

September 30, 2019

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Reference: City of Sparks Federal Lands Future Service Area (FLFSA) Conceptual Master Plan Phase 1

This scope of work has been prepared to develop Phase 1 of a conceptual facility master plan for the City of Sparks Federal Lands Future Service Areas (FLFSA). The FLFSA is intended to connect east Sparks with the TRIC Industrial Park in Storey County and identify opportunities for future industrial development through an opportunities and constraints analysis.

Stantec previously prepared the City of Sparks Truckee Meadows Service Area/Future Service Area (TMSA/FSA) Conceptual Facility Master Plan in March 2008. This scope of work will update a portion of the previous analyses for the Federal Lands area as shown on the attached Development Suitability Figure (hatched United States of America) for conceptual level planning, environmental, and drainage evaluations and to evaluate conceptual level transportation networks to link east Sparks and the TRIC development with the potential Federal Lands development areas. The FLFSA will be prepared in phases to minimize costs while the Federal Lands Bill progresses, and more information becomes available.

Phase 1 of the FLFSA will include the following tasks (see the Scope of Work below for details):

1. Meetings and Coordination
2. Data Acquisition and Slope Analysis
3. Evaluation of the Area of Critical Environmental Concern (ACEC)
4. Viewshed Analysis
5. Planning Analysis
6. Conceptual Transportation Plan
7. Hydrologic Analysis and Floodplain Mapping
8. Preparation of a Conceptual Level FLFSA Master Plan Report.

Phase 2, to be completed under a separate scope, is anticipated to include:

1. Update of conceptual drainage crossing improvements based on selected roadway alignments.
2. Additional roadway analysis engaging RTC's Regional Transportation Model with roadway enhancements.
3. Update of conceptual water infrastructure improvements based on developable area and selected roadway alignments.
4. Update of conceptual sanitary sewer improvements anticipated to be a regional WWRF facility.
5. Conceptual effluent management opportunities.
6. Support staff for consultation with TMRPA regarding TMSA boundaries.
7. Update of the Conceptual Level FLFSA Master Plan Report and Fiscal Analysis Report.
8. Cultural resources Class III inventory within a selection of areas along the ACEC boundary.

9. Update the viewshed analysis with additional cultural resource identified during the Class III inventory.

## SCOPE OF WORK

### TASK 1. MEETINGS AND COORDINATION

Coordination meetings with the City of Sparks, BLM and the Reno-Sparks Indian Colony will need to take place during the execution of this plan. It is anticipated to budget four (4) meetings with each entity as separate meetings. It will be assumed that two (2) staff will attend each meeting with a 2-hour time that includes travel.

#### Deliverables:

- Meeting agendas and summaries via email

### TASK 2. DATA ACQUISITION AND SLOPE ANALYSIS (NCE/STANTEC)

NCE will review the previous project data and supplement the existing information with updated data in digital and hard copy formats. The information to be collected includes, but is not limited to:

- Updated City of Sparks GIS data files for zoning, master plan land use, existing water, wastewater and flood control infrastructure;
- Updated meteorological data;
- Updated groundwater data;
- Soils and geologic maps;
- Updated water resource options potentially available for development;
- Updated applicable land use planning documents and agreements;
- Updated RTC transportation planning and modeling data;
- Copies of all existing studies pertinent to this scope of work.

A slope analysis based on City of Sparks development criteria, will be prepared by merging the Washoe County digital data for approximately 40 sections of land to create a digital elevation model. We will classify slope bands per staff input and identify the number of developable acres within each elevation zone. All other available data will be integrated to create a developable area map for conceptual planning purposes.

#### Deliverables:

- Hard copy and digital base map for facility planning

### TASK 3. EVALUATION OF ACEC (NCE)

The evaluation will inform the extent to which identified, developable land may infringe on the ACEC boundary. As part of the evaluation, NCE will identify resources that may be impacted by the project and determine the need for baseline surveys required, including wildlife, air, special status plants, air quality, and cultural resources.

Because the ACEC primarily focuses on the presence of prehistoric cultural resources (petroglyphs and other associated archaeological sites), NCE Cultural Resources Specialists will conduct a records search at the BLM Sierra Front Field Office in Carson City, to identify known cultural resources within and adjacent to the ACEC boundary. The field office visit will also include a meeting with BLM archaeologists to discuss the project, BLM expectations, and identify additional data needs for Phase 1 of this project (e.g., viewshed analysis, see Task 4 below).

NCE will develop a summary memo documenting the results of the evaluation and subsequent development potential. This will include any portion of the ACEC area within a future development scenario. This task requires a confirmation of the current ACEC boundaries pursuant to BLM's District Office data and includes:

- Review the existing BLM Carson District RMP;
- Review the proposed BLM Carson District RMP Amendment;
- Review the proposed Federal Lands Bill to determine applicability to the project;
- Review existing biological baseline reports and any cultural reports we can obtain to review; and
- Review ACEC implementing regulations to determine if any exemptions apply that would allow modifications/reductions of boundaries or development limitations.
- This task includes attending two meetings with BLM District office staff and two meetings with City of Sparks staff to discuss findings. NCE will determine potential biological, cultural, ethnographic studies and other resource specific surveys that may be required to reduce the ACEC and recommend a process moving forward.

**Deliverables:**

- Summary memo documenting the results of ACEC evaluation and subsequent development potential

**TASK 4. VIEWSHED ANALYSIS (NCE)**

Due to the significance of the ACEC, it is anticipated that indirect effects to historic properties will be an area of focus for the BLM to protect resource integrity. As a planning tool, NCE will incorporate the results of the records search within the GIS, followed by a viewshed analysis. The objective of the analysis is to establish areas outside the ACEC boundary that are visible, as well as not visible from various observation points (e.g., archaeological site boundaries). Areas visible from the ACEC boundary would be excluded from development planning, whereas areas not visible hold more potential for consideration.

The level of effort associated with this task will be limited to a desktop analysis only. Field verification is not budgeted as part of Phase 1 as it is better suited within Phase 2. The draft analysis would be refined as part of Phase 2 once additional cultural resources are identified along or adjacent to the ACEC boundary.

**Deliverables:**

- Hard copy map(s) and digital material (upon request) of the viewshed analysis results

**TASK 5. PLANNING ANALYSIS (NCE/STANTEC)**

Based on the results of the slope and viewshed analyses, a planning analysis will be prepared (i.e., suitability model) of contiguous parcels available for development using other digital data sources from local, state and federal agencies to create a comprehensive base map for infrastructure planning purposes.

Using development templates from existing industrial projects within TRIC, Reno and Sparks, a site plan to understand the magnitude of development potential in acres and estimates of building square footage will be prepared.

**Deliverables:**

- Comprehensive base map with updated development suitability model
- Excel Spreadsheet of parcels with allowable development potential after removing constrained areas with acres and building square footages.

## **TASK 6. CONCEPTUAL TRANSPORTATION PLAN (NCE/STANTEC)**

A Conceptual Level Transportation Plan for the FSA Federal Lands will be developed. This information will be documented in part within a technical memorandum that reviews existing conditions and previous studies relating to transportation and identifies feasible alignments.

This will include:

- Background research and familiarization;
- Summarize jurisdictions and agency responsibilities;
- Review and assess results of previous efforts; and
- Revise previous assumptions and recommendations
  - Given information presented to the City by the BLM on 9/11/2019, roads within the ACEC do not appear allowable, but perimeter crossing of the new boundary may be acceptable. As such, current proposed connections, including proposed alignment modifications, may require revision. Vista at its eastern terminus will need reconsideration. The viewshed analysis will assist in determining adjustments adjacent to the ACEC boundary.
- AutoCAD 3D will be used to develop one optimized conceptual alignment on the identified routes.
- Storey County topographic mapping obtained from the City of Sparks will be used to support roadway alignment options at the connection into TRIC.

### **6.1 Transportation Elements**

The Team will review RTC assumptions in the Regional Transportation Plan and inputs for consistency. It is expected that the RTC's model will reflect the City's land use and transportation goals and growth objectives. All inputs will be reviewed with the City prior to inclusion in the Plan.

- Background Research and Familiarization
  - Summarize jurisdictions and agency responsibilities.
  - Review and assess results of previous efforts.
  - Undertake discussion of previous assumptions and recommendations and their validity.

### **6.2 Develop Transportation Corridors (Coordinate with RTC and NDOT)**

The Team will develop a description of the existing transportation network, and anticipates the following tasks:

- Data Collection – Collect background master planning, corridor planning and traffic impact reports from road authorities: RTC RTP and model outputs; NDOT Transportation System Projects; Land Use Assumptions; Washoe County Master Plan; Truckee Meadows Regional Plan; Transportation and Land Use Master Plans for City of Sparks, Storey County.
- Prepare summary table of the Sparks arterial roads which this project proposes to tie into.

### **6.3 Development of Roadway Alignments**

AutoCAD 3D will be utilized for the conceptual roadway alignments. The various alignments to investigate include an internal network with possible connections to these points of roadway interface:

- Link between I-80 east of Patrick to La Posada Drive;
- Vista Boulevard at GERP (a preliminary analysis to determine if another viable route than that planned through the ACEC will be reviewed with City Staff);
- Vista Boulevard at its eastern terminus (near fire station);
- Baring Boulevard; and
- Copper Canyon Project Area.

The alignments as stated above may be modified per previous discussion with those that appear reasonable and doable based on constraints from the ACEC and viewshed analysis along with physical constraints in the terrain.

#### **6.4 Estimation of Traffic Flows**

Stantec will perform an analysis of traffic volumes, and anticipates the following subtasks:

- Existing and Future Demand
  - A review of TMRPA Consensus Forecasting and Projections for areas assumed for land development will be compared to the RTC model (based on recent and ongoing updates verified against TMRPA growth model), traffic analysis zones and City/County land use plan to verify existing and planned land uses. Should the FLFSA not be included we would request a model run including the proposed FLFSA. Cost for this model run is not included in this proposal. We would be happy to provide a proposal for this additional effort if requested.
  - Adjust and refinements to ensure accuracy of inputs and assumptions.
  - Review current traffic volumes.
  - Compare volumes to target LOS and available capacity.
  - Review forecasts for traffic volumes.
  - (Deferred to Next Phase) Discussions with RTC and City staff to revise model inputs.
  - (Deferred to Next Phase) RTC to re-run model based on re-assessment and refinement of inputs.
- (Deferred to Next Phase) Planned Improvements
  - Description of planned improvements per RTC 2040 RTP, NDOT and City: Capacity added, new infrastructure, transit improvements, external transportation projects.

#### **6.5 Evaluation of Transportation Corridors and Service Needs**

- Deficiencies in the Current Transportation Network
  - Identify capacity and LOS deficiencies on existing roads and whether there is a plan (RTC, NDOT, etc.) to address the deficiencies.
- Deficiencies due to Future Development and Growth
  - Identify capacity and LOS deficiencies that will arise between 2020 and 2040 as a result of planned land use in Sparks, and whether there is a plan (RTC, NDOT, etc.) to address deficiencies.
  - Identify significant gaps between forecast LOS/capacity and target LOS/capacity.
- Overview of Alternative Scenarios
  - Prepare inputs and assumptions for land use scenarios in the FSA area.
  - Recommend alterations in the land use plan to accommodate a more balanced transportation plan, if appropriate.
- Recommended Improvements and Proposed Transportation Network (Traffic Conceptual Plan)
  - Prepare draft Technical Memorandum documentation and drawings, outlining the proposed transportation network for the horizon years and layout of new roads and extensions; interconnection of existing and proposed facilities, intermodal links.

### **6.6 Planning Level Estimate of Facility Costs and Development of Phasing Plan**

We will prepare cost estimates and implementation schedule for the proposed transportation network. Cost estimates will be split for each of the recommended improvements. The cost and schedule information will be included in the Technical Memorandum and submitted to the City of Sparks for formal review and comments.

#### **Deliverables:**

- Technical Memorandum, Conceptual Transportation Plan, (digital and hard copy format)

### **TASK 7. HYDROLOGIC ANALYSIS AND FLOODPLAIN MAPPING OF DRY LAKE AREAS (STANTEC)**

Stantec previously prepared conceptual level hydrologic and hydraulic analyses for the TMSA/FSA effort and developed conceptual level floodplain delineations for drainages with greater than 1-square mile contributing watersheds. This scope of work will review the previously prepared hydrologic analysis and develop floodplain delineations for the closed basins located in Dry Lakes sub-watersheds DL4 and DL5. Stantec anticipates the following tasks:

- Review and update the previously prepared hydrologic HEC-HMS model for the entire contributing Dry Lakes watershed (DL1-DL5) to obtain 100-year, 24-hour runoff volumes contributing to the closed basins.
- Prepare a continuous simulation model to determine peak dry lake volumes and levels.
- Delineate floodplain boundaries for the closed basins using existing Washoe County 2-foot contour interval topographic data and the peak lake elevations determined in Tasks A and B above.
- Review all available cultural resource studies for the Area of Critical Environmental Concern (ACEC) encompassing portions of Dry Lakes sub-watersheds DL3, DL4, and DL5, and identify developable areas outside of the delineated floodplains and ACECs.
- Review of Drainage Concepts
  - Review the existing policies and criteria for closed basin areas and develop policies and criteria for future development and flood control projects surrounding these areas.
  - Coordinate with City Personnel for input and concurrence with proposed policies and development criteria.

### **TASK 8. CONCEPTUAL LEVEL FLFSA MASTER PLAN REPORT**

Based on the outputs from the previous tasks a Draft Master Plan report will be prepared and provided to the City of Sparks for review and input prior to finalization.

#### **ASSUMPTIONS:**

- Scope will not include any NEPA compliance;
- Scope will not include any baseline surveys;
- Scope will not include any public meetings or tribal meetings;
- Scope assumes the BLM will provide access to existing cultural and biological reports associated with the ACEC, as well as any other pertinent reporting associated with the ACEC
- The viewshed analysis will not include field verification for Phase 1

## FEE ESTIMATE

Task	Description	Cost
1.0	Meetings and Coordination	\$11,760
2.0	Data Acquisition and Slope Analysis	\$11,680
3.0	Evaluation of ACEC	\$16,160
4.0	Viewshed Analysis	\$16,320
5.0	Planning Analysis	\$17,900
6.0	Conceptual Transportation Plan	\$132,960
7.0	Hydrologic Analysis and Floodplain Mapping of Dry Lake Areas	\$35,760
8.0	Conceptual Master Plan Report	\$14,400
<b>TOTAL</b>		<b>\$256,940</b>

Schedule: Please see attached.

On behalf of everyone at NCE, we appreciate the opportunity to be of continued service to the City of Sparks. Should you find this proposal acceptable, please provide Stantec an authorization to proceed and a Service Agreement. Should you have any questions or concerns, please do not hesitate to contact me at your earliest convenience.

Kindest Regards,  
NCE



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Sparks Federal Lands Future Service Area

TASK	Nov				Dec					Jan				Feb								Apr				May			
	11/4	11/11	11/18	11/25	12/2	12/9	12/16	12/23	12/30	1/6	1/13	1/20	1/27	2/3	2/10	2/17	2/24	3/2	3/9	3/16	3/23	3/30	4/6	4/13	4/20	4/27	5/4	5/11	5/18
Data Acquisition	Yellow	Yellow	Yellow	Yellow				Red	Red																				
Transportation			Yellow	Yellow	Yellow	Yellow		Red	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow								
Planning			Yellow	Yellow	Yellow	Yellow		Red	Red																				
H&H			Yellow	Yellow	Yellow	Yellow		Red	Red	Yellow				Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow								
ACEC			Yellow	Yellow	Yellow	Yellow		Red	Red	Yellow				Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow								
Draft Report																						Yellow	Yellow	Yellow					
City Review																									Green	Green			
Final Report																											Yellow	Yellow	



## **City of Sparks Federal Lands Future Service Area (FLFSA) Conceptual Master Plan Phase 1**

Proposed Staff:

NCE:

John Welsh, PE, Project Manager

Jeremy Hall, GISP, RPA, Cultural Resources Specialist

Sean Teeter, PE, Transportation Engineer

Angie Hueftle, PE, QA/QC

Stantec:

Cynthia Albright, AICP, CUD, GISP: Providing Planning Analysis

Joe Mactutis, PE, Traffic & Transportation Engineer: Assisting with Conceptual Transportation Plan

Trina Magoon, PE, Water Resource Engineer: Hydrologic Analysis and Floodplain Mapping of Dry Lake Areas

(Stantec had background information and had worked up a slope analysis in the original document. In respect to cost it was deemed best to utilize portions of existing information and modify as needed.)