



CITY COUNCIL Study Session

August 12, 2024

6:00 PM, Council Chambers - 111 E. Maple Ave.

To view a Council meeting agenda, visit <https://independencemo.portal.civicclerk.com/> and select 'Most Recent Council Agenda'.

COUNCIL SPONSORED ITEMS

1. Traffic Calming (*Sponsored by Councilmember Stewart*)

CITIZEN REQUESTS

1. Citizen Requests - Per Council Rules, Sec. 6.4 only "Council Sponsored Items" are eligible

PRESENTATIONS

1. Council action is requested to authorize the City Manager to enter into a design contract with, and issue a purchase order to, Burns & McDonnell, in the amount of \$844,876, authorizing future minor change orders not to exceed \$84,487.60, for engineering and design services as part of the Truman Connected Phase II Project (No. 112401).
2. City Code Amendments for the Charter

INFORMATION ONLY

1. Boards/Commissions Report
2. **Please Note:** In accordance with RSMo. 610.021, the City Council may convene in an Executive Session during or after the meeting, in the Council Chambers and move to Conference Room D for the closed meeting, on matters of litigation, legal action, and/or attorney client communications, as permitted by Sec. 610.021(1), on matters

of personnel, as permitted by Sec. 610.021(3) and personnel records, as permitted by 610.021(13), on matters of contracts, as permitted by 610.021(12), on matters of real estate, as permitted by 610.021(2) and/or matters of labor negotiations, as permitted by 610.021(9).

City of Independence

AGENDA ITEM COVER SHEET

Agenda Title:

Council action is requested to authorize the City Manager to enter into a design contract with, and issue a purchase order to, Burns & McDonnell, in the amount of \$844,876, authorizing future minor change orders not to exceed \$84,487.60, for engineering and design services as part of the Truman Connected Phase II Project (No. 112401).

Recommendations:

Council approval is recommended.

Background:

Approval of this item will authorize the City Manager to direct staff to enter into a design contract with, and issue a purchase order to, Burns & McDonnell for an amount not to exceed \$844,876 as part of the Truman Connected Phase II Project (No. 112401).

This project will be the second phase of the Truman Connected Plan which will connect to the end of the Phase I trail at Winner Road and Sterling Avenue and continue along Sterling Avenue south to US 40 Highway. The project will include, but is not limited to, the addition of ADA-compliant sidewalks, on-street bicycle lanes, pedestrian signal improvements, new green infrastructure, and traffic-calming measures. A unique feature of this project is the intention to remove the traffic signals at the Sterling Avenue and Sheley Road intersection to be replaced with a roundabout.

A request for proposals was issued for the design phase of this project. Three companies submitted proposals for review. City Staff have selected Burns & McDonnell as the most qualified firm and have negotiated a scope and fee for these services.

This project has been awarded federal grant funding from the Mid-America Regional Council's (MARC) Congestion Mitigation Air Quality (CMAQ) fund in the amount of \$719,085, as well as the Carbon Reduction Program (CRP) in the amount of \$3,500,000.

Emergency Justification:**Fiscal Impact:**

The fiscal impact to the City is \$929,363.60 including contingency. Funding for the Truman Connected Phase II Project (No. 112401) is included in the FY 24-25 adopted budget, page number 183, account number 7011-5406. This project is grant-reimbursable for up to \$4,219,085 in federal funds through CMAQ and CRP.

Council Action:

**Department /
Contact**

Municipal Services /

REVIEWERS

Lisa Reynolds
Jeremy Cover
Meagan Borth
Zachary Walker
Susanne Holland

ATTACHMENTS:

1. Scope of Services - Burns & McDonnell - Truman Connected Phase II Project No. 112401

SCOPE OF WORK

TRUMAN CONNECTED – PHASE 2

REVISION NUMBER 01
REVISION DATE: 4/5/24

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APPENDIX B - TRAFFIC SIGNAL REPAIR NEEDS

FIGURES

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TABLES

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List of Abbreviations

Abbreviation	Term/Phrase/Name
APE	Area(s) of Potential Effects
CATEX	Categorical Exclusion
DOT	US Department of Transportation
EA	Environmental Assessment
ENGINEER	Burns & McDonnell Engineering Company Inc. & sub-consultants
FHWA	Federal Highway Administration
HPS	High Pressure Sodium
IPaC	Information for Planning and Consultation
MDC	Missouri Department of Conservation
MDNR	Missouri Department of Natural Resources
MO	Missouri
MOA	Memorandum of Agreement
MoDOT	Missouri Department of Transportation
MoDOT	Missouri Department of Transportation
MUTCD	Manual on Uniform Traffic Control Devices
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NTP	Notice to Proceed
OWJ	Official with Jurisdiction
OWNER	City of Independence, Missouri
PA	Programmatic Agreement
PROWAG	Public Right-of-Way Access Guidelines
ROW	Right-of-Way
SHPO	State Historic Preservation Office
St.	Street
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service

1.0 Introduction

This project will be the second phase of the Truman Connected Plan, which will connect to the end of the Phase 1 trail at Winner Road and Sterling Avenue and continue along Sterling Avenue south to US 40 Highway. The project will include, but is not limited to, the addition of ADA compliant sidewalks, on-street bicycle lanes, pedestrian signal improvements, new green infrastructure, and new traffic calming measures. The City also intends to remove the traffic signals at the Sterling Avenue and Sheley Road intersection and replace this intersection with a roundabout.

Roadway design speed shall be based on the existing posted speed or as defined by the condition.

The phases of the project include:

1. Survey and related services.
2. Assessment of existing conditions and conceptual layout of improvements.
3. Complete design, including field check, office check, and final construction plans.
4. Public engagement, including a public meeting and other possible related services.
5. Environmental Clearance
6. Utility and right-of-way coordination.
7. Pre-construction services, including bid documentation, specifications, and meetings.
8. Design engineer services during construction.

The City of Independence, Missouri (hereinafter called OWNER) and Burns & McDonnell Engineering Company, Inc. (hereinafter called ENGINEER), hereby agree to the information contained in the following sections.

2.0 Design Requirements

2.1 Design Requirements

The ENGINEER shall design the Project following state and federal design criteria appropriate following the current MoDOT EPG, the American Public Works Association *KC Metro Specifications*, the 11th edition of the *Manual on Uniform Traffic Control Devices* (MUTCD), the 2023 version of the Americans with Disabilities Act (ADA) *Public Right-of-Way Access Guidelines* (PROWAG), the current version of the OWNER's Design & Construction Manual, and the current version of the MoDOT *Standard Specifications for State Road Construction with Special Provisions*, and with any necessary Project Special Provisions.

All plans shall be signed and sealed by the licensed Missouri professional engineer responsible for preparing and overseeing the design plans. The licensed Missouri Kansas land surveyor responsible for preparing said documents shall sign and seal the right-of-way descriptions.

2.2 Survey Requirements

All vertical coordinates shall use the Missouri State Plane North (NAD 83) coordinate system.

All horizontal coordinates shall use the Missouri State Plane North (NAD 83) coordinate system. As part of the design project survey, all Section Corners and Quarter Section Corners within the surveyed area and others used for project control must be located with reference and state plane coordinates determined with GPS equipment.

3.0 Assumptions & Exclusions

CAD Format - All project designs will be completed in MicroStation SS2 InRoads or OpenRoads Designer (ORD). The design shall utilize the MoDOT workspace, including the most current MoDOT border. CAD files will not be CAD-conformed. Plans shall be in ENGLISH units with a 34" x 22" plan sheet size (<MoDOT Standard Size).

Electronic Deliverables - CAD files will be prepared in MicroStation (*.DGN) format. Plans will be submitted in PDF format. Final CAD files, along with the existing and proposed surface and associated design files, will be provided to the OWNER as a part of the project closeout process. Files will be made available to bidders as requested.

Decorative Elements - Decorative Street lighting or signals are not assumed unless otherwise requested.

Traffic Signal Design - The ENGINEER will develop traffic signal pedestrian upgrade plans. Signal work shall consist of the Structural Assessment inventory provided by the OWNER.

Construction Inspection - This scope of work includes no construction services other than designer services during construction.

Geotechnical Investigation - No geotechnical investigation services are included in this scope of work.

Street Lighting - No photometric design of street lighting is included in this scope of work. The ENGINEER will observe the corridor nightly to identify areas needing additional street lighting. Existing High-Pressure Sodium (HPS) lighting shall be retrofitted with new bracket arms and LED fixtures.

Right of Way - Right of way will be established from the last deed of record. Obtaining ownership and encumbrance reports and preparing legal exhibits and descriptions are included for up to 20 parcels. It is assumed that the Client will perform or coordinate the acquisition process, including but not limited to appraisals, offers, and condemnation. Participation by the ENGINEER in condemnation proceedings is not included in this scope of work.

Utility Coordination - Utility coordination is included in the scope of work. Utility coordination shall include obtaining existing utility as-built maps, transmittal of plans depicting as-surveyed utilities for confirmation, and regular progress plans, including plans depicting

utilities in color. The ENGINEER will identify preliminary conflicts, but each utility shall be responsible for identifying them. Others shall develop utility relocation plans. No utility potholing is included in this scope of work. The ENGINEER shall review the provided utility relocation plans to coordinate with the project.

Public Involvement - Three public informational meetings are assumed. The initial meeting will occur during the project's design phase, with the remaining two meetings occurring at the construction kick-off for each project. It is assumed that each meeting will be held in person at a location to be determined. The ENGINEER will be responsible for developing meeting materials, including but not limited to meeting notices, display boards, questionnaires and sign-in sheets. The ENGINEER is responsible for sending out mailings and invitations, as needed, to communicate dates of public informational meetings.

Permitting - The ENGINEER shall be responsible for environmental clearance for the project. No additional environmental clearance or permitting activities are included in this proposal other than those identified in later sections.

Construction Phase Services - No participation in regularly scheduled progress meetings between the OWNER, and the Contractor are included in this proposal.

Opinions of Probable Construction Cost - Any opinions of probable project cost or probable construction cost provided by ENGINEER are made based on information available to ENGINEER and based on ENGINEER's experience and qualifications and represent its judgment as an experienced and qualified professional engineer. However, since ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor(s)' methods of determining prices, or over competitive bidding or market conditions, ENGINEER does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost ENGINEER prepares.

Bids Received - If bids received exceed the prepared final cost estimate and the OWNER chooses to revise the project scope or specifications, or both, as necessary to reduce the construction cost, then the ENGINEER and the OWNER shall mutually agree in writing to the amount of any adjustments to the total fee or schedule required.

Structural Engineering - It is anticipated that retaining walls will be required for the installation of sidewalks in some areas. This will be further determined during the preliminary plan phase. All retaining walls are assumed to be integral to the sidewalk and utilize existing APWA standard details. No special wall design or structural analysis is included for walls that may be required to exceed the allowable heights from the APWA standard details.

NEPA Clearance and Permitting - Burns & McDonnell will conduct desktop and field analyses to support the preparation of an environmental document, anticipated to be a Categorical Exclusion (CATEX), in accordance with the National Environmental Policy Act (NEPA) and the US DOT, Federal Highway Administration (FHWA) implementing guidance. The CATEX and supporting documentation will be submitted to the City for review and comment, followed by submittal to FHWA for approval to support the expenditure of federal grant monies.

NEPA Clearance and Permitting Assumptions:

- Only a minor amount of new permanent ROW, adjacent to existing ROW, is needed for the proposed improvements. The majority of all construction will occur within existing public rights-of-way.
- The City will provide all grant application documents including early due diligence that identified potential issues or constraints.
- The environmental document will list the anticipated permits and other agency approvals required after the NEPA process is completed; but the effort to apply and receive the permits and any additional agency approvals is not included in this scope of work and will be the responsibility of the City or the City's Contractor.
- A CATEX is the scoped level of environmental documentation for this proposed project. If discussions with the FHWA or issues arise during the study that require the project to be elevated to an Environmental Assessment (EA), the additional effort will be scoped and associated costs estimated and approved by the City before the additional work begins.
- The city will provide documentation of all public involvement activities that have occurred related to the project to be included or referenced in the environmental document, as appropriate, to support NEPA clearance.

4.0 Scope of Work

Task 1 – Survey & Related Services

1.01 Project Survey Control & LiDAR Targeting

- A. Survey See Survey Subconsultant Proposal and Scope of Work.

1.02 Mobile LiDAR Data Acquisition

- B. See Survey Subconsultant Proposal and Scope of Work.

1.03 Mobile LiDAR Data Processing

- A. All See Survey Subconsultant Proposal and Scope of Work.

1.04 Mobile LiDAR Extraction

- A. See Survey Subconsultant Proposal and Scope of Work.

1.05 Property Mapping

- A. Existing property lines and right of way shall be determined through traditional survey means and established from the last deed of record.

1.06 Utility Survey

- A. Traditional survey means will be utilized to survey existing utilities.

- B. A project survey one-call will be completed. The field locations of all utilities marked during the one-call process will be collected in the field.

1.07 Field Reconnaissance

- A. The ENGINEER will perform a corridor visit to document any known constraints or design challenges. Prior to performing field reconnaissance, the ENGINEER shall notify the OWNER of the date and time of the field reconnaissance and make every attempt at having a city representative present to collaborate and expedite the project from the reviewed constraints, utility concerns and design challenges.

Task 2 - Preliminary Design (30% Level)

- A. The ENGINEER will develop preliminary plans based on the project typical section and project requirements to an approximate 30% level.
- B. Preliminary Plan Development
 - 1. Title Sheet. The ENGINEER will develop a project Title Sheet.
 - 2. Typical Sections. The ENGINEER will develop the project's Typical sections.
 - 3. Plan & Profile Sheets. The ENGINEER will develop Plan & Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 - 4. Survey Reference Sheets. The ENGINEER will develop Survey Reference sheets to include project control benchmarks, control points, and alignment information.
 - 5. Intersection Details. The ENGINEER will develop Intersection Detail Sheets to illustrate key intersection details such as ADA details, curb radii, etc., at 1" = 10' horizontal scale.
 - 6. Driveway Profiles. The ENGINEER will develop Driveway Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 - 7. Pavement Marking Plans. The ENGINEER will develop preliminary pavement marking plans at a 1" = 20' horizontal scale.
 - 8. Cross Sections (50' Intervals)
- C. Opinion of Probable Construction Cost. The ENGINEER will develop an opinion of probable construction cost based on the Preliminary plans.
- D. Quality Control. The ENGINEER will perform quality control on the developed Preliminary plans following the firm's Quality Management Plan.
- E. Preliminary Plan Submittal. The ENGINEER will submit Preliminary plans to the OWNER for review.

- F. Preliminary Plan Review Meeting. The ENGINEER will participate in a Preliminary Plan review meeting with the OWNER at a location to be determined, which may include a project site meeting.
- G. Preliminary Plan Re-Submittal. The ENGINEER will address the comments received and resubmit the Preliminary plans if requested by OWNER.

Task 3 - Right-of-Way Plan Development (60% Level)

- A. The ENGINEER will advance the preliminary plans to an approximate 60% level to be used to determine and acquire needed easements and right-of-way.
- B. Right-of-Way Plan Development
 - 1. Title Sheet. The ENGINEER will update the project Title Sheet.
 - 2. Typical Sections. The ENGINEER will update the project's Typical sections.
 - 3. Plan & Profile Sheets. The ENGINEER will update Plan & Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 - 4. Survey Reference Sheets. The ENGINEER will update Survey Reference sheets to include project control benchmarks, control points, and alignment information.
 - 5. Intersection Details. The ENGINEER will update Intersection Detail Sheets to illustrate key intersection details such as ADA details, curb radii, etc., at 1" = 10' horizontal scale.
 - 6. Driveway Profiles. The ENGINEER will update Driveway Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 - 7. Miscellaneous Details. The ENGINEER will develop or add miscellaneous details, including OWNER-specific standard details that shall apply to the project.
 - 8. Storm Sewer Profiles. The ENGINEER will develop Storm Sewer Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 - 9. Summary of Quantity Sheets
 - 10. Lighting Plans. The ENGINEER will develop lighting plans to retrofit existing High-Pressure Sodium (HPS) lighting with LED lighting. The ENGINEER will observe the corridor at night during full vegetation to identify any needed supplementary lighting to increase user safety.
 - 11. Signing Plans. The ENGINEER will develop signing plans at a 1" = 20' horizontal scale.
 - 12. Pavement Marking Plans. The ENGINEER will update pavement marking plans.

13. Traffic Signal Plans. The ENGINEER will develop traffic signal pedestrian upgrade plans. Signal work shall consist of the Structural Assessment inventory provided by the OWNER. Pedestrian, accessible signals are required for this project and may require the need to replace or install new pull boxes and conduit. OWNER shall be responsible for signing timing updates.
 14. Traffic Control Plans. The ENGINEER will develop traffic control plans to support construction needs at a 1" = 20' horizontal scale.
 15. Cross Sections (50' Intervals)
- C. Opinion of Probable Construction Cost. The ENGINEER will develop an opinion of probable construction cost based on the Right-of-Way plans.
 - D. Quality Control. The ENGINEER will perform quality control on the developed Right-of-Way plans following the firm's Quality Management Plan.
 - E. Right-of-Way Plan Submittal. The ENGINEER will submit Right-of-Way plans to the OWNER for review.
 - F. Right-of-Way Plan Review Meeting. The ENGINEER will participate in a Right-of-Way plan review meeting with the OWNER at a location to be determined, which may include a project site meeting.
 - G. Right-of-Way Plan Re-Submittal. The ENGINEER will address the comments received during the Right-of-Way plan review and resubmit the plans.

Task 4 - Final Plan Development (100% Level)

- A. Office Check Plan Development
 1. Title Sheet. The ENGINEER will finalize the project Title Sheet.
 2. Typical Sections. The ENGINEER will finalize the project's Typical sections.
 3. Plan & Profile Sheets. The ENGINEER will finalize Plan & Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 4. Survey Reference Sheets. The ENGINEER will finalize Survey Reference sheets to include project control benchmarks, control points, and alignment information.
 5. Intersection Details. The ENGINEER will finalize Intersection Detail Sheets to illustrate key intersection details such as ADA details, curb radii, etc., at 1" = 10' horizontal scale.
 6. Driveway Profiles. The ENGINEER will finalize Driveway Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 7. Miscellaneous Details. The ENGINEER will develop or add miscellaneous details, including OWNER-specific standard details that shall apply to the project.

8. Inlet & Manhole Details. The ENGINEER will develop or add inlet and manhole details as needed based on the project design.
 9. Storm Sewer Profiles. The ENGINEER will finalize Storm Sewer Profile sheets at 1" = 20' horizontal scale and 1" = 5' vertical scale.
 10. Schedule of Inlets & Manholes - The ENGINEER will prepare schedules of inlets and manholes for the proposed storm sewer system.
 11. Summary of Quantity Sheets
 12. Temporary Erosion & Pollution Control. The ENGINEER will develop temporary erosion and pollution control plans.
 13. Lighting Plans. The ENGINEER will finalize lighting plans to retrofit existing High-Pressure Sodium (HPS) lighting with LED lighting. The ENGINEER will observe the corridor at night during full vegetation to identify any needed supplementary lighting to increase user safety.
 14. Signing Plans. The ENGINEER will finalize signing plans at a 1" = 20' horizontal scale.
 15. Pavement Marking Plans. The ENGINEER will finalize pavement marking plans.
 16. Traffic Signal Plans. The ENGINEER will finalize traffic signal pedestrian upgrade plans.
 17. Traffic Control Plans. The ENGINEER will finalize traffic control plans to support construction needs at a 1" = 20' horizontal scale.
 18. Cross Sections (50' Intervals)
- B. Opinion of Probable Construction Cost. The ENGINEER will develop an opinion of probable construction cost based on the Final plans.
 - C. Quality Control. The ENGINEER will perform quality control on the developed Final plans following the firm's Quality Management Plan.
 - D. Office Check Plan Submittal. The ENGINEER will submit Final plans to the OWNER for review.
 - E. Final Plan Review Meeting. The ENGINEER will participate in a Final Plan review meeting with the OWNER at a location to be determined, which may include a project site meeting.
 - F. Final Plan Re-Submittal. The ENGINEER will address the comments received during the Final Plan review and resubmit the plans and Final Plans.

Task 5 - Public Outreach

5.01 Public Information Plan Development. The ENGINEER will develop a public information plan that builds on prior community engagement and outlines engagement activities and project notifications. The ENGINEER will submit it to the OWNER for review before commencing public outreach.

5.02 Content Creation. The ENGINEER will work with OWNER's staff to provide information for inclusion on any OWNER websites, social media channels, or publications, including working with OWNER's communications staff to distribute current and accurate project information. Specific communication materials to be developed will include press releases to announce public meetings, social media posts to promote public meetings, direct mailings to property owners, website content, and email invitations to local officials and key stakeholders.

5.03 Public Informational Meeting #1. The ENGINEER shall plan and attend a design public informational meeting at a location to be determined. The goals of the first public meeting will be to introduce the project team, provide an overview of the project goals, scope and schedule, and gather input from the public. It is assumed that four ENGINEER members will participate in this meeting, with the design public informational meeting being 2 hours long. The ENGINEER will prepare all public meeting material, meeting advertisements, and a public meeting summary.

5.04 Public Informational Meeting #2. The ENGINEER shall plan and attend a public informational meeting to correspond with the construction phase of Sterling Avenue. The goals of the second public meeting will be to provide more detailed design and construction timeline information, including right-of-way and easements needed and construction impacts, gather feedback from effected property owners, and address any concerns or questions from the public. It is assumed that four ENGINEER team members will participate in this meeting, with the public informational meeting being 2 hours long. The ENGINEER will prepare all public meeting material, meeting advertisements, and a public meeting summary.

Task 6 - Utility & Right of Way Coordination

6.01 Utility Coordination

- A. Utility Contact List. The ENGINEER will develop a project utility contact list of all known utility agencies in the project limits.
- B. Utility Mapping Review. The ENGINEER will review any obtained utility mapping against the field obtained mapping for inconsistencies. The ENGINEER will work with each utility to resolve discrepancies as needed.
- C. Utility Mapping Plans. The ENGINEER will prepare an at-scale set of utility plan sheets in color.
- D. Utility Notification of Project. After developing the utility contact list, the completed utility survey, and the development of color utility location maps, the ENGINEER will transmit these documents to the known utilities for review and provide notice of the pending project.

- E. Concept Phase Utility Coordination. The ENGINEER will preliminarily identify apparent utility conflicts and distribute plans and design files for review. The ENGINEER will participate in utility coordination meetings individually or in groups (Assume one staff, two meetings, 1.5 hours each).
- F. Field Check Utility Coordination. The ENGINEER will identify additional apparent utility conflicts and distribute plans and design files for review. The ENGINEER will participate in utility coordination meetings individually or in groups (Assume one staff, two meetings, 1.5 hours each).
- G. Office Check Utility Coordination. The ENGINEER will identify additional utility conflicts and distribute plans and design files for review. The ENGINEER will participate in utility coordination meetings individually or in groups (Assume one staff, two meetings, 1.5 hours each).

6.02 Right-of-Way Coordination

- A. Right-of-Way Exhibit & Descriptions. The ENGINEER's survey subconsultant will obtain title work for up to 20 parcels and prepare acquisition documents for up to 20 parcels.
- B. Right-of-Way Meetings. The ENGINEER will meet with the OWNER's Right-of-Way acquisition firm or with selected property owners to facilitate the acquisition of needed easements and right-of-way (Assume five meetings, one staff member, 1.5 hours per meeting).

Task 7 – NEPA Documentation

7.01 Process Kick-Off

- A. Virtual meeting with City to review scope of the grant-funded improvements including project limits, previous due diligence conducted to support grant applications, communications protocols, and anticipated schedule.

7.02 Desktop and Field Data Collection

- A. Collect ARCGIS and other online data sources relevant to resources and properties within and adjacent to the project limits.
- B. Conduct field visit to validate the ARCGIS data, verify general corridor conditions, and photo-document key resources to be assessed in the CATEX.
- C. Develop corridor constraints map, indicating public lands, potential or listed historic resources, major utility crossings (large pipeline, waterline, sanitary sewer, and overhead transmission lines, etc.).

7.03 Impact Assessment

The following tasks will analyze the anticipated effects of the proposed project on key resources. Some resource categories typically reviewed under NEPA (e.g., farmland,

coastal resources, etc.) are not present in the project corridor and will be noted as such in the environmental document. Other resources (e.g., land use/zoning, noise, air quality, visual, etc.) will be addressed within the environmental document, but do not require the same level of effort as the following categories:

A. Cultural Resources - Archeological and Non-Archeological Historic Resources

With project funding through the FHWA, compliance with Section 106 of the National Historic Preservation Act (NHPA) and Section 4(f) of the Department of Transportation (DOT) Act is required. The following subtasks will be undertaken to evaluate the potential effects of the project (direct and visual) on resources that are or may be considered eligible for listing on the National Register of Historic Places (NRHP). A review of previously conducted archeological surveys will be conducted, but no field archeological surveys (shovel tests) are anticipated as the existing and proposed ROW has been previously disturbed.

Agency Consultation - Upon receipt of NTP, the Project's Section 106 lead would initiate consultation with FHWA cultural resources staff to confirm the limits of the Physical (construction footprint) and Non-physical (visual) APEs and to vet the proposed survey methods. Concurrence with the definition of both APEs and research design would be received prior to initiation of field documentation efforts.

Background Review - Prior to initiation of field studies, Burns & McDonnell historians will conduct background research to identify previously recorded historic resources within the APE and a larger Study Area to facilitate contextual development. The review will include architectural survey and inventory records, the NRHP database maintained by the National Park Service, historic period maps and aerial photographs, town and county histories, historic atlases, and other secondary sources regarding regional history. The sources will facilitate development of appropriate field survey strategies, understanding of regional contexts within which to evaluate recorded resources, and identify significant resource types in particular areas.

Field Documentation - In compliance with Section 106 of the NHPA and Section 4(f) of the DOT Act, Burns & McDonnell historians will conduct surveys to identify significant historic (NRHP)-listed or eligible buildings, structures, objects, and districts that could be adversely affected by the proposed Project. The Non-Physical APE is assumed to include parcels immediately adjacent to the existing/proposed ROW.

The surveys would include documentation of all buildings, structures, objects, districts, etc. constructed prior to 1978 (45-years-of-age or older) within Non-Physical APE. The survey will be conducted from the public ROW. All accessible resources within the Non-Physical APE will be photo-documented to state standards and mapped using GIS. Resource documentation will be conducted in accordance with relevant federal and state guidelines.

Reporting - Upon completion of the field survey, an architectural historian meeting the Secretary of the Interior standards will evaluate each recorded resource for its NRHP

eligibility and for its potential to contribute to an NRHP-eligible historic district. In addition to evaluating their NRHP eligibility, the historian will evaluate the Project's potential to adversely affect significant historic (NRHP-listed or eligible) resources either directly or via impacts to character-defining features such as their historic setting. The assessments and evaluations of effect will be included in a cultural resources survey report prepared according to state standards.

Section 106 Compliance Assumptions

- FHWA/SHPO will concur with the proposed Non-Physical APE; assumed to include parcels intersecting and immediately adjacent to the existing/proposed ROW.
- Assessment of potential historic districts would be limited to streetscape level evaluation.
- Background research will be completed using online databases.
- Field documentation would be conducted in one 5-day mobilization of 4 historians.
- Cost does not include intensive-level survey, mitigation activities, or agency coordination to facilitate development of a Memorandum of Agreement (MOA) or Programmatic Agreement (PA).
- Includes documentation and assessment of up to 180 historic-age architectural resources within the Non-Physical APE. The completion of state resource ID forms will not be required and is not included.
- The survey would be conducted from publicly accessible vantage points, i.e. public roadways.
- Field mobilization will be dependent upon weather conditions conducive to walking/driving and photo-documentation of historic-age buildings, structures, objects, etc.
- FHWA/SHPO would concur that no archaeological field survey is necessary.

B. Community Impacts and Environmental Justice

Because of federal funding through FHWA, Executive Order 12989 Environmental Justice and FHWA Order 5610.2 on Environmental Justice must be addressed. Collect and review US Census Bureau American Community Survey 2018-2022 5-Year data for the project area to identify the racial and ethnic, age, income, poverty, language, and social characteristics within the project area. Identify minority and low-income census geographies to demonstrate the project would not disproportionately affect such populations. Identify community facilities along and adjacent to the project to show how access would be maintained during construction and improved as a result of the improvements.

C. Land Use and Public Lands

Desktop analysis and windshield surveys will be conducted to describe the existing land uses along the corridor including identifying public lands (e.g., High Ridge Park

and other city parks, greenbelts, trails, etc.) to determine the effects of the project on them. Review existing city parks and recreation and thoroughfare plans to identify existing and planned parks and trails that may intersect the proposed project.

D. Section 4(f) and Section 6(f) Resources

Based on our understanding of the proposed project, if public lands or NRHP-listed or eligible resources are located along the corridor where improvements would occur with existing ROW, no effects under Section 4(f) are anticipated. If they occur in areas where new ROW would be needed and the acquisition cannot be avoided (including permanent or temporary easements), an analysis to support a Section 4(f) *de minimis* determination is included. If more substantial impacts to such resources occur or the FHWA does not agree with the *de minimis* determination and elevates the analysis, the work to support an individual or programmatic Section 4(f) evaluation would be required. The *de minimis* evaluation includes obtaining written concurrence from the Official with Jurisdiction (OWJ), assumed to be by the city for parks/trails, and the MO State Historic Preservation Officer (SHPO) for historic resources.

E. Vegetation and Land Cover

Review aerial photos and results of field surveys to describe the existing land cover types of vegetated areas to determine if any areas potentially would support migratory birds or federally or state-protected species. Identify areas where vegetation may be cleared to support construction and describe any landscaping or habitat restoration improvements proposed as part of the project.

F. Protected Species

Because of federal funding, clearance under the Endangered Species Act is required. Complete the Information for Planning and Consultation (IPaC) review through the US Fish & Wildlife Service (USFWS) to identify the potential for federally protected species and critical habitat along the project corridor. Review the Missouri Department of Conservation (MDC) data base to determine if state protected species, including species of conservation concern. Submit IPaC and project checklist for USFWS concurrence. If federally protected species are present and the project would result in a *likely to adversely affect* determination, formal consultation with the USFWS and additional studies may be required which are not included in this scope of work. A supplemental scope of work and fee estimate can be provided to support formal consultation, species-specific surveys, and development of a Biological Assessment or Evaluation, if required.

G. Water Resources - Wetlands, Streams, and Floodplains

Because of federal funding, conformance with the Clean Water Act is required. Only a desktop analysis and windshield survey of the project corridor will be conducted to provide a summary of the potential wetland, waters of the US, and floodplain resources crossed by the proposed project. If additional ROW is needed in areas where such features are present, a supplemental scope of work and fee estimate can be provided to conduct full field delineations in accordance with US Army Corps of

Engineers (USACE) standards, develop a delineation report, and coordinate approval of the findings and identify permitting and/or mitigation required for the project.

H. Hazardous Materials and Waste Sites

A database search using a third party provider (EDR) will be conducted to identify properties of potential environmental concern including existing and former underground storage tanks, small or large quantity hazardous material generators, previously closed or remediated sites, and major spills and corrective actions that could affect the soil and groundwater conditions within the existing and proposed ROW. The risks of such properties will be categorized as “low”, “medium” and “high” risk to the project and may require additional investigation or testing by the city prior to construction. This review does not constitute a Phase I Environmental Site Assessment (ESA) conducted to ASTM standards that may be required for the city to purchase new ROW.

I. Visual Effects

An assessment of the visual changes to occur within the corridor following completion of the project will be assessed in coordination with Section 106 and Section 4(f) evaluations described previously. Descriptions of the design features such as new streetlighting, decorative pavement, retaining walls, signage, and landscaping will be included.

J. Other Resources

To complete the CATEX, additional desktop analyses will be conducted to demonstrate that some resources are not present within/along the project corridor or would not be affected by the proposed project including air quality, traffic noise, farmland, coastal resources, etc.

K. Public Involvement

The city will provide a summary of the public involvement and outreach conducted to date for reference in the CATEX. Such activities conducted during the timeframe of the NEPA analysis should include information regarding the project’s potential effects (positive or negative) on historic resources (Section 106) and public lands (Section 4(f)) as these statutes require documentation that project outreach included opportunities for the public to comment on the potential disposition of these resources.

7.04 Environmental Document Development

- A. Develop a draft CATEX for review and comment by the city.
- B. Address city’s comments and submit final CATEX for city to submit to FHWA.
- C. Address comments from FHWA and develop final CATEX for FHWA approval.

Task 8 – Pre-Construction Services

- 8.01 **Pre-Bid Meeting.** The ENGINEER will attend a pre-bid meeting organized by the OWNER in a supporting role and assume two meetings and 2 team members for 90-minute meetings.
- 8.02 **Bid Phase Questions.** The ENGINEER will respond formally to contractors' questions during the project's bid phase.

Task 9 – Design Engineer Services During Construction

- 9.01 **Request for Information or Clarification.** The ENGINEER will support the OWNER during construction and answer questions from contractors or inspectors.
- 9.02 **Shop Drawing Review.** The ENGINEER will review contractor-submitted shop drawings, as requested.
- 9.03 **Project Site Visits.** As requested, the ENGINEER will perform a site visit to support answering project-related questions. Assume four visits by two staff at 2 hours per visit. **The ENGINEER is assumed to not participate in regularly scheduled construction progress meetings.**
- 9.04 **Pre-Construction Meeting.** The ENGINEER will participate in a pre-construction meeting at the project site or the OWNER's offices. Assumed two meetings and 2 team members for 90-minute meetings.
- 9.05 **As-Built Plans.** The ENGINEER will prepare as-built plans that include any field changes as provided by the OWNER or project inspector.

Task 10 – Project Management

- 10.01 **Kick-off Meeting w/City.** The ENGINEER will hold a project kick-off meeting at the OWNER's offices.
- 10.02 **Kick-off Meeting (Internal).** The ENGINEER will hold an internal project kick-off meeting with team members to outline roles, responsibilities, and project requirements.
- 10.03 **Progress Meetings.** The ENGINEER will participate in progress meetings with the OWNER, which will include preparing meeting agendas and minutes. (Virtually every two weeks for six months, then monthly for twelve months with 2 team members for 60 minutes)
- 10.04 **General Project Admin. & Coordination.** The ENGINEER will coordinate the project with survey sub-consultants and OWNER.
- 10.05 **Invoice Preparation & Progress Reporting.** The ENGINEER will prepare monthly invoices and progress reports.

5.0 Summary of Budgeted Meetings

- Kick-Off Meeting w/City (In Person) – 1 Meeting, 90 minutes, 4 team members.
- Progress Meetings w/City – Monthly for twelve months. Assumed 3 team members, 60-minute meetings, 12 total meetings.
- Utility Coordination Meetings – 3 meetings, 1 team member, 90-minute meetings.
- Right-of-Way Coordination Meetings – 2 meetings, 1 team member, 90-minute meetings.
- Preliminary Plan Review Meeting – 1 meeting, 2 team members, 90-minute meeting.
- Right of Way Plan Review Meeting – 1 meeting, 2 team members, 90-minute meeting.
- Final Plan Review Meeting – 1 meeting, 2 team members, 90-minute meeting.
- Pre-Bid Meeting – 1 meeting, 2 team members, 90-minute meetings.
- Pre-Construction Meeting – 1 meeting, 2 team members, 90-minute meetings.
- Construction Phase Meetings – 4 meetings, 2 team members, 120-minute meetings.

6.0 Deliverables

- Design Criteria Memo in Electronic Format (PDF)
- Public Informational Meeting Summaries, including copies of comments received, sign-in sheets etc.
- Construction Plans in Electronic Format (PDF) (Sheet size of 34" x 22")
- Project Specifications in Electronic Format (Word & PDF) (If Applicable)
- Engineer's Opinion of Probable Cost (OPC) in Electronic Format (PDF)
- Public Involvement Plan
- Social Media Posts and Corresponding Graphics (up to 8)
- Press Releases (x2)
- Draft and Final Website Content (up to 2 updates)
- Public Meeting Materials, including boards, presentation slides, sign-in sheets, comment cards, etc. (x2)
- Public Meeting Invitations (postcard and flyer format for mail and email (x2)
- Public Meeting Summaries (x2)
- Draft and Final CATEX
- Draft and Final Cultural Resources Report
- Protected Species and Habitat Assessment Memo

- Water Resources Memo
- Community Assessment/EJ Memo
- Hazardous Materials Review Memo

7.0 Schedule

7.1 Project Design Schedule

- Notice to Proceed - May 1st, 2024
- Preliminary Plans Due - TBD
- Public Informational Meeting #1
- Right of Way Plans Due - TBD
- Public Informational Meeting #2
- Final Plans Due - TBD
- Advertise for Bids - Fall 2025
- Bid Opening - Fall 2025
- Construction - 2025 through 2026

7.2 NEPA Schedule

NEPA process will begin upon NTP and should conclude within 12 months from NTP. Burns & McDonnell will expedite tasks where possible to shorten the deliverable and approval timeframes.

APPENDIX A - FEE PROPOSAL

TRUMAN CONNECTED PHASE 2

Task No.	Description	Project Manager	Staff Roadway Engineer	Assistant Roadway Engineer	Senior Traffic Engineer	Staff Traffic Engineer	Senior CAD Designer	Staff Designer	CAD Designer	Assistant CAD Designer	ENV Lead	CR/BIO Leads	ENV Sci/GIS	Assist ENV Sci	Senior Outreach Specialist	Staff Outreach Specialist	Assistant Outreach Specialist	Labor Hours	Labor Cost
		Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name	Staff Name		
Bill Rate		\$ 266.00	\$ 188.00	\$ 143.00	\$ 188.00	\$ 166.00	\$ 205.00	\$ 166.00	\$ 104.00	\$ 266.00	\$ 188.00	\$ 143.00	\$ 120.00	\$ 188.00	\$ 143.00	\$ 104.00	\$ 104.00		
1	Survey & Related Services	0.0	8.0	8.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	\$ 5,480.00
1.01	Project Survey & LIDAR Targeting																		
1.02	Mobile LIDAR Data Acquisition																		
1.03	Mobile LIDAR Data Processing																		
1.04	Mobile LIDAR Data Extraction																		
1.05	Property Mapping																		
1.06	Utility Survey																		
1.07	Field Reconnaissance																		
2	Preliminary Design (30%)	20.0	186.0	168.0	30.0	8.0	192.0	139.0	83.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	824.0	\$ 141,642.00
2.00.A	30% Preliminary Design		80.0	80.0			80.0	40.0	40.0									32.0	\$ 53,680.00
2.00.B.01	Title Sheet						4.0	4.0										8	\$ 1,484.00
2.00.B.02	Typical Sections	8.0					4.0	4.0										16	\$ 2,968.00
2.00.B.03	Plan & Profile Sheets		60.0	60.0			52.0	26.0	26.0									224	\$ 37,540.00
2.00.B.04	Survey Reference Sheets						4.0	4.0										8	\$ 1,484.00
2.00.B.05	Intersection Details		16.0				16.0	16.0										48	\$ 8,944.00
2.00.B.06	Driveway Profiles			20.0														20	\$ 2,860.00
2.00.B.07	Pavement Marking Plans				26.0			13.0	13.0									52	\$ 8,398.00
2.00.B.08	Cross Sections						16.0	16.0										32	\$ 5,936.00
2.01.C	Opinion of Probable Construction Cost	4.0	8.0	8.0			8.0	8.0	4.0									40	\$ 7,960.00
2.01.D	Quality Control	4.0	20.0		4.0		8.0	8.0										48	\$ 8,960.00
2.01.E	Preliminary Plan Submittal	1.0																2	\$ 370.00
2.01.F	Preliminary Plan Meeting	2.0	2.0															4	\$ 908.00
2.01.G	Preliminary Plan Re-Submittal	1.0																2	\$ 370.00
3	Right-of-Way Plan Development (60%)	16.0	142.0	136.0	300.0	60.0	218.0	286.0	228.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	1392.0	\$ 233,262.00
3.01.A	60% Right of Way Design		80.0	100.0			80.0	80.0	40.0									380	\$ 63,180.00
3.01.B.01	Title Sheet						4.0	4.0										8	\$ 1,484.00
3.01.B.02	Typical Sections	4.0					4.0	4.0										12	\$ 2,548.00
3.01.B.03	Plan & Profile Sheets						52.0	26.0	26.0									104	\$ 17,680.00
3.01.B.04	Survey Reference Sheets						2.0	2.0										4	\$ 742.00
3.01.B.05	Intersection Details		8.0				16.0	16.0										40	\$ 7,440.00
3.01.B.06	Driveway Profiles			8.0				8.0										16	\$ 2,472.00
3.01.B.07	Miscellaneous Details		16.0	16.0			16.0	16.0										64	\$ 11,232.00
3.01.B.08	Storm Sewer Profiles		4.0				8.0	8.0										12	\$ 2,352.00
3.01.B.09	Summary of Quantity Sheets		4.0	4.0														24	\$ 4,992.00
3.01.B.10	Lighting Plans				52.0			26.0	26.0									104	\$ 16,796.00
3.01.B.11	Signing Plans				52.0			26.0	26.0									104	\$ 16,796.00
3.01.B.12	Pavement Marking Plans				52.0			26.0	26.0									104	\$ 16,796.00
3.01.B.13	Traffic Signal Plans				60.0	20.0			40.0									120	\$ 18,760.00
3.01.B.14	Traffic Control Plans				80.0	40.0			40.0									160	\$ 25,840.00
3.01.B.15	Cross Sections						20.0	20.0										40	\$ 7,420.00
3.02.C	Opinion of Probable Construction Cost	4.0	8.0	8.0			8.0	8.0	4.0									40	\$ 7,096.00
3.02.D	Quality Control	4.0	20.0		4.0		8.0	8.0										48	\$ 8,960.00
3.02.E	Right-of-Way Plan Submittal	1.0																2	\$ 370.00
3.02.F	Right-of-Way Plan Review Meeting	2.0	2.0															4	\$ 908.00
3.02.G	Right-of-Way Plan Re-Submittal	1.0																2	\$ 370.00
4	Final Plan Development (100%)	16.0	102.0	40.0	192.0	50.0	141.0	149.0	139.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	835.0	\$ 142,267.00
4.01.A	100% Final Plan Design		16.0	16.0			40.0	12.0	12.0									96	\$ 16,736.00
4.01.B.01	Title Sheet						2.0	2.0										4	\$ 742.00
4.01.B.02	Typical Sections	4.0					2.0	2.0										8	\$ 1,806.00
4.01.B.03	Plan & Profile Sheets						20.0	16.0	12.0									48	\$ 8,004.00
4.01.B.04	Survey Reference Sheets						1.0	1.0										2	\$ 371.00
4.01.B.05	Intersection Details		4.0				8.0	8.0										20	\$ 3,720.00
4.01.B.06	Driveway Profiles			4.0				4.0										8	\$ 1,236.00
4.01.B.07	Miscellaneous Details		8.0	8.0			8.0	12.0	12.0									40	\$ 5,888.00
4.01.B.08	Inlet & Manhole Details		4.0				2.0	2.0										4	\$ 796.00
4.01.B.09	Storm Sewer Profiles		4.0				8.0	8.0										12	\$ 2,392.00
4.01.B.10	Schedule of Inlets and Manholes		4.0				8.0											12	\$ 2,392.00
4.01.B.11	Summary of Quantity Sheets		4.0	4.0				16.0										24	\$ 3,980.00
4.01.B.12	Temporary Erosion & Pollution Control Plans		26.0				26.0	13.0	13.0									65	\$ 12,376.00
4.01.B.13	Lighting Plans				26.0			13.0	13.0									52	\$ 8,398.00
4.01.B.14	Signing Plans				26.0			13.0	13.0									52	\$ 8,398.00
4.01.B.15	Traffic Signal Plans				30.0	10.0		20.0										60	\$ 10,350.00
4.01.B.16	Pavement Marking Plans				26.0			13.0	13.0									52	\$ 8,398.00
4.01.B.17	Traffic Control Plans				80.0	40.0			40.0									160	\$ 25,840.00
4.01.B.18	Cross Sections		4.0				8.0	8.0										20	\$ 3,720.00
4.02.C	Opinion of Probable Construction Cost	4.0	8.0	8.0			8.0	8.0	4.0									40	\$ 7,096.00
4.02.D	Quality Control	4.0	20.0		4.0		8.0	8.0										48	\$ 8,960.00
4.02.E	Final Plan Submittal	1.0																2	\$ 370.00
4.02.F	Final Plan Review Meeting	2.0	2.0															4	\$ 908.00
4.02.G	Final Plan Re-Submittal	1.0																2	\$ 370.00
5	Public Outreach	12.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	94.0	30.0	212.0	\$ 34,314.00
5.01	Public Information Plan Development														12.0	16.0		28	\$ 4,544.00
5.02	Content Creation														30.0	48.0	18.0	96	\$ 14,376.00
5.03	Public Information Meeting #1	6.0					8.0							9.0	15.0	6.0	44	\$ 7,697.00	
5.04	Public Information Meeting #2	6.0					8.0							9.0	15.0	6.0	44	\$ 7,697.00	
6	Utility & Right-of-Way Coordination	11.0	4.0	0.0	0.0	0.0	0.0	12.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	35.0	\$ 6,572.00
6.01.A	Utility Contact List																	2	\$ 208.00
6.01.B	Utility Mapping Review		4.0					4.0										8	\$ 1,416.00
6.01.C	Utility Mapping Plans							8.0	4.0									12	\$ 1,744.00
6.01.D	Utility Project Notification	2.0																	

April 02, 2024

Burns & McDonnell
Attn: Ronnie Williams, PE, PTOE – Senior Associate Traffic Engineer/Department Manager
9400 Ward Parkway
Kansas City, MO 64114

Re: Mapping Proposal for S. Sterling Ave. in Independence, MO

Mr. Williams,

Surveying Solutions, Inc. appreciates the opportunity to provide a proposal for completing mapping for a portion of the S. Sterling Ave. project in Independence, MO as shown in the KMZ provided.

Attachment “A” outlines the scope of services that will be performed as requested.

If you have any questions, comments, or concerns, please do not hesitate to call our office. Thank you for the confidence in our firm and the opportunity to provide services to Burns & McDonnell.

Sincerely,

SURVEYING SOLUTIONS, INC.



Kyle Everitt
Project Manager
keveritt@ssi-mi.com
o: (989)-846-6601
m:(989)-387-0701

surveying FOR TODAY... **solutions** FOR THE FUTURE...™

4471 M-61, Standish, Michigan 48658 • tel 989-846-6601 • fax 989-846-6607
1000 S. US-27, St. Johns, Michigan 48879 • tel 989-227-9212 • fax 989-224-2729
3734 Fortune Boulevard, Saginaw, MI 48603 • tel 989-798-0527 • fax 877-581-6645
www.ssi-mi.com

ATTACHMENT “A”

PROJECT DESCRIPTION

SSI will survey and map the limits as shown below regarding the S. Sterling Ave. project in Independence, MO for Burns & McDonnell. SSI will provide a control plan that will be utilized to adjust the LiDAR from the Mobile (MLS) acquisition and perform extraction for mapping purposes.

SURVEY REQUIREMENTS

This survey shall comply with the requirements of the Burns & McDonnell Standards. It is anticipated that the topographic mapping for this project will be acquired using Mobile LiDAR and conventional ground survey methods for the obscured areas in the scan. This data from various sources will be merged to create the final deliverables requested. SSI will be tasked with providing the overall mapping deliverables. A local surveyor will be responsible for the control work and pickup survey of the obscured areas.

PROJECT OVERVIEW

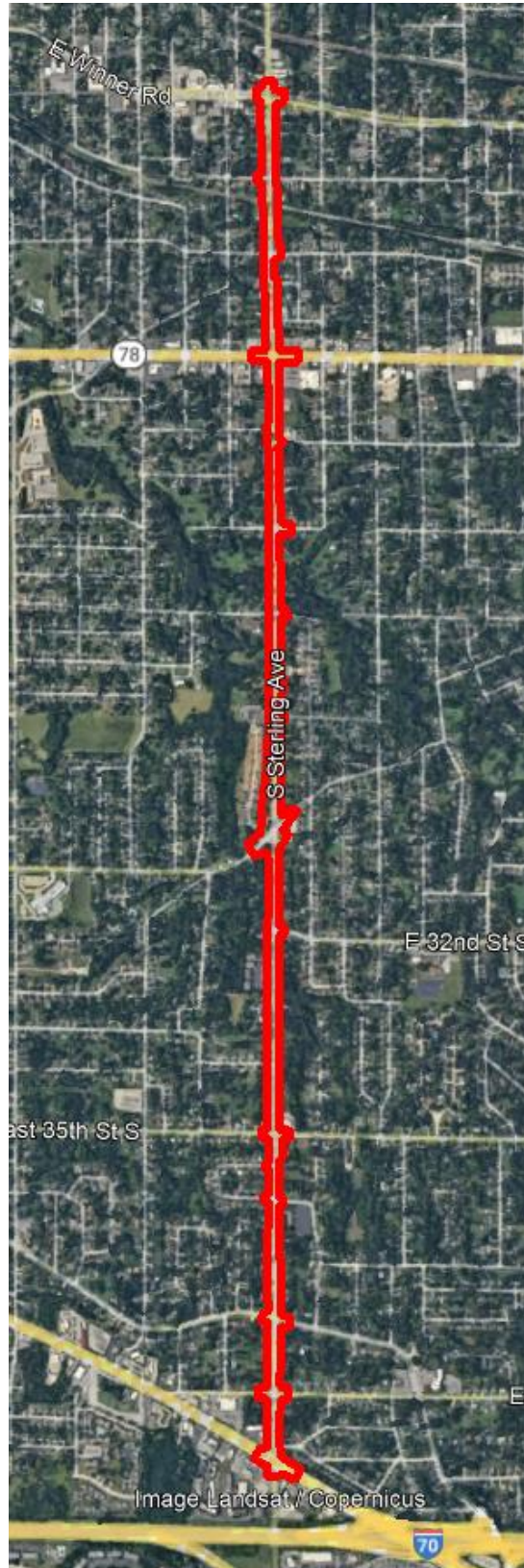
SSI will provide mobile LiDAR surveying and mapping services for the S. Sterling Ave. project. The immediate use of the collected LiDAR data will be to extract the required information on the existing system for design purposes. The LiDAR collected data will also be available for other groups to use when needs arise for survey/mapping data across the system.

Utilizing a standard vehicle, SSI will deploy its mobile LiDAR system to scan and locate all the visible features throughout the project. SSI is proposing to use the Riegl VMX-1HA Mobile LiDAR survey system that has a pulse rate of 2 million points/second and collects digital imagery or video on everything in the line-of-sight of the system. The system will create a rich 3D point cloud of data that effectively models everything it sees in full 3D clarity. The mobile scan occurs from the vehicle moving at maintenance or posted speeds so the system can be scanned very efficiently and quickly. Additionally, this LiDAR application enhances safety by reducing the risks to field personnel. The acquired LiDAR data will be post-processed and prepared to have the specific roadway features (assets) extracted into CADD format. The extraction process works within the MicroStation environment creating DGN files that graphically show the asset feature locations.



LIMITS OF WORK

Based on the information provided, SSI is proposing to map the following (per KMZ file previously provided):



APPROACH

Significant effort has been spent to develop an approach that fully meets the needs and requirements of the project while also minimizing the impact on the roadway.

The main components for the field data acquisition are the setting and surveying of the LiDAR targets and performing the scanning operations. The methodology for this project calls for LiDAR targets to be set and surveyed at +/-500' intervals across the project limits by a local surveyor at intersecting cross streets. LiDAR targets will be set on the shoulder of the roadway that is easily visible to the scanner and safe for the surveyors to set. Since the scanning operation will be completed before the LiDAR points are set, LiDAR points will be visible features along the project corridor. Photo points consist of catch basins, concrete edges, concrete foundation corners, warning devices, paint markings, etc. This is a proven system that has been successful on several projects that SSI has completed work on.

Use of mobile mapping methods will be utilized for completion of most of this project providing a savings in schedule, time and costs, improved safety and reduced traffic control and costs, among other benefits can be shown while providing the required data accuracy.

Project Planning:

SSI will attend a WEBEX meeting with the project team. The purpose of the meeting will be as follows:

- Meet with the Project Manager for the project.
- QA/QC the proposed project limits to make sure that what is proposed will satisfy the designer.
- Discuss the requirements of the control needed for the scan and the limitations of movement that are acceptable. The LiDAR points will be Photo-identifiable objects along the project corridor.
- A Mobile Mapping trajectory plan and a ground control target layout plan can be provided to the Prime for the local surveyor.
- Discuss the need for incorporating in the GPS reference station that SSI will utilize during the scan acquisition into the Primary network.
- Supply an obscure drawing for an area of missing coverage that will need conventional surveying (We anticipate that this will be minimal within the project corridor).

Survey Control:

SSI will provide a Mobile LiDAR targeting plan to Burns and McDonnell that will be completed by others. SSI would need the control values in both Grid and Ground along with the scale factor as a check.

Mobile LiDAR Data Acquisition:

- 1) LiDAR acquisition shall be done when pavement is dry.
- 2) Mobile LiDAR acquisition should be obtained at traffic speeds to avoid impeding traffic but also ensuring adequate spacing from surrounding traffic, so LiDAR collection is not obscured by traffic.
- 3) Multiple passes will be needed to eliminate as many obscured areas as possible. SSI will provide an obscured file to the Prime.
- 4) LiDAR acquisition settings and operating speed shall be done in a manner to maintain accurate data and consistent data spacing throughout the project.
- 5) LiDAR acquisition shall include collecting images along the trajectory routes to colorize the point cloud. Images will also be required for supplemental viewing by designers. These images shall be rotated to an upright view, if needed, indexed, geo-referenced and delivered with associated trajectory and with the LiDAR data.
- 6) Data acquisition of the roadway will proceed according to the plan approved by the project review meeting. The mobile LiDAR system will capture scan data and digital images.

- 7) LiDAR data horizontal and vertical accuracy will be 3mm relatively. The absolute accuracies will be +/-0.06' horizontally and +/-0.02' vertically to the control.
- 8) Spherical imagery will be collected for the project comprised of (6) camera perspectives.

Mobile LiDAR Data Processing:

- 1) All coordinates shall be referenced horizontally to the North American Datum 1983 (NAD 83), and vertically to the North American Vertical Datum 1988 (NAVD 88) utilizing Geoid 2018.
- 2) Utilizing the project GPS control and inertial data, a Smoothed Best Estimate Trajectory (SBET) shows the three-dimensional route of the Mobile.
- 3) A Mapping System will be created and evaluated for accuracies.
- 4) Once the SBET has been created, SSI will spatially reference the laser range data to create the LAS point cloud data to check for data inconsistencies, gaps, and data separations.
- 5) After the laser spatial reference process, SSI will then geo-correct the laser point cloud data to the target points and their corresponding values.
- 6) The trajectories, as driven, shall be processed/refined, combined with the LiDAR data that has been acquired, and shall be registered to the ground control targets. A portion of the ground control targets (typically about 1/3 to 2/3 of the total targets) shall be withheld from the registration process and used as independent points solely for validation of the point cloud and derived project data.

Extraction/Mapping:

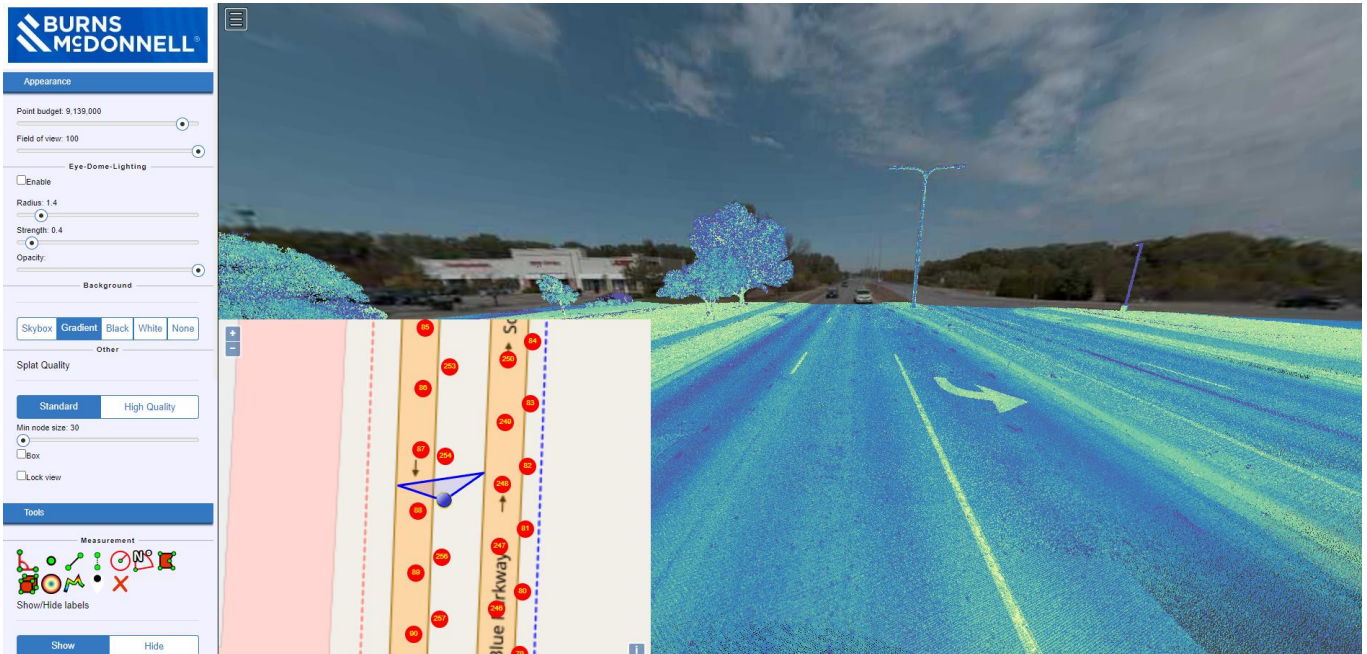
SSI technicians will utilize the adjusted point cloud data to perform the mapping for the project. SSI has been performing this type of work for several years and has established a workflow that provides clients with the best mapping deliverables that are available to the conditions of the scan. Each routine from line work to asset extraction will be extracted by a highly trained technician and reviewed by an additional technician. This provides redundancy that minimizes supplemental surveying during the client's field check. SSI will extract all hard surfaces and features that are visible in the scan as outlined within the KMZ boundary. Data extracted from LiDAR shall be delivered with a consistent spacing used by all operators. No significant spacing differences should be detectable in the extracted mapping throughout the project.

The SSI Mobile mapping system will collect all mapping components including pavement, curb, driveways, sidewalk, and all assets within the project limits. Extraction will extend to the limits of KMZ down sideroads from mainline to provide adequate mapping for ADA. Mapping will also extend to build faces on the project corridor.

Project Deliverables:

SSI will provide the following project deliverables:

- 1) Geo-corrected LAS files and POD files
- 2) Scan adjustment report PDF files.
- 3) Digital imagery obtained during the data acquisition phase in JPG with csv's.
- 4) Final mapping and will include the supplemental mapping by others.
- 5) LiDAR/Imagery viewer of the project's LiDAR and spherical Imagery for one year from the time of the collection. The viewer can be managed up to ten concurrent users and can manage an unlimited number of users assigned to the project. Administrative rights will be provided to one specific person from the client to coordinate permissions.



6) Final Report Containing:

- a) Project report describing in detail how the mobile mapping project was done, number and general location of passes to acquire data, equipment used, datum surveyed on, and results of the processing.
- b) Comparison spreadsheet showing the differences (fit) of the point cloud to the validation points. This spreadsheet shall include a resultant summary in NSSDA format showing the 95% difference in horizontal X and Y, and Vertical Z for the project.

Fees:

SSI fees will be in the Lump Sum amount of **\$99,370** and be invoiced upon the project completion with a net 30 term of payment.

Assumptions:

The following assumptions were made for developing the budget estimates for this proposal. If any of these assumptions prove to be incorrect, additional services and a budget may be required.

- No permit costs are budgeted for this project and associated permit costs would be an additional expense.
- The acquisition crew will not move any stockpiled material or debris to accomplish the survey.
- SSI is assuming that there is no training related to the project.
- If any additional coordinate is needed within the project, the Prime will be responsible for all coordination. SSI is anticipating no coordination is necessary for this type of project.
- SSI is anticipated one day of acquisition related to this project.
- The Grid to Ground scale factor will be provided to SSI by the control team.
- SSI is assuming that their other current insurance coverage will be adequate for the project. See below for SSI's current insurance coverage.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR Valable Papers \$150,000 <input checked="" type="checkbox"/> Contractual Liability/XCU Coverage GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	Y		EPP0052155/EBA0052155	01/01/2023	01/01/2026	EACH OCCURRENCE \$ 1,000,000
	DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000						
	MED EXP (Any one person) \$ 10,000						
	PERSONAL & ADV INJURY \$ 1,000,000						
	GENERAL AGGREGATE \$ 2,000,000						
	PRODUCTS - COMP/OP AGG \$ 2,000,000						
	\$						
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY			EPP0052155/EBA0052155	01/01/2023	01/01/2026	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	BODILY INJURY (Per person) \$						
	BODILY INJURY (Per accident) \$						
	PROPERTY DAMAGE (Per accident) \$						
	PIP-Property damage \$ 3,000						
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			EPP0052155/EBA0052155	01/01/2023	01/01/2026	EACH OCCURRENCE \$ 10,000,000
	AGGREGATE \$ 10,000,000						
	\$						
	\$						
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N <input checked="" type="checkbox"/> N	N/A		100083551	01/01/2023	01/01/2024	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER
	E.L. EACH ACCIDENT \$ 1,000,000						
	E.L. DISEASE - EA EMPLOYEE \$ 1,000,000						
	E.L. DISEASE - POLICY LIMIT \$ 1,000,000						
C	Professional Liability			EO000048312-05	01/01/2023	01/01/2024	Per Claim \$3,000,000
	Aggregate \$3,000,000						

If you have any questions, comments, or concerns please reach out.

Thanks,

Kyle Everitt



KS ENG COA: #3315
KS SUR COA: #363
MO ENG COA: #2022014084
MO SUR COA: #2022014231

ALC

ATLAS LAND CONSULTING
SURVEYING | ENGINEERING | DRONE | CAD
913-702-5073
14500 Parallel Road, Unit R, Basehor KS 66007
ANDREA@ALCONSULT-LLC.COM

APRIL 3, 2024

Burns and McDonnell
Attn, Ronnie Williams PE
9400 Ward Parkway
Kansas City Mo. 64114

SUBJECT: Independence, MO, Sterling Ave. approximately 2.7 miles from 40 Highway to Winner Road.

Thank you for the opportunity, we look forward to working on this project with you.

SCOPE OF WORK:

Control, BM's and mapping targets

Set permanent control (Horizontal and vertical), locate all mapping points (approximately 111) Vertical level loop with digital level

Field 56 hrs. x \$195 = \$10,920

Office cad tech 24hrs. x \$125 = \$3,000

PLS 4 hrs. x \$150 = \$600

Total \$14,520

Property strip map

Find and locate existing property, create ownership strip map including ROW's.

Field 120 hrs. x \$195 = \$23,400

Office cad tech 100 hrs. x \$125 = \$12,500

PLS 20 hrs. x 150 = \$3,000

Total \$38,900

14500 Parallel Road, Unit R, Basehor Kansas 66007

Utilities including storm and sanitary sewers with inverts.

Field 160 hrs. x \$195 = \$31,200

Office cad tech 100 hrs. x \$125 = \$12,500

PLS 40 hrs. x 150 = \$6,000

Total \$49,700

Survey of obscure areas

Field 24 hrs. x \$195 = \$4,680

Office 16 hrs. x \$125 = \$2,000

PLS 4 hrs. x 150 = \$600

Total \$7,280

Total \$110,400

Preparing legal exhibits & descriptions \$500 per description and exhibit x 20 = \$10,000.

Title report approximately 20 properties x \$300 each = \$6,000.

APPENDIX B - TRAFFIC SIGNAL REPAIR NEEDS

Signal Pole Structural Assessment Details

Summary								Pole and Base Plate Assessment												Mast Arm Assessment					
Object ID	N-S Street	E-W Street	Quadrant	Inspection Date	Priority Ranking	Status	Comments	Paint Required	Corrosion	Luminaire Intact	Cracks / Dents in Pole	Pole Plumb	Puncture in Pole	Anchor Bolts	Base Condition	Hand Hole	UltraSonic Thickness Test Performed	Penetrant Test Performed	Magnetic Particle Test Performed	Photos Taken	Comments	Mast Arm Bolts	Mast Arm Coating	Mast Arm Damage	Comments
3	Sterling Avenue	35th Street	SW	2022-12-07 4:13	14	Schedule for Replacement	Corrosion and puncture	N	MINOR	Y	N	YES	YES	LOOSE	GOOD	GOOD	Y	N	N	Y		ACCEPT	SEVERE	NONE	
4	Sterling Avenue	35th Street	NW	2022-12-06 22:17	15	Schedule for Replacement	Puncture	N	NONE	Y	N	YES	YES	GOOD	GOOD	GOOD	Y	N	N	Y		ACCEPT	ACCEPT	NONE	
28	Sterling Avenue	39th Street	SW	2022-12-09 22:55	12	Schedule for Replacement	Large dent	N	NONE	Y	N	YES	NO	GOOD	GOOD	GOOD	Y	N	N	Y	Large dent	ACCEPT	ACCEPT	NONE	
26	Sterling Avenue	39th Street	NE	2022-12-09 22:48	16	Schedule for Replacement	Puncture	N	NONE	Y	N	YES	YES	GOOD	GOOD	GOOD	Y	N	N	Y		ACCEPT	ACCEPT	NONE	
30	Sterling Avenue	Blue Ridge Boulevard	NW	2022-12-06 23:14	22	Work Needed	Grind corrosion and rep	N	MINOR	N/A	N	YES	NO	GOOD	GOOD	GOOD	Y	N	N	Y		ACCEPT	ACCEPT	NONE	
5	Sterling Avenue	Sheley Road	NE	2022-12-09 22:45	1	Schedule for Replacement	Cracks and puncture ho	N	NONE	Y	Y	YES	YES	GOOD	GOOD	LOOSE	Y	N	N	Y	Base appears to be repaired.	ACCEPT	ACCEPT	NONE	
7	Sterling Avenue	Sheley Road	SW	2022-12-09 22:54	10	Schedule for Replacement	Puncture	N	NONE	Y	N	YES	YES	GOOD	GOOD	LOOSE	Y	N	N	Y		ACCEPT	ACCEPT	NONE	
8	Sterling Avenue	Sheley Road	NW	2022-12-09 22:58	24	Work Needed	Tighten anchor bolts - M	N	NONE	Y	N	YES	NO	LOOSE	GOOD	GOOD	Y	N	N	Y		ACCEPT	ACCEPT	NONE	
9	Sterling Avenue	Winner Road	SE	2022-12-08 23:15	13	Schedule for Replacement	Large dent	N	NONE	Y	N	YES	NO	GOOD	GOOD	GOOD	Y	N	N	Y	Large dent and scratch	ACCEPT	ACCEPT	NONE	
10	Sterling Avenue	Winner Road	NW	2022-12-08 23:21	26	Work Needed	Tighten mast arm bolts	N	NONE	Y	N	YES	NO	GOOD	GOOD	GOOD	Y	N	N	Y		LOOSE	ACCEPT	NONE	

Cell Highlight Legend

	Immediate Need
	High Priority
	Medium Priority
	Low Priority
	Item of Note



BILL NO. _____

ORDINANCE NO. _____

AN ORDINANCE ADDING A NEW ARTICLE 5, LEGAL DESCRIPTION, TO INDEPENDENCE CITY CODE CHAPTER 10.

WHEREAS, on August 5, 2024, qualified voters of the City of Independence approved Charter Amendment Question 1, which removes the City legal description and City Council district legal descriptions from the Charter; and

WHEREAS, the City Council desires to add the City legal description and City Council district legal descriptions into the Independence City Code.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF INDEPENDENCE, MISSOURI, AS FOLLOWS:

Section 1. The Code of Ordinances of the City of Independence Chapter 10 shall be amended to include a new Article 5, Legal Descriptions, to read as follows:

Chapter 10 – GENERAL AND MISCELLANEOUS PROVISIONS
ARTICLE 5. – LEGAL DESCRIPTIONS

Section 10.05.001. – City boundary legal description.
The boundaries of the City of Independence shall be as follows:
[INSERT DESCRIPTION]

Section 10.05.002. – City Council district legal description.
The City is hereby divided by a line running generally north and south described as follows:

Beginning at a point on the south City limits of the City of Independence, Missouri, at the centerline of Lee's Summit Road; thence northerly along the centerline of Lee's Summit Road to its intersection with the centerline of 39th Street; thence westerly along the centerline of 39th Street to its intersection with the centerline of Haden Drive; thence northerly along the centerline of Haden Drive to its intersection with the centerline of 35th Street; thence westerly along the centerline of 35th Street to its intersection with the centerline of Leslie Avenue; thence northerly along the centerline of Leslie Avenue to its intersection with 34th Street; thence westerly along the centerline of 34th Street to its intersection with Emery Avenue; thence northerly along the centerline of Emery Avenue to its intersection with 33rd Street; thence westerly along the centerline of 33rd Street to its intersection with Hocker Avenue; thence northerly along the centerline of Hocker Avenue to its intersection with 32nd Street; thence westerly along the centerline of 32nd Street to its intersection with Noland Road; thence northerly along the centerline of Noland Road to its intersection with Pacific Avenue; thence easterly along the centerline of Pacific Avenue to its intersection with Hocker Avenue; thence northerly along the centerline of Hocker Avenue to its intersection with Lexington Avenue; thence easterly along the centerline of Lexington

Avenue to its intersection with Rogers Avenue; thence northerly along the centerline of Rogers Avenue to its intersection with Truman Road; thence easterly along the centerline of Truman Road to its intersection with Kiger Road; thence northerly along the centerline of Kiger Road to its intersection with US 24 Hwy; thence northeasterly along the centerline of US 24 Hwy to its intersection with Salisbury Road; thence easterly along the centerline of Salisbury Road to its intersection with M-291 Hwy; thence northerly along the centerline of M-291 Hwy to its intersection with the north City limits of the City of Independence, Missouri.

That part of the City lying west of the line above described shall be and is hereby divided by a line running generally east and west described as follows:

Beginning at a point on the centerline of 23rd Street (Missouri 78 Highway) at its intersection with Noland Road; thence westerly along the centerline of 23rd Street (Missouri 78 Highway) to a point at the west city limits of the City of Independence, Missouri.

That part of the City lying east of the north-south line first described shall be and hereby is divided by a line running generally east and west described as follows:

Beginning at a point on the centerline of 23rd Street (Missouri 78 Highway) at its intersection with the centerline of Noland Road; thence easterly along the centerline of 23rd Street (Missouri 78 Highway) to its intersection with the centerline of Missouri 291 Highway; thence continuing easterly along the centerline of 23rd Street (Missouri 78 Highway) (Lake City Buckner Road) to its intersection with the centerline of Swope Drive; thence southerly along the centerline of Swope Drive to its intersection with Holke Road; thence easterly along the centerline of Holke Road to its intersection with Ringo Road; thence southerly along the centerline of Ringo Road to its intersection with Ringo Road; thence southeasterly along the centerline of Ringo Road to its intersection with Ringo Circle; thence southerly along the centerline of Ringo Circle to its intersection with Ringo Road; thence southerly along the centerline of Ringo Road to its intersection with R D Mize Road; thence easterly along the centerline of R D Mize Road to its intersection with Eureka Road; thence easterly along the centerline of Eureka Road to its intersection with Crenshaw Road; thence northerly along the centerline of Crenshaw Road to its intersection with Strode Road; thence easterly along the centerline of Strode Road to its intersection with M-7 Hwy; thence northerly along the centerline of M-7 Hwy to its intersection with Argo Road; thence easterly along the centerline of Argo Road to its intersection with the City limit line of the City of Independence, Missouri.

That part of the City lying in the quadrant thus created in the northwest part of the City shall be known as District 1; that part lying in the northeast part of the City shall be known as District 2; that part lying in the southeast part of the City shall be known as District 3; and that part lying in the southwest part of the City shall be known as District 4.

Section 2. This Ordinance shall be in full force and effect from and after passage.

Section 3. The provisions of this Ordinance are severable and if any provision hereof is declared invalid, unconstitutional or unenforceable, such determination shall not affect the validity of the remainder of this Ordinance.

Section 4. The City Clerk is hereby authorized to correct any scriveners' errors contained herein or made in amending the City Code.

PASSED THIS ____ DAY OF _____, 20 __, BY THE CITY COUNCIL OF THE CITY OF INDEPENDENCE, MISSOURI.

Presiding Officer of the City Council
of the City of Independence, Missouri

ATTEST:

City Clerk



MEMORANDUM

DATE: August 12, 2024
TO: Mayor and Members of the City Council
FROM: Susanne Holland, City Clerk
SUBJECT: Boards and Commissions Report

Public Utilities Advisory Board

- A recommendation has been made to appoint Greg McGhee and reappoint Steve McLuckie to the Public Utilities Advisory Board
- Staff requests direction to add a resolution to the next regular meeting, for the appointments of these individuals to the above board.

City Judicial Commission

- A recommendation has been made to reappoint Michael Rose to the City Judicial Commission
- Staff requests direction to add a resolution to the next regular meeting, reappointing this individual to the above board.

Sustainability Commission

- A recommendation has been made to reappoint John Lunn to the Sustainability Commission
- Staff requests direction to add a resolution to the next regular meeting, reappointing this individual to the above board.



Public Safety Tax Oversight Committee

- A recommendation has been made to reappoint Donna Pittman to the Public Safety Tax Oversight Committee.
- Staff requests direction to add a resolution to the next regular meeting, reappointing this individual to the above board.

Storm Water Oversight Committee

- A recommendation has been made to reappoint R. Scott Smith and Timothy Deveney to the Storm Water Oversight Committee.
- Staff requests direction to add a resolution to the next regular meeting, reappointing these individuals to the above board.



111 EAST MAPLE AVE. • INDEPENDENCE, MO 64050
INDEPENDENCEMO.ORG