EXHIBIT "A" – SCOPE OF SERVICES

The "INTERSECTION IMPROVEMENT DESIGN PROJECT" involves the survey, design, and preparation of plans, contract documents, specifications, and an engineer's estimate of construction cost for two major intersections on Florence Boulevard at:

1. **Trekell Road** and at
2. **Arizola Road**.

The SCOPE OF SERVICES to be delivered under this contract for this project are set forth in this Exhibit "A."

1. TOPOGRAPHIC AND RIGHT-OF-WAY SURVEY

   a. Topographic field survey for the street rights-of-way including 25 feet beyond the street right-of-way line on both sides of the street for 300 feet in each direction from the center of the intersection (or past the nearest intersecting street intersection, whichever closer)
      - Trekell Road and Florence Boulevard intersection
      - Arizola Road and Florence Boulevard intersection
   b. For the Trekell Road intersection, the topographic survey will include surveying the back of curb line or edge of pavement line from Doan Street on the south to 8th Street on the north to provide the pavement width for roadway restriping design purposes
   c. Locations of all the existing traffic design (signing, striping and traffic signal) features
      - Sign post location and panel display with its size
      - Striping and pavement marking locations, widths, etc.
      - Traffic signal and PPB pole locations
      - Size and number of conduits between pull boxes, controller and load center
   d. Locations of observed surface features for overhead and underground utilities, fire hydrants, water valves, sewer manholes, gas valves, electrical boxes and transformers, light poles, etc.
   e. Location of any found property corners and/or right-of-way monuments
   f. Delineation of right-of-way lines on base mapping and plan sheets
   g. Property descriptions for any additional right-of-way or easements needed for the project

2. A – ROADWAY DESIGN

   a. Basis of Design Report
      i. Stipulates design criteria
      ii. Identifies issues that will need to be addressed in the design
      iii. Lists project stakeholders including:
         - Affected property owners and contact information
         - Impacted business managers and contact information

- Utility company representatives and contact information

iv. Checklist of project related information received and still needed

b. Base Drawings and Plans

i. Includes topographic survey and right-of-way survey information

ii. Preliminary plan set

- Cover Sheet
- General Notes
- Details Sheets
- Plan Sheets
- Plan and Profile Sheets

iii. Base plans provided to utility companies to verify locations of their facilities

c. Preliminary Roadway Design and Preliminary Plans

Preliminary design of paving and drainage improvements; design to address the following items

i. Delineation of roadway widening

ii. Pavement sections

- Existing roadway
- Pavement removals
- New pavements in widened areas

iii. Location and extents of curb/gutter sections

iv. Prepared subgrade

v. Aggregate base course

vi. Asphalt surface course

vii. Utility fixture adjustments (manhole frames/covers, water valve boxes, utility boxes, etc.)

viii. Storm drainage collection system (gutter flow, inlets and pipe) and outlets

ix. Design valley drain sections to facilitate positive drainage and eliminate ponding areas where needed through intersections

x. Protection of existing utilities; replacement of any facilities damaged during construction; coordination with utility companies for any relocations needed

xi. Design 6-ft (min.) wide sidewalks on each side of the roadways

xii. Providing for the new construction or reconstruction of sidewalk ADA ramps and ADA compliant sidewalk crossings of driveways

xiii. Preliminary landscaped area restoration design

xiv. Identify any right-of-way needs for the project and provide property descriptions for needed right-of-way tracts for acquisition purposes

xv. Develop a preliminary opinion of probable construction cost for the project

xvi. Submit preliminary plan/profile set and the preliminary opinion of probable construction cost to the City for review and comment

xvii. Schedule and meet with City staff to review the preliminary plans and related information

xviii. Address comments received on the preliminary design submittal

d. Final Design and Final Plan Set

i. Prepare final 'construction ready' project documents

ii. Final project document sets; to include:

- Plan Set
- Technical Specifications
- Bid/Contract Documents
- Cost Estimate

iii. Final design of the intersection improvement project

- Includes and addresses all aspects addressed in the preliminary design phase

iv. Prepare and submit draft final design plan sets to the City for review and comment

v. Update the opinion of probable construction costs

- Submit to the Town along with the draft final design plans

vi. Prepare and submit draft supplemental Technical Specification sections to the MAG Standard Specifications and Details for review and comment along with the draft final design plans

vii. Schedule and conduct a field review of the overall design with City representatives

viii. Address comments received on the draft final plan sets and the supplemental Technical Specifications from both the plan review and the field review

ix. Final design plan sets will reflect all items noted during preliminary design, plus the following items

- Traffic control
- Right of way restoration of disturbed areas
- Details at tie-in points including curb ramps

x. Prepare and provide construction details as needed to clearly convey the intent of the design

xi. Prepare and provide construction notes as needed to also define and convey the design intent

xii. Address any final review comments from the City on the plans, specifications and cost estimates

xiii. Prepare and submit final plan sets to the City for bidding purposes

xiv. Update and finalize the opinion of probable construction costs and submit to the City

xv. Edit and provide sets of Bid/Contract Documents including the bid forms and special provisions

xvi. Provide electronic files for all final design project document sets to the City of the plans, specifications, and opinion of probable construction costs in PDF and original file formats (e.g. Word, CAD files, etc.)

2. B – TRAFFIC ANALYSIS & TRAFFIC CONTROL DESIGN

Provide an operational analysis, traffic engineering, and geometric design services for the Trekell Road intersection along Florence Boulevard in Casa Grande.

a. Operational Analysis and Initial Geometry

i. The operational analysis provided for Trekell Road (that was included in the Statement of Qualifications document) will be updated using the latest traffic count and turning movement data provided by the City

ii. All analysis will be performed using the Florence Boulevard operational analysis model to provide the City a corridor traffic progression analysis in 2016

- The analysis and recommendations write-up provided for the proposal will be revised and provided as a project white paper

iii. Based on the through and turn lane recommendations in the operational analysis, recommended geometric design to accommodate the recommended lane configuration will provided (in an AutoCAD file)

iv. The geometric design will include the sidewalk/ramps, signal pole and pedestrian push button (PPB) pole location design

v. Potholing will be conducted on the proposed signal pole locations to confirm the locations are acceptable with no utility conflicts

- The signal pole locations will be adjusted as needed based on potholing results

Provide an operational analysis, traffic engineering, and geometric design services for the Trekell Road and Arizola Road intersections along Florence Boulevard in Casa Grande.

i. As the northbound (NB) to westbound (WB) turn volumes are high, the "baseline alternative" for Arizola Road is assumed to include 2-left turn lanes for this movement

ii. In a white paper, the change in level of service (LOS) and delay between existing conditions and the baseline alternative with the 2-NB to WB left turn lanes will be provided

iii. The baseline alternative with the 2-NB to WB left turn lanes with alternatives that include additional left and/or right turn lanes as defined by the prior traffic analysis report will be analyzed and compared

vi. The analysis and recommendations white paper and the geometric design to accommodate the recommended lane configurations will be provided (in an AutoCAD file) as outlined previously for the Trekell Road intersection

The assumption is that one iteration of modifications to the traffic data will be needed prior to modeling. Changes in the time of year the data was collected may result in the recommendation to modify volumes to ensure the highest volume conditions (worst case) are used in the analysis.

b. Intersection Traffic Design
    i. Traffic signal, intersection lighting, signing, pavement marking, and traffic control design for both intersections will be provided
    ii. The traffic signal plan sheets will be provided at a 1"=10' scale
    iii. One pole schedule and one phasing plan sheet is included
    iv. For both intersections, it is assumed that two or three of existing signal and PPB poles will need to be relocated
    v. Existing conduits will be extended and new conductor, PPB's, and man/hand signals are assumed to be needed in all locations
    vi. The traffic design plans will be laid out in the ADOT format
    vii. The existing phasing plan, as provided by the City, will be modified to be consistent with the traffic operations analysis.
    viii. Timing cards with the phasing information will be provided to the City.
c. Light level calculations for the intersection (only) will be made as part of the process to finalize the location of the relocated traffic signal poles
    i. The design will comply with the AASHTO Roadway Lighting guidelines for the intersection type as directed by the City
    ii. Supplementary lighting may be needed
        - In these cases, supplementary Type A poles (12' to 15' high poles used for "pull through" left turn signals) may be replaced with a 30' tall pole that can also serve as a light pole.
        - Separate lighting plan sheets will not be provided
d. Traffic Plans
    i. One signing plan sheet for each intersection will be provided at a 1"=20' scale
    ii. One general note/quantities plan sheet for the traffic design is also included
e. Signing and Striping
    i. The existing striping layout will require modifications to accommodate the additional left and right turn lanes
        - New signs will be provided to accommodate these turn lanes
        - It is assumed the remaining existing signs will not be replaced.
    i. One or two striping plan sheets for each intersection will be provided at a 1"=20' scale
    ii. One signing and striping general note/quantities plan sheet is also included
    iii. As the lane configuration, curb and gutter, and/or raised median designs will change for the Trekell and Arizola approaches, the design will provide for the existing pavement to be milled and resurfaced to provide a clean slate for the new striping and crosswalk layouts
        - This will also give a homogeneous look to the pavement where sliver widening is needed
        - Striping and pavement marking design for the approved geometric configuration will be provided

- As the design provides for changes in the number of lanes on the crossroads, the striping plans may run up to 500' beyond the intersection in order to tie into existing lane line striping

f. Trekell Road Signing and Striping Design
   i. Pavement marking and signing plans for Trekell Road south of Florence Boulevard will be provided to convert the existing 4-lane roadway into a 3-lane roadway with bike lanes
   ii. The plan will be provided at a 1"=40' scale in an over/under format
   iii. The striping plan sheet will be used to show the existing signs and proposed new signs as needed to convert the existing 4-lane roadway to a 3-lane roadway with bike lanes
   iv. Crosswalk striping will be provided as requested by the City along Trekell Road
   v. No striping, crosswalk markings, or signing are included on intersecting side streets

g. Traffic Control Plan
   i. One traffic control plan sheet will be developed in a schematic format for each intersection
      - This sheet will show the approach signing and barricading design
      - The obliteration of existing striping and temporary striping are not envisioned or included
      - One general note/quantities plan sheet is also included.

3. PROJECT & CONTRACT DOCUMENTS
   a. Bid/Contract Documents will be prepared and submitted
      i. Draft technical specifications for measurement and payment purposes will be prepared for both the preliminary plans and the final plans
   b. Construction Cost Estimates will be prepared and submitted
      i. A preliminary cost estimate based on preliminary quantities will be prepared and submitted with the preliminary plan deliverables
      ii. A final cost estimate based on final determined plan quantities will be prepared and submitted with the final design deliverables
   c. Public and Stakeholder Information Documents will be prepared and used as needed
      i. Project overview, purpose and need
      ii. Project goals and benefits
      iii. Project impacts and durations
      iv. Temporary construction easements

4. MEETINGS & OUTREACH
   a. Outreach to the project stakeholders (property owners, store managers, utility companies, etc.) will be made early and frequently during the design process

b. Partnering with the stakeholders will be conducted throughout the project development through regular project updates, presentation meetings, and one-on-one discussions when and as needed

c. Presentation meetings will take place at pre-determined times
   i. Near the beginning of the design effort to brief the stakeholders on the project purposed and initial concepts
   ii. Following completion of preliminary plans
   iii. Near the completion of the final plans

d. Stakeholder outreach will run on two parallel tracks
   i. With the property owners and store managers
      - One-on-one meetings with the affected business owners and managers
      - Meetings will be held with each property owner and business manager to explain the project, develop a good working rapport, answer questions, outline the benefits post-construction, and gain their buy-in and acceptance of the project
   ii. With the utility companies
      - Regular coordination contacts with the utility companies
      - The goal is to address and resolve all potential utility conflicts before significant detail is added to the final design plans

*** End of Exhibit “A” Scope of Services ***