASLA, AICP, LLA

September 2, 2009

Via Email Transmission

Salt Lake City Planning Commission
Attention: Mary Woodhead, Chair
451 South State Street, Rm 406
PO Box 145480
Salt Lake City, UT 84114-5480

RE: SLR Comments Draft Northwest Quadrant Master Plan

Dear Planning Commission Members:

We appreciate the efforts the committees and City staff have made to this point in developing this recent draft of the Northwest Quadrant Master Plan (the "Plan"). Suburban Land Reserve ("SLR") understands the challenge it is to try to address a variety of issues and interests.

After reviewing the latest revisions to the Master Plan, and one of the largest landowner in the affected area, we believe that several key issues in the document still need to be clarified. **For your convenience, we have prepared comments to the existing draft of the Plan, and have prioritized the comments to include the most critical issues in Section I, less important (more clarification type issues) in Section II, and minor issues like typos in Section III**. We have not prioritized the comments within each Section, but for convenience have simply followed the pagination of the Plan. We ask that you please address these issues and incorporate the requested changes into the Plan prior to any recommendation of approval to the City Council. We have discussed all of these issues with planning staff and understand they intend to incorporate the changes as proposed. However, it is unclear whether the changes can be incorporated prior to the Plan's distribution to this Salt Lake City Planning Commission in anticipation of the September 9th meeting so this letter will serve to document the remaining items that will need to be incorporated into the Plan as a condition of SLR's support of the Plan. Once these changes have been incorporated as described below, SLR is prepared to support the Plan. Again, it is gratifying to note that significant progress has been made to this point and we hope these few comments will further assist in that process. We also want to express appreciation to the Salt Lake City Planning Staff, in particular Everett Joyce, for his professional expertise.

SECTION I

1. Pg. 11. A final critical paragraph must be added in this Section to address application of the concepts. This paragraph and the concepts herein are key to comments in many sections of the document. Members of the Public Utilities Department, among others, noted many internally

inconsistent objectives. City staff must have guidance to resolve these and other conflicts. Therefore, the following paragraph was conceptually agreed to by the City as we discussed these concerns during the earlier rounds of comments and during a public discussion of the plan and we ask that it be inserted:

> "The bullets below each stated policy identify specific strategies for achieving the policy, and should be implemented where feasible. It is possible that proposed strategies under one policy may conflict with those under another policy, or with legal, financial or other constraints. It is also possible that innovative and creative solutions may be identified for achieving the stated policy in different ways. Planners should be flexible in reconciling any conflicts, and considering alternative or additional strategies, bearing in mind the primary goal of achieving the policy in a socially, economical and environmentally sustainable manner."

2. Pg. 12. EA-1, 5th bullet point should begin with "Seek to restore" high-functioning wetlands through appropriate control of exotic vegetation species.

3. Pg. 12. EA-2.1a, (i) this depiction still only shows one pod of low density residential and it states "provides a framework for growth by identifying places that should NOT be built on" (emphasis added); (ii) also to be consistent, references to Natural Areas should be "Limited" access rather than "Restricted"; and (iii) should have the caption "For illustration purposes only, uses and horizontal depiction not to scale."

4. Pg. 13. EA-3.2, bullet point 2, should read "Limit human activity in Natural Areas, especially high functioning consolidated nesting areas."

5. Pg. 14. Characteristics of Natural Areas Section, Below 4,217 Elevation, the phrase "in Natural Areas" should be inserted after the terms "site hydrology" in the final sentence of that section.

6. Pg. 14. Characteristics of Natural Areas Section, Protection Measure: Conservation easements should be added back as a possible conservation tool. Conservation easements should not be limited to Conservation Development Zones.

7. Pg. 14. Characteristics of Conservation Development Zone, Below 4,217 Elevation, the final sentences should be modified to read "Fill of Natural Areas between the 4,215 - 4,217 elevations should only be permitted when evidence is shown that these areas are substantially isolated.

8. Pg. 14. Characteristics of Conservation Development Zone, Purpose: Five bullets were deleted from the prior draft. These should all be added back in, and include such things as parks, golf courses, interpretation and education, local food production (gardens), etc.

9. Pg. 17. GD-1., bullet point 7, in the last sentence the words "developed areas" should replace the words "the residence".

10. Pg. 17. GD-3.3, bullet point 4, should be deleted and replaced with the following: "Encourage the maintenance of native soils and native landscaping in large public areas."

11. Pg. 23. The following proposed language should replace the existing ED-7 to capture the concepts of impact fees, financing and related issues as discussed with the City:

GUIDING PRINCIPLE ED-7. *PROMOTE THE REALIZATION OF THE VISION EMBODIED BY THIS PLAN THROUGH ENHANCING ECOMOMIC VIABILITY.*

Policy ED-7.1. Recognize the unique opportunity to promote economically sustainable development through public/private partnership.

- Seek opportunities for innovative funding and financing.
- Recognize and reward the financial contribution to the City created by development of the Northwest Quadrant.
- Undertake formal review of impact fees applicable to the Northwest Quadrant to (i) comply with legal constraints, and (ii) fairly allocate the costs of implementing this Plan and providing necessary services within the Northwest Quadrant.
- Explore equitable and creative allocations of the costs of implementing this Plan among all stakeholders.

12. Pg. 26. MT-6.1, The first sentence of this item should be replaced with the following sentence, "Transportation corridors shall be designed to minimize impact to natural drainage areas."

13. Pg. 28. PS-1.1, The word "Require" should be replaced with the word "Encourage" as the first word of that sentence.

14. Pg. 29. Add the following two sentences: Implementation of the action items listed below should take economic feasibility into account. Nothing in this Plan is intended to inhibit or preclude the use of innovative and creative solutions to maximize the Plan's goals of social, economic and environmental sustainability.

15. Pg. 29. Environmental Attributes Category, item 7, Property Owner should be included as one of the entities involved.

16. Pg. 30. Under Public Services, we must see some recognition that the Impact Fee Ordinance may require modification in connection with the provision of public services. The following sentence would work: Undertake formal review of all impact fees applicable to the Northwest Quadrant to (i) comply with legal constraints, and (ii) fairly allocate the costs of implementing this Plan and providing necessary services within the Northwest Quadrant.

17. Pgs. 31-32. The Intro to the ToolBox was changed significantly and should be modified as indicated in the attached redline of those pages.

18. Pgs. 31-32. The pictures and many of the recent changes in this Tool Box need to be modified as many of these new changes create somewhat misleading and confusing descriptions. Our proposed revisions to this Section are contained in Exhibit A, and we have included new pictures which more accurately depict the landscapes and habitats.

19. Pg. 34. Element 3 of Step 1, second sentence should read "including, but not limited to,"

20. Pgs 35-37. Example diagrams. The word "horizontal" must replace the word "vertical" in the notes near the bottoms of each of the concepts drawings.

21. Pg. 32. Level I Factors Section; Below 4,215 Elevation Category. The final sentence in this category should be deleted. (These issues were addressed in other areas of the Plan.)

22. Pg. 32. Level II Factors Section; Between 4,215 – 4,217 Elevation Category. The final sentence in this category should be deleted. (These issues were addressed in other areas of the Plan.)

SECTION II

1. Pg. 7. Under Environmental Framework, third paragraph, four lines from the bottom should be "enhancement and/or mitigation," or "enhancement or restoration work."

2. Pg. 7. Figure 6 needs colors in map defined.

3. Pg. 10 & 11. Figures near bottom of pages need a caption that states something like "For illustration purposes only, uses and horizontal depiction not to scale."

4. Pg. 13. EA-3.1 Please add caption "For illustration purposes only, uses and horizontal depiction not to scale."

5. Pg. 13. Guiding Principle EA-2, refers to "Table EA-2.1." We do not find this Table anywhere. Is it on page 14? If so, it needs to be labeled.

6. Pg. 13. Figure EA-3.1, this should read "Buffers—Distance and Other Barriers Improve Water Quality & Reduce Perceived Threat to Wildlife." The point here is that barriers and buffers are not two separate things. Barriers are part of buffers.

7. Pg. 15. EA-2.1b., c. and d. All need the caption "For illustration purposes only, uses and horizontal depiction not to scale."

8. Pg. 17. GD-1. Fifth Bullet. Add "Seek to" before utilize integrated pest management where appropriate.

9. Pg. 18. GD-5.1 Delete the words "Maximize" and "Install" from in front of the items listed in the first set of bullet pointed items.

10. Pg. 19. Table NH-3.1a. The definition of Low Density has been altered and is back up to 5-8 Dwelling Units. This should be 1-8 rather than 5-8.

11. Pg. 26. PT-1.3, Fifth Bullet needs to read "Seek to" …avoid the use of pesticide."

12. Pg. 29. Proposed Action Table, the following time frames should be modified as follows: Environmental Attributes: 4. Mid-term; 9 Mid-term. (We need to know plans before we can accurately make these determinations.)

13. Pg. 34. Step 2, Second paragraph should have the word "some" inserted between "of" and "surrounding" in the second line.

SECTION III

1. Pg. 1. Table of Contents: Resource Protection needs page number.

2. Pg. 6. Second full sentence under Parks, Trails & Recreation heading, the words "by the" should be inserted between owned and Airport Authority…"

3. Pg. 7. Environmental Framework, Paragraph 2, last sentence, there should be a comma after "Buffers."

4. Pg. 9. Bottom box, Valley is capitalized once, lower cased next.

5. Pg. 10. Middle box, #2, "Homes" should be "homes."

6. Pg. 11. Top box, #2: "25,00" needs an extra "0."

7. Pg. 29. Green Design, numbering problem: there is no #2.

8. Pg. 31. Freshwater Marshes: "usualliy" spelled wrong.

9. Pg. 34. Step 2, last sentence, add "the" before "protected."

We appreciate your efforts, and your willingness to work with us through this process. Please do not hesitate to contact us if you have questions or need clarification.

Very truly yours,

Exhibit A
Proposed Revisions to Tool Box

RESOURCE PROTECTION BUFFER TOOLBOX FRAMEWORK

General Description

The Northwest Quadrant is situated on the edge of the Great Salt Lake and includes wetland~~s and~~, playa and upland habitats for wildlife. It has the potential to be a new sustainable community that embodies the principles of sustainable development – to balance and integrate the social, economic, and environmental components of the community while meeting the needs of future generations, respecting the needs of other communities, and preserving and (in some ways) enhancing natural ecological functions.

The Great Salt Lake is located, at least in part, on a shallow closed basin playa, which results in large changes in lake surface area due to changes in water level and elevation. The Great Salt Lake ranges in size from 950 square miles at its low elevation of 4,191 feet, to 3,300 square miles at elevation 4,211.6 feet. At an elevation of 4,215 feet, lake water overflows into the West Desert, further increasing its surface area. These great swings of elevation provide changing conditions that constantly transition between wet and dry. Adjacent shorelands vary as the water level rises and falls, creating interspersed aquatic areas, wetlands, uplands, saline playas, and mud flats of varying degrees and values. Though the Lake averages an elevation of 4,200 feet, annual fluctuations can cause water level changes of up to 20 feet. Tracking historic lake levels have revealed drought and flood cycles spanning roughly 30 years. The most recent high water level reached 4,211.6 feet in 1987, and more recently, the historic low water level of 4,191 feet in 1963 (USGS, 2007). Due to the size of the Lake's basin and flat topography, a water level rise of just one foot can add an additional 70 square miles to the Lake surface area. These changes in elevation greatly affect the ~~balance between~~presence and abundance of freshwater and saline ~~saltwater~~ habitats on the Lake's shorelands.

A Large Resource

The Great Salt Lake is an important natural feature of the western United States and the largest salt lake in the Western Hemisphere. The Great Salt Lake serves as an important migratory stopover in the central flyway, serving several million birds each year, and in 1992, was designated a ~~one of 17 reserves in~~part of the Western Hemisphere Shorebird Reserve Network. The Inland Sea Shorebird Reserve, located near the Northwest Quadrant, provides important habitat for many migratory ~~and~~ shorebirds. The waters of the Lake ~~are home to~~can support a large number of insects, bacteria, and macro-invertebrates that find a home in its saline waters, and are a significant food resource for birds and mammals.

Several streams empty into the Lake. These streams create emergent freshwater, saltwater and mixed marsh wetlands and contribute to diked freshwater bays, including Farmington Bay and Willard Bay located north and east of the Northwest Quadrant. The south and west shores of the Great Salt Lake, where the Northwest Quadrant is located, receive little precipitation and little freshwater ~~return flows, input from natural rivers and streams~~, which results in a landscape characterized by saline playas, mud flats, and transition to semiarid upland areas. The presence of freshwater habitats is predominantly the result of imported irrigation water and artesian wells that are used for managing agricultural lands, duck clubs, and wildlife reserves.

Landscape Mix

The edge of the Great Salt Lake lies within the northwestern edge of the Salt Lake Valley, ~~and is characterized by six primary landscape types~~includes a varied mix of landscaping types, including functional playas, disconnected playas, salt flat edges, freshwater marshes, canals and ~~/~~uplands, and evaporative basins. The functional values of these landscapes vary in this area.

Functional Playas. Functional playas ~~are depressional wetlands that~~ become inundated with great frequency and have obvious and substantial hydrological connections with the Great Salt Lake. Characterized by highly saline conditions, and mostly bare ground with less than 5 percent vegetative cover, playas are relatively rare. In addition to draining directly into the Great Salt Lake, there may be some instances where micro depressions exist within these playas that may hold water ephemerally, which likely contribute to the playas' hydrology. High~~-~~functioning playas are ranked high due to sensitivity and rarity in this planning area. [REPLACE EXISTING PICTURE WITH PICTURE 1.]

Disconnected Playas. Disconnected playas occur in depressional basins that are isolated from the Great Salt Lake. They ~~are depressional wetlands that~~ are dry much of the year, but can provide additional flood protection and habitat value. Characterized by a high saline content, mostly bare ground, and vegetated with pickleweed and iodine bush, these playas are highly variable in their capacity to ~~teem with insects and other macro-invertebrates during the wet season and~~ supply nesting, resting and foraging areas for shorebirds. Disconnected playas are ranked low in sensitivity and quality due to the lack of hydrological connections and the infrequency of inundation. [ADD PICTURE 2.]

Salt Flat Edges. Salt flat edges ~~are also depressional wetlands, but~~ are characterized by hyper-saline soils and contain little to no vegetation in the dense salt crust. Salt flats within the Northwest Quadrant appear to be at least partially inundated on a regular basis.

Freshwater Marshes. Freshwater marches are ~~depressional~~ wetlands usually consisting of a wet meadow edge before transitioning to upland vegetation. They are characterized by open water areas with emergent marsh vegetation, such as cattail, bulrush, rushes, sedges. In the Northwest Quadrant, ~~F~~freshwater marshes are frequently found in ~~the Northwest Quadrant and~~duck clubs, wildlife reserves, agricultural ponds and along canals, ditches and storm drains, such as the Goggin Drain. Freshwater marshes can harbor diverse wildlife and vegetation, filter pollutants, slow erosion, and absorb stormwater. Most of these conditions in the Northwest Quadrant have been created and supported artificially by way of irrigation water, and much of the water quality is poor due to the poor quality irrigation water source. Freshwater marshes are ranked medium largely due to existing and potential wildlife use, artificial hydrology and easy recreation.

Canal and ~~/~~Uplands. ~~This condition is comprised of m~~Man-made canals including the Goggin Drainage, North Point Canal and minor irrigation canals, convey either stormwater or irrigation water in the area. These are typically steep-sided banks surrounded with dense vegetation including common reed and cattail. Artificial in nature, water levels can fluctuate greatly with precipitation events and management of waterways. These channels and canals, however, could be modified to support an adjacent riparian community of trees and shrubs. Canals are ranked low due to the poor water quality, and habitat and reliance on artificial hydrology keep ranking on the low end.

~~–~~Uplands comprise a significant amount of the landscape in the Northwest Quadrant. Uplands, while developable, can complement wetlands and portions can sometimes serve as part of the functioning ecological system, offering different vegetation and conditions for species that utilize a mix of resources and habitats. ~~They can support upland species such as pheasant, jackrabbit, red fox, pronghorn antelope, voles, shorebirds and coyote;~~ Their edges buffer wetlands from disturbances and impacts; and provide nesting areas and refuge habitat at flood stage.

Evaporative Basins. Evaporative ~~bains~~ basins, while rare in this area, are shallow depressions that receive and hold surface flows ephemerally, appearing to lose water only by evaporation or slow percolation. Unlike disconnected playas, ~~T~~these depressions are mostly vegetated with salt tolerant vegetation dominated by little barley and saltgrass, with pickleweed, alkali mallow, and alkaliweed being the less dominant species. Although their soils ~~appear to be saline in nature~~are somewhat saline, the concentrations are much less than playas and salt flats. Evaporative basins are commonly found around the Great Salt Lake shorelands. These depressional habitats are highly variable in their size and frequency and duration of saturation or ponding. Subsequently, the wildlife values of evaporative basins are also highly variable. [DELETE MISLEADING PICTURE.] ~~Evaporative basins are ranked high due to rarity and sensitivity to changes in water quantity and quality.~~

An Important Mix

All six of these landscapes, in varying degrees, can be important to the ecosystems found on the southern end of the Great Salt Lake. A varied mix of these lands can be important for regeneration and adaptation. Protecting areas with a mix of these naturally functioning landscape types is important to preserving the character and function of the ecosystem found on the southern end of the Lake.

Protecting Valuable Resources

Great importance has been placed on protecting the resources around the Great Salt Lake, with wetlands and playas playing a primary focus of conservation. Some resource areas have already been protected as part of wildlife reserves, mitigation areas, duck clubs or lands with conservation easements~~, but the protection has been primarily focused on wetlands and less on the uplands and playas~~.

Another concern is conserving and protecting valuable quality water resources. Numerous channels and canals run through the Northwest Quadrant. Water conservation is a region-wide concern, and it is important that sufficient water is returned to the Lake's shorelands to help maintain ~~its salt and mineral balance and, perhaps more importantly, to~~ and support the various types of wildlife ~~that depend on its open water and wetland habitat for food and shelter~~habitats that occur within the Northwest Quadrant.

~~Despite intense industrial use of the water that reaches the Lake, the existing water quality is a testament to the filtering function of wetlands on the edge of the Lake.~~ The high water table of these shorelands requires consideration as development continues ~~adds to this concern. Shallow groundwater areas (which are difficult to drain and protect from floods) and additional paving and stormwater runoff require special consideration from a development perspective~~ to avoid significant harmful alterations to groundwater patterns and the overall water regime. The ~~complex~~ chemistry of this highly saline Lake is an additional consideration, as it impacts what will live both in the Lake and on the land around it. It also shapes the viability of various lake-based industries, including brine shrimping, salt evaporation ponds and chemical extraction, which are contributors to the local economy.

Key development constraints are outlined in the table below. This Northwest Quadrant Master Plan seeks to prevent development in Level I areas and reduce development intensity in Level II areas, where necessary, in order to preserve and protect the natural systems associated with the Great Salt Lake. It is also important to recognize that some infrastructure and/or improvements may be made in these areas to protect and/or enhance these sensitive areas and to facilitate their integration with development areas. Level III constraints acknowledge development will occur in these areas, but recognizes that additional study is likely necessary to determine whether special development conditions may be required.

Enhancement of other, more important wildlife habitat may be a preferable alternative to protection of Level III or even Level II constraint areas. For example, enhancement and restoration of Bailey's Lake may provide much better wildlife habitat in a larger contiguous area than would protection of various smaller wetland or habitat areas elsewhere.

Buffer Toolbox

Protection of these resources needs to be balanced with the development rights of landowners and existing uses, thus creating the need for buffers. Resource buffers are not meant to prevent development, but are specifically designed to protect those resource conditions that are intended to be protected, such as wetlands and wildlife habitat along the development fringe.

It is expected that impacts to some resources are unavoidable as part of development in the Northwest Quadrant. Impacted resources will require mitigation elsewhere to continue to preserve the natural ecological function and the site's carrying capacity. Resources intended to be protected require buffers to protect them from the effects of adjacent land uses.

The distance of each buffer is based on a relative scale measuring resource sensitivity and land use type and intensity. The decision-making process for the features of each buffer is illustrated in Figure 11.

The concept of the Buffer Toolbox will provide developers and planners with flexibility while protecting valuable natural resources. By creating resource protection parameters that manage access to sensitive resources and are not the "one size fits all" solution, developers can be flexible to react to market forces and be creative in developing solutions to protect, enhance, and create wildlife habitat. Buffer distance should initially be selected based on the sensitivity and rarity of the resource and the proposed adjacent land use, and then can be reduced by adding other barriers, such as fences and visual screens. A three-step process is outlined on the following pages.

LEVEL I FACTORS (AREAS WHERE EXISTING CONDITIONS, RISKS TO DEVELOPMENT, OR RESTRICTIONS BY OTHER GOVERNMENTAL ENTITIES ARE LIKELY TO PRECLUDE SIGNIFICANT ADDITIONAL DEVELOPMENT)	
100-Year Floodplain	A 100-year flood is the flood that statistically has a 1% chance of occurring each year. For land use planning purposes, the regulatory floodplain is usually viewed as all lands within reach of a 100-year flood. The Federal Emergency Management Agency (FEMA) produces floodplain maps, defining what's in and out of the 100-year (or "regulatory") floodplain in order to implement the National Flood Insurance Program. In addition, Salt Lake County Floodplain Hazard Regulations (Chapter 19.74) "prohibits building in flood ways but allows building in the floodplain with adherence to protection standards." Standards include anchoring, flood resistant construction materials, design of utilities to minimize infiltration of floodwaters, residential construction with lowest floor elevated to a minimum of one foot above the base flood elevation, and flood-proofing for nonresidential development below one foot above the base flood level. The 100-year floodplain is shown to occur along much of the northern portion of the Northwest Quadrant as well as extending into the northern portion of Goggin Drain. The Surplus Canal and the Great Salt Lake have not yet been mapped for FEMA flood insurance purposes. The Northwest Quadrant will need additional study to determine floodways and floodplains.
Below 4,215' Elevation	The water surface elevation of 4,212 feet above sea level represents the recorded historic high water elevation for Salt Lake, which occurred in 1986 and 1987. During this period, pumping by the West Desert Pumping Station occurred to lower the lake's surface water elevation. Water levels also reached this elevation in 1866 and 1867. The historic low water elevation for the period of record (1845-present) was recorded in 1963 at an elevation nearly 20 feet lower at 4,191 feet above sea level. The current water surface elevation is approximately 4,196.5 feet. Wind and wave action may pose a hazard risk five feet or more above the historic high water elevation, making the hazard risk elevation 4,217 feet. Salt Lake City does not permit development below elevation 4,217 feet. Up to two feet of fill may be allowed in certain areas with elevations of 4,215.
Developed Parcels	Existing development (commercial and industrial uses) is located primarily in the eastern portion of the Northwest Quadrant.
Protected Lands	Protected lands include the lowland portions north of the Bailey's Lake Meadow Mitigation Bank and the Airport Wetland Mitigation Site.
Major Transportation Facilities	Major transportation facilities in the Northwest Quadrant include a six-mile section of Interstate 80 that runs east-west through the center of the Northwest Quadrant, and two railway lines (Western Pacific and Union Pacific Railways) that run east-west across the lower third of the Northwest Quadrant, as well as a regional hub. Salt Lake International Airport is located immediately adjacent to the Northwest Quadrant.
LEVEL II FACTORS (AREAS IN WHICH DEVELOPMENT WILL OCCUR, BUT WHERE IT MAY BE REGULATED OR WHERE SOME DEVELOPMENT ACTIVITY MAY REQUIRE MITIGATION)	

Utah Sensitive Species	Species included on the Utah DNR's Utah Sensitive Species List.
High-Functioning Wetlands Systems	These areas include the highest functioning wetlands preliminarily identified through the Functional Assessment of Wetlands and Wildlife (SWCA, 2006). These wetland areas tend to be below the 4,217-foot elevation, within the recommended conservation area, near other sensitive wildlife habitat, and in closest proximity to the Great Salt Lake. Wetland types found in the Northwest Quadrant include: open water, emergent marsh, wet meadow, transitional wet meadow and playas. Various waterbirds, wading birds, shorebirds and several raptor species use these habitats for foraging. Much of the northern boundary of the Northwest Quadrant is located in an area identified by the Utah Division of Wildlife Resources as wetlands of state importance for a number of different animal and plant species. Additional study should be encouraged to identify the specific locations of high-functioning wetlands.
Between 4,215'-4,217' Elevation	In some areas, wave and ice action may pose a hazard risk up to the elevation 4,217 feet (based on historic high lake level of 4,212 feet). These elevations are used by Salt Lake City as limits to development. City code allows fill on land above 4,215 feet to bring the elevation up to 4,217 feet.
LEVEL III FACTORS (AREAS IN WHICH DEVELOPMENT WILL OCCUR, BUT WHERE ADDITIONAL STUDY OR SPECIAL DEVELOPMENT CONDITIONS MAY BE NECESSARY)	
Sensitive Wildlife Habitats	Key habitats include: Significant large areas of developable uplands. Nesting colonial wading and waterbirds, which include western grebe black-crowned night-heron, white-faced ibis, Forster's tern and black tern. These species are found in the area of the Airport Wetland Mitigation Site, Goggin Drain, and Bailey's Lake. Nesting colonial shorebirds include nesting black-necked stilts and American avocets. These species are found in areas of mudflats, inundated playas, wet meadow, and partially vegetated playas in the Goggin Drain and Bailey's Lake area, but which will need to be confirmed through further study. Areas of significant concentrations of migrating shorebirds to be determined by Developer through further study, which may be found in the area of Bailey's Lake, Goggin Drain, and the Airport Wetland Mitigation Site. Areas of significant concentrations of migratory waterfowl, including geese, ducks, grebes, and coots to be determined by Developer through further study, may be found in the area of the inundated playa complex near the KSL radio towers, open water areas in the area of the Airport Wetland Mitigation Site, Goggin Drain, Bailey's Lake, and in the Lee Creek drainage area. Areas of significant concentrations of migratory wading birds, including egrets and white-faced ibis to be determined by Developer through further study, which may occur in playas, wet meadows, mudflats, and intermittent open water in the area of Goggin Drain and Bailey's Lake. Significant concentrations of other regionally important and unique species to be determined by Developer through further study, which include: snowy plover in the playas adjacent to Lee Creek, migrating swallows on mudflats in the northeast portion of the Northwest Quadrant, and peregrine falcon. Lee Creek is also likely to be used as a wildlife corridor for a variety of terrestrial animals. Sensitive habitats include portions of playas that cannot be recreated.
Other Wetlands Systems	These areas include wetlands not classified as high-functioning according to the Functional Assessment of Wetlands and Wildlife (SWCA, 2006).
Channels and Canals	Channels and canals in the Northwest Quadrant carry irrigation, storm, artesian well, and treated wastewater toward the Great Salt Lake. Channels and canals include the Surplus Canal, North Point Consolidated Canal, Bailey's Lake, Goggin Drain, West Branch, Brighton Drain, and Lee Creek. A series of connected paleo channels are present in the central portion of the Northwest Quadrant north of Interstate 80, and appear to have historically been connected to the Jordan River. Channels and canals are often associated with wetlands, which occur along their margins.
Open Space Zoning	The purpose of the OS open space district is to preserve and protect areas of public and private open space and exert a greater level of control over any potential redevelopment of existing open space areas.
Airport Zoning A & B	Salt Lake International Airport is located immediately east of the Northwest Quadrant. The eastern half of the Northwest Quadrant is mapped as a moderate/high noise impact zone.
Lowland Conservancy Overlay District	A lowland conservancy district was established by Salt Lake City to provide for the protection, preservation, proper maintenance, and use of Salt Lake City's watercourses, lakes, ponds, floodplain, and wetland areas. Areas under this designation generally require a residential no-build setback of 25 feet; a nonresidential setback of 50 feet for water bodies such as streams, lakes, ponds, and wetlands; and require a natural vegetation strip of 25 feet.

	The setback is from the boundary line or from the banks of the river. Wetlands and other water features mapped under this Salt Lake City regulation are found at several locations across the northern half of the Northwest Quadrant. These areas are associated with margins of wetlands associated with Salt Lake, in the locations of paleo channels and as isolated wetland areas. Overlay District areas can be found as either emergent wetlands or as playas.
Landfills	3 closed landfills are located north of Interstate 80 at its intersect with 7200 West north of California Avenue between 4800-5600 West and a portion of the Lee Kay Center property adjacent to California Avenue. The West Branch Canal flows through the closed landfill area north of Interstate 80. The Salt Lake City/County landfill located north of the Lee Kay Center is an active landfill.

Determining Buffer Distance

Step 1. Analysis

Element 1. Site Resources & Ecological Sensitivity.

An ecological assessment of the Northwest Quadrant should be conducted prior to development. The assessment should include a characterization of natural resources and identify the six specific habitat types identified above under Landscape Mix.

The analysis should assess habitat to determine the presence of state or federally sensitive, threatened or endangered species, and should identify sensitive habitats and lands intended to be left undeveloped. A wetland delineation should be conducted to determine jurisdictional wetlands, non-mitigatable resources, restoration projects, and mitigation recommendations. A determination of the importance and sensitivity should be included in the assessment.

Element 2. Proposed Land Use

Based on a conceptual land use plan, land use types, square footage, units, density, and intensity (including hours of operations) should be provided. The conceptual land use plan should also identify open space, parks, and trails. Since these lands are often located in the Conservation Development Zone the plan should summarize how the purposes of the Conservation Development Zone are met or exceeded. Each land use should be identified as a high, medium or low impact intensity.

Element 3. Mix of Barrier Options

Buffers should be designed to discourage domestic pet and human trespass in the Natural Areas. Buffers are composed of a variety of features, including, but not limited to, the following:

Natural Features/Open Space

Vegetation

Vegetative Screens

Restoration Areas

Fences

Roads

Trails

Berms

Moats

Signage

Land Use Design

Step 2. Buffer Recommendation, Mitigation & Management

Buffers are an important component of protecting wetlands and other aquatic resources. Salt Lake City is being proactive in developing buffers to protect the function and quality of the wetlands that will be preserved along the development fringe, and to be consistent with the Northwest Quadrant Vision.

~~True~~ The protection of wetland and playa values ~~protection~~ requires the conservation of some surrounding land ~~in addition to the wetlands~~as buffers. Wetland buffers are important for quality improvements, stream bank stabilization, flood control, wildlife habitat and groundwater recharge. The four primary criteria that should be considered when determining wetland buffers are:

~~4811-5973-3251.1~~4821-8378-9827.2

Resource functional value

Intensity of adjacent land use

Buffer characteristics

Specific buffer functions

Vegetated buffers can improve erosion control; remove sediment, excess nutrients and metal; moderate stormwater runoff and temperatures; maintain habitat diversity; and reduce the effect of human impacts.

Upland resources can sometimes be used to buffer productive wetland and aquatic resources from the effects of human development and associated activities. Development within the Conservation Development Zone may also contribute toward the effectiveness of buffers. Buffers for wildlife are much more difficult to define than for water quality, since they are based on individual and flock behavior. These terms are used for the measuring of the distance at which animals respond to a certain type of disturbance, such as approaching pedestrians or vehicles.

The size and nature of the recommended buffer shall be a function of both the sensitivity of the resource to be protected, and the intensity of the proposed land use, as illustrated in Figure 11. The buffer analysis should therefore summarize the level of ecological sensitivity, the proposed land use, and the proposed barrier types.

As a general rule, buffers based primarily on natural features and open space should be sized within the following ranges:

Small Buffer: 50 feet to 300 feet

Medium Buffer: 300 feet to 600 feet

Large Buffer: 600 feet to 900 feet

Buffer sizes may be reduced by the use of additional barrier features.

The recommendations should identify lands to be left undeveloped, mitigation recommendations, restoration activities, and management considerations.

The buffers should ideally be vegetated with native vegetation, either upland, riparian, wetland, or a combination of each. The vegetation needs to be dense enough to provide the water quality and visual buffer required to support the continued function of protected resource.

Step 3. Jurisdictional & Agency Review & Concurrence

Salt Lake City, state and federal agencies, ~~and~~ landowners and developers will review the buffer recommendation reports. They may ~~and~~ concur with the assessment, provide comments or request additional studies, which could include species-specific surveys. Based on resulting information, final buffer recommendations, barriers, protected lands, mitigation and restoration activities, and management recommendations can be mutually agreed upon.

Picture 1 -- Functional Playa with Minor Connection to the GSL

Picture 2 – Disconnected Playas

To: Mr. Everett Joyce and Members of the Salt Lake City Planning Commission

July 10, 2009

From: Jennifer Gillmor Larson
9029 South Despain Way
Sandy, Utah 84093
gbarider@yahoo.com

RE: Draft Version of the Northwest Quadrant Master Plan

Dear Members of the Planning Commission:

My name is Jennifer Gillmor Larson. My family owns several hundred acres in the Northwest Quadrant of Salt Lake City, where we operate a cattle, sheep and hay ranch. I am responding to the "Draft Version of the Northwest Quadrant Master Plan" as presented to us in May of 2009. I ask for your consideration on the following:

The "Foundation" of the plan reads, in part, on page 1 as follows:
"The Northwest Quadrant, Salt Lake City's western edge, includes 19,000 acres of the last prime development area with in the City." ..... "This area also includes important industrial lands, environmentally sensitive lands, (including the Great Salt Lake shorelands), ongoing mining operations, and lands needing reclamation."

Why those formulating and further presenting this plan to the public chose to omit one of the longest standing, important, and premier land uses in this area - known as agriculture- is incomprehensible.

The "Foundation" of the plan as continued, reads: " This plan was developed through a community-based planning effort involving landowners, community leaders, Salt Lake City residents, agencies, and key interest groups. The Plan presents a future for the Northwest Quadrant based on methods of development that will sustain and support the community in a sensible and responsible manner."

We have participated in this process to the degree that we were asked, informed, or available. Apparently, the 'current' "key interest group" landowners totally eclipsed the historical ones. Might a 100+ year old working ranch that owns several hundred acres in the NW Quadrant be considered a key interest group??? Who determined the definition of "Key" in relation to this plan?

The "Foundation" of the plan goes on to state: (I have omitted the "goal" language of the plan, as we all know what they are):
"Fulfilling these goals will be challenging. Nevertheless, City leaders, technical and advisory committees, stakeholders, and the public are motivated by the challenge of creating a sustainable community in an economically viable fashion, and are committed to a successful outcome. This Plan is guided by the following direction: Whatever occurs in this area must be based on the concepts of sustainability: social, economic and environmental."

Someone accidentally wrote this statement backwards. There can be no social nor economic "sustainability" without environmental "sustainability" being paramount- and secured. If you don't have clean air, water and food , well, its hard to sweat the other stuff. I trust you will correct this in the final version.

On the top of page 3 of the plan is a photo of myself, my sister Becky Gillmor Campbell and her infant son Oliver attending a "visioning" workshop, right above the words "Future Envisioned". The irony of this photo made me simultaneously want to hurl and laugh at loud upon reading through the rest of the document where exactly ZERO acknowledgement, attention, or regard was paid to our family's rights, statements or commentary. We are not even listed on the last page under "stakeholders". Our ranch has water rights dating back to the late 1800's. Our ranch has in part kept much of this vital land as is, and according to the folks behind this plan, suddenly ripe for the taking. Coincidentally, at BOTH "Visioning/Big Ideas" workshops held in January 2007 and November 2007 respectively, I took a marker and roughed in our land on incorrect maps showing Suburban Land Reserve as the owner of a 240 acre 'prime' parcel of our land west of the Gun Club road and south of the Goggin Drain. Who can explain the map still being wrong 11 months later?

Along with other multi-generational ranchers, farmers, duck hunters, and later the Audubon, we are the only people who have utilized the land North and West of the International center, with good reason. The "Northwest Quadrant" of Salt Lake city is home to our most VITAL pasture areas, it is the nucleus of our operation and in order to continue running our ranch sustainably, CANNOT BE REPLACED.

Evidently, sustainability really matters to these folks, since the word in some form was used over 28 times in the draft version of the plan.

Allow me to demonstrate a concept of "sustainability" so completely ignored in the plan- that we will keep it simple for those who have never considered it before:

Scenario 1) Humans move into and settle a given area of the planet with clean water, clean air and arable land. Humans populate that land, grow some food, engage in local enterprise and prosper.

OR

Scenario 2) Humans move into a given area with clean water, clean air and arable land. Humans then pave arable land, pollute water & air, and then complain when water and air is polluted and more "settlement" land is needed. Said humans further demand that everything that can be paved, will. Social, economic, and environmental standards are mandatory. In that order. Reasonably sustainable farming and ranching enterprises are driven out of the area. Fortunately here in Utah, our progress and current resources allow dinner to be delivered from Chile, water from Fuji, and we can all head to Alta for a long deep breath. The consequences of the social and economic factors eclipsing the importance of the environmental ones will be dealt with by some future generation after we are all long gone.

I ask everyone of you to truly deliberate the above mentioned scenarios, because your names will be attached to something like the second version, upon approval of this plan as is.

In the plan, much focus is given to the "Restoration of the Bailey's Lake Complex", apparently as a means for 'off-setting' the 'disturbance' created by the new town some folks evidently plan to build. Call me crazy, but I don't recall a single instance where upland/wetland property has been impacted, and said developers chose to not only 'mitigate' wetlands, but further moved to 're-create' the uplands they were paving as well. I wish all members of the planning commission could have witnessed the 'sea' of dying carp all over the NW Quadrant when the flood waters of the early 80's finally receded in 86 and 87. Imagine looking all the way to the horizon and only being able to step on carp or greasewood. I was a child then, but this really happened in the playas all over the NW Quadrant. Over and over again we continue to pave uplands around the lake, all the while increasing our steadfast devotion to and protection of, 'wet'lands. The uplands only warrant mention along with "canals" in the plan. Their value, as always, is marginalized. Maybe the floods will never happen again. Maybe they will, and Mr. Bangerter's old pumps will be brought to life. If they do happen again, and if they are even more severe than the floods of 82 and 83- well, we can always pray. The uplands surrounding this lake are vital. They are vital, in a worse case scenario like a 100 year flood, like social, economic, and environmental "sustainability" is vital.

We DO NOT give our consent to approve any plans to "Restore the Bailey's Lake Complex" that involve our land.

Regarding the multiple references to "Green" building and LEED standards:

If the proponents of this plan are going to throw this kind of commentary around with such fanfare, they might as well mean it. ALL future development that you approve in the Master Plan should REQUIRE that the most current LEED standards of site design and materials will be mandatory, as well as stringently monitored and enforced. Otherwise, ALL of the language simply "encouraging" LEED design principles, renewable energy sources, salvaged and rapidly renewable materials and the like- should be removed from the plan as, just mentioning it without meaning it is really just shameless window dressing.

On occasion, it appears our ownership interests in this area have been misunderstood. Allow me to indisputably clarify that my family owns hundreds of acres of land in the NW Quadrant, some of which is surrounded by Suburban Land Reserve. We are well aware of the zoning and "land use" changes that lay ahead.

As suggested in the "Implementation" section of the plan, we may need to create a new zoning classification that ensures our and our successors rights to continued agricultural use of our land. Said zoning should stringently protect our agricultural land use rights, without infringing at all on our options to maintain highest and best use of our land, nor our own and/or our successors rights to rezone our land for development with entitlements equal or superior to what you grant our neighbors, at any time. No permanent open space/ upland preservation/ or any other "designation" that infringes upon the future highest and best use of our property should be applied to ANY of our land except possibly where a conservation easement already exists, and this would need to be expressly approved by our family. We are well aware of the "nuisance" our land use may be to certain future land uses and we are prepared to defend it, as well as defend ourselves against any infringement that approval of this plan my cause to our current or future land use, rights, or value.

Likewise, any and all language in the plan prohibiting domestic animal activity in "Natural Areas" should be removed.

I understand that some may find the tone of this letter offensive, and I apologize for directing my frustration at anyone that does not deserve it. There are only two explanations for the total lack of acknowledgment of our family in this plan in any way shape or form.

1) We were "accidentally" left out of the plan and our land ownership and historical and ongoing land use went totally unacknowledged because of negligent and sloppy data collection and analysis.

2) We were deliberately left out of the plan. The second explanation, if provable, might have legal consequences, or it might not. Regardless, either explanation is totally unacceptable.

In the spirit of cooperation and good will, we will assume that somehow the 700+ acres we own in the Northwest Quadrant where we operate a historical business, that in 1996 was designated as a Utah Centennial Ranch and Farm just somehow "slipped through the cracks". We trust it won't happen again.

Kindly confirm that all members of the planning staff are fully aware of our position in relation to our land ownership and ongoing and future land use and rights in the Northwest Quadrant of Salt Lake City, as soon as possible.

Sincerely,

Jennifer Gillmor Larson

whitney.mcreynolds@stantec.com

As a water resource engineer in SLC, I want to express my concern regarding the NW Quadrant Master Plan. As an experienced professional who has worked in wetland mitigation, one of the most detrimental things for a high functioning wetland such as those found in the NW quadrant is the encroachment of development on adjacent uplands. A 100 foot buffer is not going to do it. The mud flat (playa) in this area is a limited and very valuable resource and this should be recognized. Large buffers should be mandatory. "Sustainable" development should preserve existing wetland and adjacent uplands rather than impacting and mitigating for wetland losses. West Valley has seen a loss in wetland function and value resulting from agricultural land being developed. Groundwater levels have dropped and wetlands have deteriorated. We should learn from our mistakes.
In addition, agriculture is not even mentioned and has a long history in this area. This should be recognized and not just abandoned to development.
This area is a valuable ecosystem that will be severely impacted with any development in its vicinity. This master plan should be rethought to preserve this valuable area.
Thank you,

Whitney McReynolds, PE

Joyce, Everett

From: Thos Campbell [thosbecky@yahoo.com]
Sent: Friday, July 10, 2009 7:32 PM
To: Joyce, Everett
Subject: NW Quadrant Master Plan

Categories: Other

Hello,
My name is Becky Gillmor Campbell. I am the youngest of a large family that has property located within the boundaries of this master plan.
You have maybe already received comment from my sister, Jennifer Gillmor Larson.
I am not as comfortable expressing myself as Jen is, but just wanted to let you know that we as a family are very concerned and would like the planning commission to consider the impact of this plan on our family, and the surrounding neighbors.
Our family has been in the livestock business for 113 years here in SLC. You may already know that, and you have probably got a sense of the amount of pride and intended preservation of this business. We have survived many challenges, and the property of concern is some of the most volatile for our business to continue.
All that I ask, really, is to please allow us to be involved in the planning process. Our family has been fortunate to work with our neighboring property owners on different projects, and would like to work with you to create the best possible outcome for everyone's interest within this master plan area.
We appreciate that you have kept us informed and up to date with the planning process. I had hoped to see our property not generalized with the preservation effort of the master plan area. I am not asking for special recognition, but we are hoping to work with all parties involved to assure that everyone is comfortable with the plans being made.
It is our wish to continue our family business, and the final decisions made on this master plan will determine how challenging that may become for our family. Again, our family has seen some pretty extreme challenges.
I thank you for your time and considering my comments. There is so much more I would like to say, but I hope you understand my concern and expressed hope for the best out come for everyone. I hope this gets to you in time.
Thanks again,
Becky Gillmor Campbell

Joyce, Everett

From: carla tuke [tukiefive@yahoo.com]
Sent: Saturday, July 11, 2009 12:02 AM
To: Joyce, Everett
Subject: Suggestions for Planning Commission RE NW Quadrant Master Plan

Categories: Other

Dear Mr. Joyce,

Being a Salt Lake City Resident for most of my life, it saddened me to hear of this plan to build yet another subdivision or "Town" on the lakeshore of the Great Salt Lake. Considering the air quality we currently experience here in the Salt Lake Valley it seems senseless to create more and on top of it to say that it is "Sustainable". Plus there are fragile and essential ecosystems in place here that should not be tampered with.

"Whatever occurs in this area must be based on the concepts of sustainability: social, economic and environmental." with LEED design principles to be "encouraged". It seem that the wording here is very vague and if you were truely to build a "Sustainable" community than the LEED Design principles **must** be implemented and monitored further yet "required". The wording just seems to be a bit of a "greenwash" to make everyone all warm and fuzzy and think that you will do the right thing, that their is some integrity in this planning. Too often its and oopsy in this state and then try to fix the damage later...after the developers walk away with all their money and its left to the tax payers to fix down the road, on top of loosing precious lands. The upmost attention should be given to preservation and conservation. Also their is no mention of the current agricultural activities, as well as the 100 year Ranches that operate in this area. What part of the "sustainable" community allows for food production, agriculture? aren't these part of achieving Sustainability....These are important issues to address, issues that aren't truely thought out and considered in this plan. These lands are worthy of protection and the upmost care should be required to come to a truely "sustainable" plan. To keep these irreplaceable wonderous places as they are and impacted very minimally by us humans.

Thank you for your consideration.

Carla D. Tuke

Attachment E

Comments Not Included in the Revised Draft

Northwest Quadrant Master Plan
Public Comments Not Included in Revised Draft

1	**Open Space**	Discussion	Response
	Any open space preserved should be accompanied by a required conservation easement.	Designation of open space areas that should have a conservation easements applied is an implementation action. Also this action should be coordinated through the City's pending Open Space Lands Master Plan and not through individual community level plans.	Staff recommends that the requirements of conservation easements within open space areas be handled through the Citywide Open Space Lands Master Plan and its related open space categories that would be developed through that process.
2	**SAMP**	Discussion	Response
	What is the status of the SAMP? It should be completed prior to the adoption of the master plan.	The Salt Lake County's Shorelands Plan and SAMP information was used as resource information in the development of the NWQ Plan. Completion of the SAMP is controlled by the State and not Salt Lake City. During the Northwest Quadrant Master Plan process State wildlife officials identified that the SAMP would not be finalized until the local government has a land use policy plan in place for the Sate to evaluate along with the SAMP study.	It is staff's belief that the master plan committees along with staff and the planning consultants used the SAMP information as a valuable resource for discussion during the master plan development process.
3	**Natural Landscape**	Discussion	Response
	The landscape design should reflect and respect the landscape in which it will be placed – visually, environmentally, and functionally. Those who chose to live there should be expected to modify their behavior and expectations, and adopt a lifestyle that supports the existing landscape and conditions.	The Northwest Quadrant Master Plan supports preservation of the existing landscape environment within the Natural Areas and minimizing landscape transformation within the Conservation areas. Use of native landscaping within the designated developable areas is encouraged, but placing severe restriction on the landscape palette for development areas by restricting trees contrasts with other sustainable practices related to the benefits of using landscaping within a community to lessen energy consumption.	Staff believes landscape designs within the Northwest Quadrant can be implemented that support the sustainable objectives of the master plan.
	Appropriate landscaping for the Northwest Quadrant does not include trees – there are no native trees there now and never have been.	Tree planting and increasing urban vegetative greening will help to improve air quality, sequester green house gases, and reduce heat island effects.	Staff believes that allowing for trees within the Northwest Quadrant would allow development of a community that can be responsive to the use of native landscaping and yet compatible with existing community designs within the region and will help to support infill development within the Northwest Quadrant rather than encouraging sprawl to further outlying areas within the region.

	Pictures and sketches within the plan show too much lawn; too many non-native and high water use plants. They do not represent the sustainable concepts discussed in the plan and send the wrong message about what the development should ultimately look like. It could be confusing to developers too; the pictures are contradictory.	Most pictures within the Northwest Quadrant Master Plan depict development patterns and are not specifically used to depict landscaping desires.	Staff believes that the pictures and sketches used within the master plan are appropriate to depict land use types and patterns and do not detract from the specific policy statements regarding the use of native landscaping within the Northwest Quadrant. However, staff will work with obtaining new pictures with more water conserving landscaping prior to finalizing the master plan.
4	**Wastewater Treatment**	Discussion	Response
	Development in the Northwest Quadrant should be required to treat its own waste water and storm water. With all of the wetlands and potential wetlands, it is an ideal place to implement many of the sustainable water treatment technologies used all over the world, including many arid environments.	How to service the Northwest Quadrant for public utilities is a Citywide operational issue and service to the area would be decided by the city's Public Utilities Department and not the community master plan. If the Public Utilities Department desires to allow smaller treatment facilities within the Northwest Quadrant the policies of the master plan would not prevent such action.	Changes to existing service plans for wastewater treatment within the Northwest Quadrant is subject to Salt Lake City Public Utilities Department policy and not the land use policy of the community level master plan.
5	**Gray Water**	Discussion	Response
	There should be no potable water to the project except for drinking. A secondary, gray water system should be designed into the project from the start.	The plan policies support the use of gray water. Implementation actions will be necessary to modify State regulations to accommodate use of gray water.	This issue is identified within the policies of the master plan and is part of the implementation actions
6	**Agricultural Uses**	Discussion	Response
	Gillmor Properties: As suggested in the "Implementation" section of the plan, we may need to create a new zoning classification that ensures our and our successors rights to continued agricultural use of our land. Said zoning should stringently protect our agricultural land use rights, without infringing at all on our options to maintain highest and best use of our land, nor our own and/or our successors rights to rezone our land for development with entitlements equal or superior to what you grant our neighbors, at any time. No permanent open space/ upland preservation/ or any other "designation" that infringes upon the future highest and best use of our property should be applied to ANY of our land except possibly where a conservation easement already exists, and this would need to be expressly approved by our family.	Agricultural lands within areas designated Natural Areas of the plan are identified to be addressed within the implementation actions of the plan to consider protection of continued agricultural uses. Areas in the Northwest Quadrant Master Plan that contain agricultural uses below the 4215 elevation presently are limited to certain development activity through the existing Lowland Conservancy Overly Zone. Those agricultural land uses located within the Conservation and other land use designated areas can continue as nonconforming uses. However, future development rights will be the same development rights other properties have with similar land use designations.	Defining and supporting continued agricultural uses is supported by the policies of the master plan, however, allowance for intensified development within low lying lands is prohibited within the existing zoning codes and will not likely be modified due the potential life safety concerns due the low elevation of these areas. The Northwest Quadrant Master Plan Future Land Use Map at the end of this document shows the proposed land use designation for the Gillmor properties.

7	**Leeds -Sustainable Site Initiative**	Discussion	Response
	LEED does a reasonable job with buildings, but is not great regarding sites. Suggest that the site and landscape receive certification or follow the recommendations found in the "Sustainable Sites Initiative", which is in-process and will become a part of LEED. It is being developed by the USGBC, American Society of Landscape Architects, and Lady Bird Johnson Center. See the Draft on the ASLA website.	The master plan contains the following Green Design Principle. "*Encourage LEED design principles, including LEED Neighborhood Development and LEED Site Design, along with consideration of the developing Sustainable Site Initiative.*"	Since the master plan policy encourages following the LEEDS Site Design standards and the *in progress* Sustainable Site Design Initiatives will be incorporated into the LEED system, Staff believes that this action would be accomplished by default and that the existing policy should not be modified to refer to draft policies that are not completely developed.