

## **EXHIBIT A**

Included below as Exhibit A are background information, the project summary and scope, and other related project costs for the South University Avenue Pavement and Utility Improvements Project.

### **Background**

A campus-wide underground tunnel system houses many U-M provided utilities, including steam, communication, and electricity, conveying the services to each campus building. The material, age, size, and condition of the tunnels varies greatly across the system. Other U-M utilities are direct buried in conduits, carrier pipes, and/or duct banks.

The City of Ann Arbor provides potable drinking water and fire protection water through water main piping both within and outside of the public Right-of-Way (ROW). The City of Ann Arbor also owns and maintains public vehicular thoroughfares across the city and abutting the University of Michigan's Ann Arbor campus. Storm water runoff from public rights-of-way is collected in a buried storm sewer system consisting of pipes and structures. The storm sewer conveys the water to permitted discharge points across the city, to existing rivers, streams, and creeks.

Components of the above-noted infrastructure along South University have either aged, need modifications to function for current use or come into disrepair such that improvements and/or replacement is mandated. Planning for a temporary traffic restriction and excavation of the South University pavement provides the opportunity to perform simultaneous end of service life/structural/capacity upgrades to multiple adjacent underground utilities. Additionally, flood studies of the Allen Creek Drain indicate that common storm events result in storm sewer backups in the area. Pavement impacts and infiltrating sandy soils provide an opportunity for expansion of the storm water management system in order to improve flood control.

### **Project Summary and Scope**

The University of Michigan Architecture, Engineering, and Construction (AEC) Department is administrating and managing a design and construction project for the improvement of the road pavement, water distribution system replacement, storm water management / flood control measures, electrical power distribution system replacement, and tunnel utility systems structural improvements/waterproofing which are located along or adjacent to South University Avenue. The limits of the underground utility work and pavement improvements are generally between State Street and East University Avenue in the City of Ann Arbor, Michigan. The main goal of the project will be to execute improvements to all of the infrastructure and utilities described above simultaneously, under a single contract, in order to reduce the cost and impact associated with these improvements.

The City of Ann Arbor has committed to provide partial funding and technical support for an AEC-managed project to be awarded through U-M procurement. Work will be executed by the selected contractor both within the City of Ann Arbor right-of-way and on U-M property.

The work scope includes the following improvements, which are sorted below by U-M, City of Ann Arbor or Shared (U-M 50%/City AA 50%) work scope:

#### **U-M Work Scope**

- South University (east-west) tunnel: reinforce for HL-93 vehicle loading and waterproof
- Martha Cook tunnel branch (north-south): Replace existing utilities in accessible tunnel with

- direct bury products and fill with flowable grout.
- High Voltage Electrical
  - Replacement of select HV duct bank, conduits, and manholes along South University.
  - Replace the HV two duct banks crossing South University to Law Quad and to Martha Cook
- Water Main
  - Extending beyond the customer service valve to replace the complete water services to the University's Law Quad, Martha Cook, and West Hall.
  - Replace a portion of the existing U-M water main from South University north to a location near the northeast corner of Shapiro Library
- Sidewalk Replacement
  - Replace sidewalk sections identified in U-M Sidewalk Program within the project scope boundaries.
- Remove, salvage, and reinstall or replace incidental items as needed to facilitate construction of U-M scope, including but not limited to the following :
  - Benches, garbage cans, bike racks
  - Landscaping, trees, lawn and irrigation systems.
  - Curb and gutter, Sidewalk, brick pavers, other hardscapes
  - Signs, bus stops/shelters

#### **City of Ann Arbor Work Scope**

- Storm Sewer
  - Replace all curb drop inlets with concrete catch basins in South University between State and East University
  - Remove and replace storm sewer in South University between State and East University
  - Use infiltration and underground storage for flood control in lieu of traditional storm sewer for a majority of the storm sewer replacement
- Sanitary Sewer
  - Cleaning and structural lining for sanitary sewer
- Street Lights
  - Provide new street lights, conduit, and electrical wiring services at intersections of Tappan Street and East University Ave to enhance lighting in roadway at the pedestrian crosswalks.
- Pedestrian Crosswalk Signals
  - Remove existing solar pedestrian crosswalk signal systems at the intersection of South University and Tappan. Install new pedestrian crosswalk signal systems, including miscellaneous items for the new electrical service.

#### **Shared U-M/City of Ann Arbor Work Scope**

- Water Main
  - Remove or abandon the existing U-M owned 12-inch water main running on the north side of South University, near the U-M tunnel.
  - Remove or abandon the city-owned 6-inch and 12-inch water mains running under the north lane of South University.
  - Install a new 12-inch city-owned water main distribution system along South University, connecting all existing services, adding or connecting hydrants, and replacing customer service valves.
- Road resurfacing

- Provide full road pavement and base aggregate removal and replacement (S. State Street to East University)
- Provide pavement marking and reinstall any impacted traffic signs.
- Remove, salvage, and reinstall or replace incidental items as needed to facilitate shared construction, including but not limited to the following :
  - Temporary traffic control signs, barricades and miscellaneous other associated temporary measures
  - Curb and gutter, sidewalk, and other hardscapes

### **Other Related Project Costs**

Additional project related costs are split proportionally between U-M and City of Ann Arbor based on scope of work. Cost share splits (%) and assumptions are identified in Exhibit B Total Project Cost Breakdown spreadsheet. These include the following types of project related activities and associated costs:

- Related Construction Costs
  - Construction Contingency (15%)
  - U-M EHS Soil Remediation Recharges: Initial evaluation/report; construction manifest signing; landfill tipping fee; administrative oversight
- Design and Project Management Costs
  - External Design Consultant (Design; Bid/Award; Construction Administration,)
  - U-M AEC Design & Construction Management Oversight
  - U-M EHS Soil Erosion Sedimentation Control - regular site inspections and after rain events
- Related Construction Consultant Costs
  - Construction Testing
  - Code Inspection
  - Site Construction Staking and As-built Field Grades
  - Site Construction Observation
- Project Field Support Costs
  - U-M Facility Operations (shutdowns, facility impacts)
  - U-M Utilities (Tunnel, HV, Plumbing)
  - U-M Grounds, including but not limited to tree removal/replacement, and lawn and irrigation repair
  - U-M Outside Power & Lighting, including but not limited to site electrical for pedestrian poles and globes, hand holes, conduit and wiring, and foundation impacts, as well as any work completed on City electrical services.