



**UNIVERSITY OF MICHIGAN
CAMPUS CONNECTOR PROJECT
REQUEST FOR QUALIFICATIONS
RFQ-0010396-UMPS-2023-CE/SE
(VERSION 1)
July 17, 2024**

Deadline for Questions/Requests for Clarifications: 3 pm ET, August 2, 2024
Deadline for SOQ Submission: 3 pm ET, October 7, 2024

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1. INTRODUCTION AND GENERAL INFORMATION

The purpose of this Request for Qualifications (**RFQ**) is to seek Statements of Qualifications (**SOQ**) from qualified respondents (**Respondents**) for the design, supply, manufacture, installation, testing and commissioning of a fully functional Automated Transit System, and the long-term operation and maintenance of the vehicle operating system (collectively referred to as the **Project**) at the University of Michigan (the **University** or **U-M**). The University seeks to enter into a Pre-Development Agreement (**PDA**) with a qualified entity (**Developer**, as defined more fully in Section 1.7.1 below) at the end of this multi-step procurement process, which is expected to consist of this RFQ, followed by a Request for Proposals (**RFP**).

1.1 PROJECT DESCRIPTION

1.1.1 PROJECT OVERVIEW

University Profile

The University of Michigan is a public research university with a main campus located in Ann Arbor, Michigan. The 3,200-acre Ann Arbor campus, which comprises the Central Campus, Medical Campus and North Campus, has a population of 51,000 undergraduate, graduate, and professional students, 8,000 faculty members, and 45,000 other staff. U-M also has two regional campuses in Dearborn (8,400 students) and Flint (7,300 students), healthcare properties across the state, and various smaller properties around the world.

As of the issuance of this RFQ, U-M Ann Arbor is the third-ranked national undergraduate public university according to U.S. News & World Report and has the second-largest research expenditures of any U.S. public university. U-M's mission is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving, and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future.

University Climate Action Commitments

U-M's commitment to climate action spans a \$1.9 billion research enterprise, 40 million square feet in buildings, the Ann Arbor, Dearborn, and Flint campuses, an expansive athletics complex, and the Michigan Medicine academic health system. U-M's carbon neutrality [commitments](#) and deadlines include:

- Scope 1 Emissions: 2040 - eliminate direct, on-campus greenhouse gas emissions;
- Scope 2 Emissions: 2025 - reduce emissions from purchased power to net zero;
- Scope 3 Emissions: 2025 - establish goals for a wide range of indirect emission sources; and
- Foster a university-wide culture of sustainability, with environmental and social justice as core principles.

Campus Plan 2050

The University is currently in the process of a campus planning exercise called "Campus Plan 2050". Campus Plan 2050 provides an extraordinary opportunity for U-M to craft a blueprint for its future, ensuring that the physical campus evolves to provide the living, learning, and working environments necessary to fulfill the University's strategic vision. This 25-year plan will serve as a catalyst to advance ongoing initiatives and establish clear priorities for capital investments.

As part of this effort, the University is focused on the development of North Campus and is working to implement strategies that will better connect North Campus to the Medical Campus and the Central Campus. Campus Plan 2050 will provide a comprehensive and unified multi-modal framework of accessible, pedestrian, bicycle, transit, and vehicular connections across the Ann Arbor campus. The plan aligns with the pathway, bicycle, transit and vehicular routes of the City of Ann Arbor and the major arterials of the road network in Ann Arbor as well as the trail system of the Huron River Valley and the Nichols Arboretum.

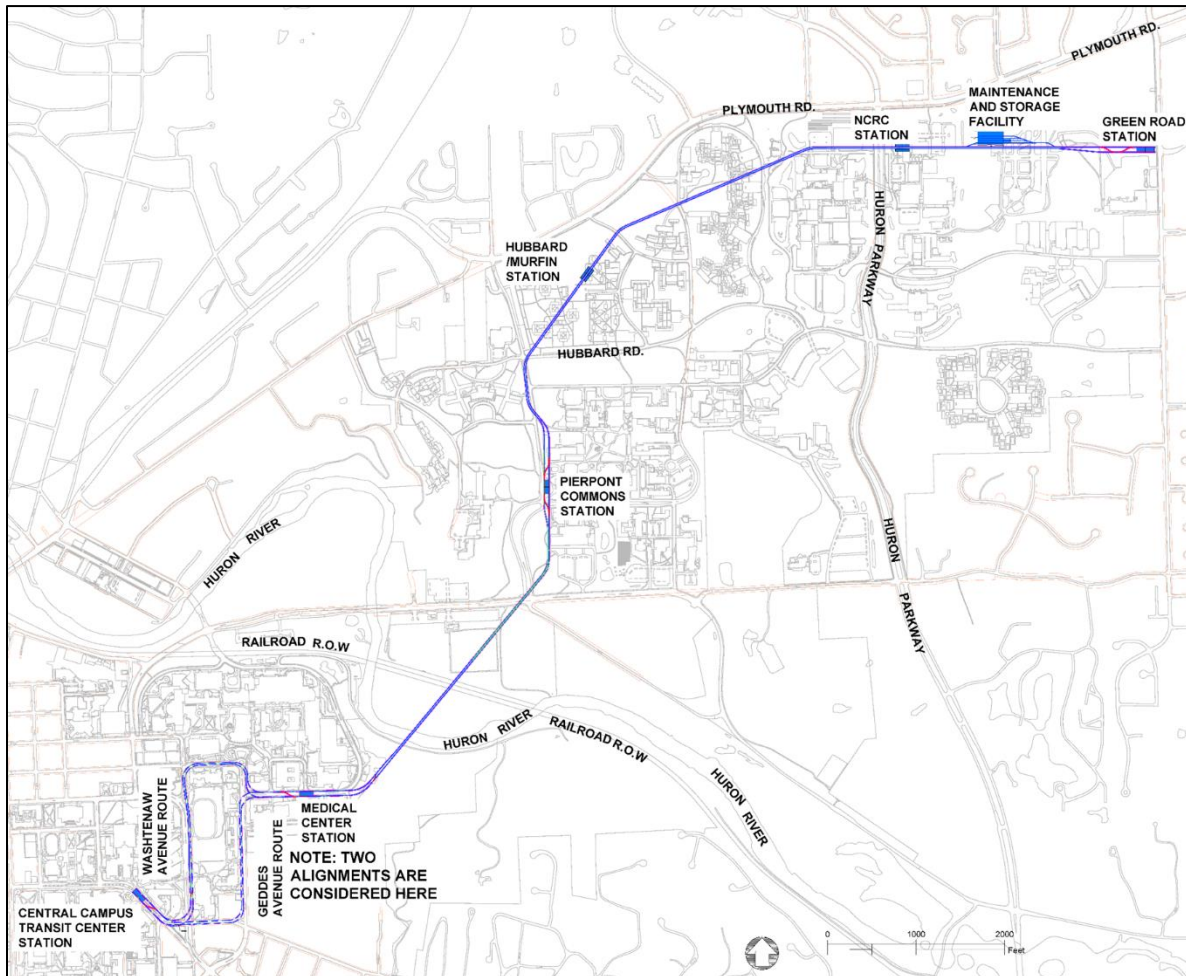
Campus Connector

In connection with Campus Plan 2050, the University is proposing to install a new Automated Transit System (also referred to herein as **Campus Connector**) to serve multiple locations on the Ann Arbor campus and provide enhanced connectivity between the Central Campus, Medical Campus and North Campus. The Campus Connector Project will include: (i) the design, construction, supply, manufacture, installation, testing and commissioning of a fully functional Automated Transit System that runs on a dedicated elevated guideway structure as shown in Figure 1.1 and (ii) the long-term operation and maintenance of the Operating System, as described further below.

An illustrative layout of the Campus Connector conceptual alignment is depicted in Figure 1.1 and features an approximately 18,500 feet (approximately 3.5 miles) dual lane guideway, six passenger stations and an off-line Operations Maintenance and Storage Facility (**OM&SF**). The conceptual alignment contemplates two preliminary alternatives for the route between the Central Campus Transit Center (**CCTC**) and the Medical Campus. The University continues to evaluate the considerations associated with each alignment alternative. The station platforms will be configured to accommodate the maximum length train (approx. 130 feet). The CCTC, Medical Campus, Pierpont Commons, and Green Road stations are proposed to be center-loaded platform configurations (single platform between two guideway lanes). The Hubbard/Murfin and North Campus Research Complex (**NCRC**) stations are proposed to be side-loaded platform configurations (two side platforms outside of the two guideway lanes). The OM&SF will house the Campus Connector maintenance functions, Central Control Facility (**CCF**) and administration offices. The proposed alignment requires a Huron River crossing bridge which will be approximately 100 feet high. This conceptual alignment and the Project characteristics included herein are preliminary and subject to change.

U-M owns or has rights to a significant portion of the project right of way. Approximately three quarters of the alignment length traverses through U-M owned property. The remaining portions of the alignment are under the control or responsibility of other agencies and jurisdictions such as the City of Ann Arbor, MDOT (Michigan Department of Transportation), EGLE (Michigan Environment, Great Lakes, and Energy), Norfolk Southern Railroad and Amtrak. U-M has not yet completed any environmental review process for the Project. As such, no specific alignment or alternative has been finally selected, and a no-build alternative may be selected.

Figure 1.1 – Campus Connector System Layout



1.1.2 PROJECT GOALS

U-M is seeking a service-proven, high-frequency, fit-for-environment, reliable and safe Campus Connector. Additional U-M goals for the Project include:

- Prioritizing safety throughout both the construction and implementation and the operations and maintenance phases;
- Minimizing Project costs and University risks associated with the Campus Connector;
- Delivering the Project and a service that is strongly aligned with the University's commitments to sustainability and climate action;
- Ensuring that Project development and execution contemplates the potential for future route and capacity expansion;
- Providing an aesthetically compatible guideway and stations and a weather-protected, comfortable and accessible passenger experience;
- Complying with a mutually agreed upon Project schedule; and
- Minimizing nuisance impacts to the community, environment, underground utilities, etc.

1.1.3 PROJECT SCOPE

The Developer will:

- i. Provide a full turnkey Campus Connector that includes the vehicles, train control, command, and control systems, running surface, guidance equipment and power distribution (collectively referred to herein as the **Operating System**) and the guideway structure, stations, equipment rooms and the building shell for the OM&SF, which will house the Campus Connector maintenance functions, CCF and administration offices, and propulsion power substations (collectively referred to herein as the **Fixed Facilities**);
- ii. Operate and maintain the Campus Connector Operating System;
- iii. Perform project management and all other services required, such as, quality assurance, design and construction of fixed facilities, analysis, documentation, manufacture, supply, fabrication, shipping, expediting, storing of materials, installation, erection, debugging, testing, and commissioning required to deliver both an Operating System and Fixed Facilities that provide an operable, safe, sustainable and reliable Campus Connector in conformance with all the requirements of the Project Agreement (as defined in Section 1.1.5); and
- iv. Be solely responsible for delivering all aspects of the work (Operating System and Fixed Facilities) and integrating the Operating System and the Fixed Facilities into a fully functional Campus Connector, meeting all the requirements of the Project Agreement.

U-M currently anticipates assuming responsibility for arranging the funding and/or financing for the Project. U-M also currently anticipates assuming responsibility for long-term maintenance of the Fixed Facilities following Project delivery and acceptance. U-M will welcome feedback from Respondents during this procurement process on the Project scope and the best value for achieving the Project goals.

As stated in Exhibit B, Section 4.0 of this RFQ, the University encourages Respondents to provide feedback in their SOQs submission. The University welcomes innovative ideas that may help to enhance this Project and to better serve the community.

1.1.4 PROJECT TECHNOLOGY

Peak ridership requirements are expected to reach approximately 4,000 passengers per hour per direction (**pphpd**) within ten years of the opening of the Campus Connector. The Campus Connector projected ridership requirements twenty years after opening day are projected to be approximately 5,500 pphpd. The Campus Connector will be capable of capacity expansion of up to 5,500 pphpd.

Based on the projected ridership demand, the desire to be vertically separated from roadway traffic and alignment characteristics, the preferred technology solution is a rubber-tire Automated Transit System. Steel-wheel Automated Transit Systems are not expected to be compatible with alignment geometry challenges or noise/vibration considerations. Similarly, cable-propelled technologies are not expected to be compatible with facility space constraints at certain stations and Campus Connector frequency/capacity requirements.

1.1.5 U-M PROCUREMENT AND PRE-DEVELOPMENT PROCESS

The University intends to deliver the Project through a phased, progressive, pre-development approach. The University anticipates utilizing a two-step procurement process, consisting of this RFQ and an RFP, to select a Developer with which to enter into a PDA.

Following the successful completion of the PDA obligations, the University anticipates entering into a long-term Project Agreement (**PA**) with the Developer for the design, supply, manufacture, installation, testing and commissioning, and operation and maintenance of the Project.

An overview of the anticipated procurement process and the approach, obligations, and milestones (as applicable) for the phased delivery of the Project is provided below. The University will provide more detailed information regarding the structure and form of the PDA and Project Agreement to shortlisted RFQ Respondents (**Shortlisted Respondents**) in the RFP.

The University reserves the right to modify, amend or terminate this procurement process in its sole discretion.

1.1.6 OVERALL PROCUREMENT PROCESS

The University will use a multi-step solicitation process to select the Developer. The procurement process will include the following two phases:

- a) This Request for Qualifications (concluding with the determination of Shortlisted Respondents); and
- b) Request for Proposals (concluding with the selection of the Developer from among the Shortlisted Respondents that submit proposals (**Proposals**)).

Evaluation of the SOQs and Proposals will be based on information submitted or otherwise available to the University.

The RFQ phase evaluation will be based on pass/fail evaluation factors, as outlined in Section 2.

Both pass/fail evaluation factors and qualitative evaluation factors will be present in the RFP phase. The selection of the Developer to enter into a PDA with the University will be based on the RFP phase evaluation criteria, to be outlined in greater detail in the RFP.

1.1.7 SOLICITATION SCHEDULE

Indicative RFQ Schedule	
Virtual Industry Day	June 6, 2024
Issue RFQ	July 17, 2024
Deadline to submit RFQ questions, Request for Clarifications (RFC)	August 2, 2024, 3 pm ET
Anticipated issuance of U-M Responses to RFCs and final Amendments	August 23, 2024
Deadline to submit Indicative Intent to Respond*	August 30, 2024
SOQ Submission Deadline	October 7, 2024, 3 pm ET
Notify Shortlisted Respondents	November 2024

*While not required, the University respectfully requests that interested parties submit an Indicative Intent to Respond on or before the deadline above. To submit your Indicative Intent to Respond, please utilize the “Intend to Bid” feature, located in the Procurement Services portal as a banner at the top of the “Summary” page. ONLY the Key Team Member identified as the Developer per Section 1.7.1 should respond on behalf of the team. Submitting an Indicative Intent to Respond is not binding, and is only used to give indication to the University that you plan to submit an SOQ.

Indicative RFP Schedule	
Conduct Post-Selection Shortlisted Respondent Meetings	November - December 2024
Issue RFP	December - January 2024 / 2025
Shortlisted Respondent Meetings	January - February 2025
Issue RFP with Amendments	March 2025
Proposal Due Date	April 2025
Pre-Selection Proposer Interviews	May 2025
Board of Regents Approval of Developer	TBD
Execution of PDA	TBD (Shortly after Board of Regents Approval of Developer)

This schedule is subject to modification at the sole discretion of the University. U-M will give notice of any change to the schedule by issuing an Addendum to this RFQ.

1.1.8 REQUEST FOR QUALIFICATIONS PHASE

This RFQ represents the first step in the multi-step solicitation process. U-M will use pass/fail evaluation criterion (**Evaluation Criteria**) outlined in further detail in Section 2.3.2 of this RFQ to evaluate the SOQs submitted by the Respondents and determine the Shortlisted Respondents.

Respondents will be provided the opportunity to submit RFCs. U-M, at its discretion, can collect the RFCs and issue RFQ amendments (**Amendments**) to Respondents. Respondents will have a window of time following the deadline for the issuance of Amendments and RFCs to finalize their SOQs before the SOQ Submission Deadline. This window of time is outlined in Section 1.1.7. The University will endeavor to provide responses to RFCs on a rolling basis.

1.1.9 REQUEST FOR PROPOSALS PHASE

Following the selection of the Shortlisted Respondents and prior to the issuance of an RFP, U-M intends to conduct Post-Selection Shortlisted Respondent Meetings. The Shortlisted Respondents will have an opportunity to introduce their team and the University may elect to use this opportunity to discuss the Respondent’s SOQ submission and elicit Respondent’s feedback

regarding the anticipated RFP and pre-development processes prior to U-M's issuance of the RFP.

U-M then anticipates issuing an RFP to Shortlisted Respondents for their review and comment. Consideration will be given to the comments provided by the Shortlisted Respondents and may be incorporated into the RFP. Additionally, after issuance of the RFP, U-M intends to invite the Shortlisted Respondents to Shortlisted Respondent meetings to discuss issues and comments identified by the Shortlisted Respondents. The RFP will contain further detail on Shortlisted Respondent Meetings, and U-M reserves the right to amend the anticipated process at its discretion.

After consideration of input from the Shortlisted Respondents, U-M intends to issue an updated RFP including associated amendments. Questions that arise after the issuance of the updated RFP may be addressed in the form of amendments at the sole discretion of U-M.

Specific details concerning the RFP process will be made available to the Shortlisted Respondents following announcement of the shortlist. The RFP process will include disclosure of materials and communications that are confidential in nature, and Shortlisted Respondents will be required to execute a confidentiality agreement, the form of which will be provided following release of the shortlist.

The RFP will provide instructions on what to submit, the evaluation factors, the objectives and requirements for evaluation, and the evaluation rating and scoring guidelines for the RFP phase of the procurement. Following the submissions of RFP Proposals, U-M anticipates inviting each of the responsive proposers for a proposer interview.

U-M expects to select one (1) of the Shortlisted Respondents as the Developer in accordance with the criteria and procedures set forth in the RFP. It is anticipated that the Developer will enter into, or will form a single purpose entity to enter into, the PDA as the Developer. The PDA will govern the pre-development work and the process leading to execution of the Project Agreement.

U-M will provide the form of the PDA with the RFP. The form of PDA will include a summary of key terms that will be included in the Project Agreement and will be the basis for negotiation of the Project Agreement during the pre-development period pursuant to the PDA.

RFP contents and processes as stated in this RFQ are subject to change. U-M reserves the right to amend the anticipated RFP process at its discretion.

1.1.10 PRE-DEVELOPMENT AGREEMENT

Following the selection of the qualified Developer, U-M and the Developer will enter into a PDA that will govern the pre-development period. The award will be conditional on U-M's ability to successfully negotiate and execute the PDA with the Developer. Should the negotiations prove unsuccessful, the University will re-evaluate other solutions.

The primary objective of the pre-development period is for the Developer and U-M to collaboratively advance a technical and commercial structure for the delivery of the Project and successfully negotiate and execute a long-term Project Agreement for the design, supply, manufacture, installation, testing and commissioning, and operations and maintenance of the Project.

It is anticipated that the Developer's scope of work under the PDA will, at a minimum, include the following:

- a) Preliminary Project development work (e.g., site investigations, identifying third-party approvals and permits needed for the Project, assisting the University in advancing third-party approvals and permits, etc.);
- b) Completion and submission of iterative designs, including at minimum a concept design sufficient for committed pricing;
- c) Completion and submission of definitive pricing terms on an open-book basis; and
- d) Negotiation of the final form of Project Agreement for implementation of the Project.

These deliverables will be included in a committed proposal delivered at the conclusion of the PDA period.

It is anticipated that U-M's scope of work under the PDA will, at a minimum, include the following:

- a) Review, comment, and approval of submissions from the Developer (as further defined in Section 1.7.1);
- b) Coordination with the City of Ann Arbor and other government and community stakeholders;
- c) Provide (and as necessary, acquire) Project right of way;
- d) Provide reasonable site access for investigation;
- e) Provide data needed to scope the project, such as estimated ridership, peak demand periods, etc.;
- f) Define minimum technical requirements and performance standards; and
- g) Arrange the funding and/or financing for the Project, except to the extent otherwise agreed with the Developer.

U-M intends to make funding available for the Developer's performance of the PDA work. The RFP and PDA will specify the compensation terms both during the performance of the PDA and upon termination or conclusion of the PDA work.

An indicative PDA term sheet is attached to this RFQ as Exhibit D. The full form PDA will be attached to the RFP and accessible to the Shortlisted Respondents. The indicative PDA term sheet is preliminary and provided for informational purposes only. The University will welcome comments to the full form of PDA in the RFP phase.

1.1.11 PROJECT AGREEMENT

Upon conclusion of the pre-development period, and subject to satisfactory completion of the predevelopment work and U-M's acceptance of the committed proposal for the Project, U-M anticipates that the parties will enter into a long-term Project Agreement for the delivery of the Campus Connector. It is anticipated that the Project Agreement will include an O&M period of up to 30 years in length.

An indicative Project Agreement term sheet is expected to be included as part of the RFP. The complete Project Agreement will be developed and negotiated during the pre-development period pursuant to a process described in the PDA.

1.2 RULES OF CONTACT

The following rules of contact shall apply during this solicitation process, effective as of the date of issuance of this RFQ through the execution of the PDA. These rules are designed to promote a fair and competitive solicitation process. Additional rules or modifications to these rules may be issued by the Solicitation Managers. For the avoidance of doubt, contact includes face-to-face, telephone, facsimile, electronic media, or formal written communication, either directly or indirectly by an agent, representative, promoter, or advocate of the Respondent. The specific rules of contact are as follows:

- a) Respondents and Shortlisted Respondents shall correspond with U-M regarding the RFQ and RFP only through designated representatives (which for purposes of this RFQ shall be the **Solicitation Managers**);
- b) Commencing with the issuance of this RFQ and continuing until the earliest of (i) award and execution of the PDA, (ii) rejection of all Proposals by U-M, or (iii) cancellation of this solicitation process, no Respondent, Shortlisted Respondent, or representative thereof shall have any communications regarding this solicitation with: any faculty, staff, advisors, contractors, or consultants of U-M involved with the solicitation (including those referenced in Section 1.6), except for communications expressly permitted by the solicitation process. The foregoing restriction shall not, however, preclude or restrict communications with regard to matters unrelated to the solicitation or limit participation in public meetings or formal Respondents or Shortlisted Respondent Meetings with U-M related to this solicitation. Any Respondent or Shortlisted Respondents engaging in such prohibited communications may be disqualified at the sole discretion of U-M;
- c) After submittal of SOQs, no Respondent or any of its members may communicate with another Respondent or members of another Respondent with regard to the Project or the SOQs, except that a Respondent may communicate with a subcontractor that is on both its team and another Respondent's team, so long as those Respondents establish a written protocol to ensure that the subcontractor will not act as a conduit of information between the Respondents;
- d) Any contact determined to be improper, at the sole discretion of U-M, may result in disqualification;
- e) Any official correspondence shall be in written form by the Solicitation Managers or their designee; and
- f) U-M will not be responsible for any verbal communication or any other information or contact that occurs outside the official communication process specified herein.

1.3 RESPONDENT QUESTIONS

The Solicitation Managers are the following individuals:

Susie Ekkert, U-M Procurement Services
sekkert@umich.edu

Caryn Ellis, U-M Procurement Services
elliscar@umich.edu

Please copy the following contact on communications with the Solicitation Managers:

Christian Kincaid, Barclays Capital
christian.kincaid@barclays.com

To facilitate receipt, processing and response, Respondents must submit all comments and questions as RFCs regarding this RFQ via the U-M Procurement Services portal, which can be found under “Tools → Q&A Board”, by the deadlines listed in Section 1.1.7.

RFCs shall be submitted using Form D as provided in Microsoft Excel format via the U-M Procurement Services portal. RFCs shall: (i) be sequentially numbered; (ii) specifically reference the relevant RFQ section and page number, unless such request is of general application (in which case the RFC shall so note); (iii) not identify the Respondent’s identity in the body of the question; and (iv) conspicuously identify, with justification, if the Respondent views its RFC as confidential or proprietary.

The Solicitation Managers will endeavor to provide responses, if any, to RFCs within a reasonable time following receipt or by the ‘Anticipated Issuance of U-M Responses to RFCs’ date set forth in the procurement schedule.

No telephone or oral requests shall be considered. No requests for additional information or clarification to any person other than the Solicitation Managers shall be considered.

For this RFQ, RFCs and the responses, if any, will be anonymized and posted on the U-M Procurement Services portal for access by all Respondents, except to the extent that the Solicitation Managers intend to respond individually to those RFCs that a Respondent has deemed to contain confidential or proprietary information. The Solicitation Managers reserve the right to assess the confidentiality or proprietary nature of information in the interest of maintaining a fair process or complying with the procurement rules applicable to this solicitation. Multiple sets of responses may be posted at different times during the RFQ process.

1.4 REQUEST FOR QUALIFICATIONS AMENDMENTS

U-M reserves the right to revise this RFQ by issuing Amendments at any time before the SOQ Submission Deadline and will post all Amendments on the U-M Procurement Services portal. In issuing an Amendment shortly before the SOQ Submission Deadline, the Solicitation Managers will determine whether an extension of the SOQ Submission Deadline is warranted.

Respondents should monitor the U-M Procurement Services portal for information concerning this solicitation.

1.5 NOTIFICATION OF FIRMS ON THE SHORTLIST

Each Respondent will be notified in writing whether or not it has been selected for the shortlist. Notifications may be expected no later than the date specified in Section 1.1.7, subject to any amendments to the solicitation schedule.

1.6 RESTRICTIONS FROM PARTICIPATION

The Respondent is responsible for disclosing all potential organizational conflicts of interest in its SOQ. A potential organizational conflict of interest may occur where consultants and/or subcontractors that assisted U-M in the preparation of this RFQ or the RFP also participate as a Respondent/Shortlisted Respondent or a member of a Respondent/Shortlisted Respondent team to the RFQ/RFP.

Without limiting the foregoing, the following firms are determined to have a potential organizational conflict of interest of this Project. The University may make changes to this list at its discretion. Any changes will be communicated to potential Respondents as an Amendment:

- a) Barclays Capital, Inc.;
- b) Ernst and Young Infrastructure Advisors, LLC;
- c) Hunton Andrews Kurth, LLP;
- d) Lea + Elliott, Inc.;
- e) Mayer Brown LLP;
- f) Miller Canfield PLC; and
- g) Stantec, Inc.

The Respondent is required to provide information concerning potential organizational conflicts of interest in its SOQ, including disclosure of all relevant facts concerning any past, present or currently planned interests that may present an organizational conflict of interest. The Respondent must state how their interests, or those of their chief executives, directors, key personnel, or any proposed Subcontractor may result in, or could be viewed as, an organizational conflict of interest.

In addition, any firm that is rendered ineligible through any state or federal action is ineligible to participate with any Respondent. A Respondent or Shortlisted Respondent must not submit an SOQ or Proposal, nor will an SOQ or Proposal be considered, if the Respondent, including those entities identified in Section 1.7, is at any time prior to execution of the Project Agreement on the federal government's list of debarred suppliers published on the SAM.gov website.

The Respondent shall provide such information as specified in Exhibit B, Section 5.0.

1.7 ORGANIZATIONAL REQUIREMENTS

1.7.1 KEY TEAM MEMBERS

Only prospective Respondents that are capable of completing this Project in its entirety will be eligible to be considered for the RFQ shortlist. A company may serve in multiple roles within the same team. In addition, a role may be a joint venture of multiple companies, in which case each of the participating companies will be deemed to be members of that team and subject to the same requirements applicable to that role.

The Respondent team members shall include (collectively, **Key Team Members**):

- a) The entity or joint venture intending to be party to the Project Agreement with the University for the Project (the **Developer**). The Developer may be a single company, a special-purpose entity, or an unincorporated joint venture or consortium. If the Developer is the Lead Contractor or Operating System and Rolling Stock Provider (intending to subcontract parts of the construction, supply, or operations and maintenance scope), the Project Agreement may be assigned to the O&M Contractor upon completion of the initial construction of the Project, subject to certain conditions to be included in the Project Agreement;
- b) The design contractor for the Fixed Facilities (the **Lead Designer**);
- c) The construction contractor for the Fixed Facilities (the **Lead Contractor**);
- d) The supplier of the Operating System and Rolling Stock (the **Operating System and Rolling Stock Provider**);
- e) The contractor for operation and maintenance of the Operating System (the **O&M Contractor**); and

- f) If the Developer or another Key Team Member is a special-purpose entity, unincorporated joint venture, consortium, or subsidiary with limited assets or credit, it is anticipated that one or more parent company guarantees will be required to support obligations under the PDA and Project Agreement or its applicable subcontract. Each such parent company guarantor (**Guarantor**) would also be a Key Team Member.

U-M will maintain the flexibility to augment the roles that comprise the Key Team Members at any point during the RFQ, RFP, PDA and PA processes.

1.7.2 ORGANIZATIONAL CONFLICTS OF INTEREST

Participation by any of the Key Team Member (or any of their Affiliates) on more than one Respondent's team shall be deemed an organizational conflict of interest disqualifying the affected Respondents.

All Respondents affected by the conflict of interest will be disqualified, even if the person or Affiliate causing the conflict is intended to have a different or lesser role than that described above.

It is a requirement of the University that the Respondent's organization, including, the Developer, the Lead Designer, the Lead Contractor, the Operating System and Rolling Stock Provider, the O&M Contractor and other key personnel, identified in the SOQ remain intact for the duration of the procurement process including the term of the subsequent Project Agreement, unless otherwise provided in the Project Agreement. A Respondent may propose substitutions for participants after the SOQ submittal. However, such changes will require written approval by the University, which approval may be granted or withheld in the University's sole discretion. Requests for changes must be made in writing no later than 30 working days prior to the due date for submittal of Proposals. The University may also request substitutions for participants. However, such changes will require written approval by the Respondent, which approval may be granted or withheld in the Respondent's sole discretion. If such approval is withheld by the Respondent, the University shall have the right to disqualify the Respondent.

1.7.3 REQUIREMENTS AND LIMITATIONS ON RESPONDENT TEAM MEMBERSHIP

Licensing Requirements

Prior to execution of the PDA, all members of the Developer must be qualified to do business in the State of Michigan, and must have obtained all required licenses, including any professional engineer registrations.

Key Team Members

If a Respondent is not shortlisted as part of the RFQ evaluation process, the members of the unsuccessful Respondent team are thereafter free to participate on Shortlisted Respondent teams, subject to the requirements of the RFP.

1.8 CONFIDENTIAL INFORMATION

Information that is considered proprietary, secret or confidential (**Confidential Information**) in written or other tangible form shall be marked as CONFIDENTIAL. Confidential Information shall not include information which: (i) is in the public domain prior to disclosure by the Respondent; (ii) becomes part of the public domain, by publication or otherwise, through no unauthorized act or

omission on the part of the University; (iii) is lawfully in the University's possession prior to disclosure by the Respondent; (iv) is independently developed by an employee(s), agents or representatives of the University with no prior access to the disclosed Confidential Information; or (v) is required by law to be disclosed by the University.

By submitting an SOQ, each Respondent agrees that if, after a request for disclosure is made, litigation is brought attempting to compel production of the material or to protect the materials from production, such Respondent shall be solely responsible, at its cost, for establishing the basis for non-disclosure of the information, provided that the University may elect, in its reasonable discretion, not to protect certain information if it reasonably believes it is not protected by applicable state and/or federal laws. Further, if an appropriate tribunal determines that the information must be disclosed or a Respondent fails to protect the information from disclosure, the University will release the material and the applicable Respondent shall release, indemnify and hold the University and any of its agents, representatives, employees, consultants and advisors harmless and immune from any and all claims for injury or damages arising out of the litigation including, but not limited to, attorneys' fees.

All SOQs submitted become the property of the University; they will not be returned and may be subject to disclosure under the State of Michigan Freedom of Information Act (**FOIA**) or other legal process. As such, all SOQs, materials, correspondence, or documents provided to the University are subject to the State of Michigan FOIA and may be released to third parties in compliance with that Act or any other law. Nothing in this RFQ shall in any way limit the ability of the University to comply with any laws or legal process concerning disclosures by public bodies.

U-M will maintain a confidential process for the duration of this procurement.

Further, if the Respondent submits information in its SOQ that it wishes to protect from disclosure, the Respondent must do the following:

- a) Clearly mark all proprietary or trade secret information as such in its SOQ at the time the SOQ is submitted and include a cover sheet stating "DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY OR TRADE SECRET INFORMATION" and identifying each section and page which has been so marked;
- b) Include a statement with its SOQ justifying the Respondent's determination that certain records are proprietary or trade secret information for each record so defined; and
- c) Defend any action seeking release of the records it believes to be proprietary or trade secret information and indemnify, defend and hold harmless U-M and its agents and employees from any judgments awarded against U-M and its agents and employees in favor of the party requesting the records, including any and all costs connected with that defense. This indemnification survives U-M's cancellation or termination of this procurement or subsequent execution of a Project Agreement. In submitting an SOQ, the Respondent agrees that this indemnification survives as long as the confidential business information is in possession of U-M.

All records pertaining to this procurement may become public information after a Notice of Award is issued following the RFP, unless such records are proprietary or trade secret information.

Nothing in this RFQ shall in any way limit the ability of the University to comply with FOIA or any other laws or legal process concerning disclosures by public bodies.

1.9 COMPLIANCE WITH APPLICABLE LAWS

In connection with this RFQ, the RFP, the PDA and the Project Agreement, Respondents shall comply with all Applicable Laws in all aspects in connection with the procurement process of this Project and the performance of the Project Agreement.

2. EVALUATION PROCESS FOR THE STATEMENT OF QUALIFICATIONS

2.1 EVALUATION OBJECTIVE

The objective of the RFQ phase of the procurement is to create a shortlist of Respondents with the overall capability (technical, financial, and management), capacity, and experience necessary to successfully undertake and complete the development, planning, design, acquisition, installation, construction, completion, management, rolling stock supply, operation, repair and maintenance and any other services identified in the Project Agreement to be performed by the Developer (collectively referred to herein as the **Work**). The Developer will have primary responsibility to plan, design, manage, control, construct, operate, and maintain the Project and to open the Project to passenger service on or ahead of schedule. U-M has set high responsibility standards for the Developer that inform the Evaluation Criteria of this RFQ and will be reflected in the RFP, PDA and the Project Agreement. Specific objectives relating to each of the Evaluation Criteria are listed in Exhibit B.

2.2 REVIEW AND EVALUATION OF THE STATEMENT OF QUALIFICATIONS

The SOQs submitted in accordance with Exhibit B will be evaluated by the Evaluation Committee based on the Evaluation Criteria listed in Section 3.5.

2.3 EVALUATION FACTORS FOR THE REQUEST FOR QUALIFICATIONS/ STATEMENT OF QUALIFICATIONS

This section outlines the evaluation factors for this RFQ phase of the procurement.

U-M has identified for this Project the following responsiveness requirements and Evaluation Criteria that are of particular importance to the University. This information is provided here to assist Respondents in organizing their teams and preparing their SOQs.

2.3.1 STATEMENT OF QUALIFICATIONS RESPONSIVENESS

Each Respondent will be reviewed on responsiveness based on its completion of all procurement requirements set forth by the University in the Procurement Portal and based on the completeness and adherence of its SOQ to the information and format requested in this RFQ as specified in Exhibit B.

The Respondent shall read and certify all University Requirements listed in the Prerequisites section of the Procurement Portal and provide confirmation that the Respondent has read and understand all the requirements of this RFQ. Failure to review and certify all prerequisites will result in U-M declaring the SOQ non-responsive.

2.3.2 PASS/FAIL EVALUATION CRITERIA

The pass/fail Evaluation Criteria are as follows:

- a) Key Team Members;
- b) Minimum Financial Capacity;
- c) Technical Experience; and
- d) Operating System and Rolling Stock Provider Approach.

If a Respondent passes all Evaluation Criteria, the Respondent will be included on the shortlist. If a Respondent fails to meet the minimum pass/fail threshold, the SOQ will be rated a fail and the Respondent will not be included on the shortlist.

Further detail regarding the Evaluation Criteria is provided in Section 3.5.

2.4 REQUESTS FOR ADDITIONAL INFORMATION

The Respondent shall provide accurate and complete information to U-M. If information is not complete, U-M shall either declare the SOQ non-responsive or notify the Respondent through a request for additional information that it will not be allowed to participate further in the procurement of this Project until all information required is provided. Any insufficient statements or incomplete affidavits will be identified by U-M with a request for additional information, which may include a request for submittal of corrected, supplemental, or missing documents. If additional information is not provided prior to the deadline for submission of the additional information, the SOQ may be declared non-responsive. Respondents should take special notice of the fact that U-M is not obligated to request any additional information from any Respondent not submitting accurate and complete information, nor is U-M obligated to conduct multiple rounds of requests for additional information with the Respondent.

The University reserves the right to waive any irregularity in any response received.

U-M may, at its sole discretion, request additional information and/or supplemental information from Respondents during the SOQ evaluation and shortlist process.

All requests for additional information and responses thereto must be in writing via e-mail. Additional information is limited to providing the specific information requested by U-M.

U-M does not anticipate conducting interviews during the RFQ phase but reserves the right to do so. If U-M elects to conduct interviews, the Respondent shall be notified in writing. Respondents would have at least one week's notice prior to the interview date.

U-M may issue addenda to all Respondents that have submitted SOQs to correct any errors or otherwise alter any RFQ terms. SOQs may be requested to be revised based upon the corrected RFQ.

3. STATEMENT OF QUALIFICATIONS SUBMITTAL REQUIREMENTS

3.1 DATE AND TIME OF RECEIPT

The SOQ Submission Deadline is stipulated in Section 1.1.7.

A Respondent may withdraw an SOQ prior to the closing time on the due date. After the closing time, a submitted SOQ shall remain irrevocable for a period of 180 days.

3.2 ELECTRONIC SUBMITTAL

Each electronic submission file constituting the SOQ including discrete “.pdf” files shall include a cover page individually and clearly labeled with the name, e-mail address, and phone number(s) of Respondent’s contact person, and additionally labeled as follows:

“Response to the Request for Qualifications for the University of Michigan Campus Connector Project”

SOQs shall be delivered electronically to the Solicitation Managers through the U-M Procurement Services portal. The Solicitation Managers will not accept facsimile, e-mail or any other form of electronic or non-electronic submission of SOQs, except through the U-M procurement services portal.

U-M prefers that electronic submissions be delivered without password protection. Neither the acknowledgement of receipt of SOQs nor the acknowledgement of receipt of passwords represent a confirmation that files are complete or have been successfully accessed by U-M. For electronic submissions that have been encrypted (password protected), U-M does not assume responsibility for files that cannot be accessed.

SOQs must be submitted on or before the SOQ Submission Deadline specified in Section 1.1.7. Any SOQs received after that date and time will be rejected and purged electronically unopened. SOQs will be accepted by the Solicitation Managers up to the SOQ Submission Deadline and time specified.

Respondents are solely responsible for assuring that the Solicitation Managers receive their electronic SOQ submissions by the specified delivery date and time. U-M shall not be responsible for any delays in delivery beyond the control of U-M.

3.3 ORGANIZATION OF THE STATEMENT OF QUALIFICATIONS

An outline of the required format for the SOQ is provided in Section 3.4 and Exhibit B. Required forms for the SOQ are contained in Exhibit C. **Any material modification to the forms may result in the SOQ being declared non-responsive.**

Respondents should only provide brief, concise information in their SOQs that addresses the objectives and the requirements of the Project consistent with the evaluation factors described in Section 3.5. Lengthy narratives containing extraneous information are discouraged.

3.4 GENERAL INSTRUCTIONS, CONTENTS AND FORMAT

The SOQ must be limited to no more than 75 pages, including required forms but exclusive of tabs and divider pages; Respondent’s Financial Statements and Surety Letters (as specified in Exhibit B); Organizational Documents (as specified in Exhibit B); resumes; calculations;

specifications; and drawings or sketches. The document must be organized to correspond with the outline presented in Section 3.5.

Text shall be in English in a standard font, a minimum of 12 points in height except for tables and forms (as found in Exhibit C), which may be prepared using 10-point font, single-spaced. Financial terms shall be in United States of America (U.S.) dollar denominations.

Pages shall be 8½ inch by 11 inch, with simple lettered/numbered dividers for each section/subsection. 11 inch by 17 inch pages are allowed only for schematics, organizational charts, other drawings, or schedules, but not for narrative text. Lines may be single-spaced. Any submitted page will be counted as part of the page limit, whether the page is fully utilized or not (i.e., a page submitted ¼ full will be counted as 1 page).

The Respondent shall number each page in each section consecutively. The Respondent shall include page numbers centered at the bottom of each page.

The digital copy of the Respondent’s SOQ shall be submitted in searchable, read-only format. Documentation that is illegible may be rejected and may lead to the SOQ being declared non-responsive. The information must be easily reproducible by normal black and white photocopying machines.

The following table sets out: (i) the format in which each Respondent should prepare and submit its SOQ; (ii) where the submission requirements for each section can be found in these RFQ documents; (iii) the applicable page limits for each section; and (iv) additional formatting requirements for each section. The total 75-page limit for the SOQ is inclusive of the individual section page limits in the below table.

Component	SOQ Section	Reference Section	Page Limit
Component 0 – General SOQ Information	Cover Page	Section 3.2	1 page
	Cover Letter	Exhibit B, Section 2.0	1 page
	Table of Contents	-	-
	Executive Summary	Exhibit B, Section 3.0	5 pages
	Respondent Feedback	Exhibit B, Section 4.0	5 pages
Component 1 – Key Team Member	Form A: Respondent’s Organization	Exhibit B, Section 5.0	-
Component 2 – Minimum Financial Capacity	Financial Statements	Exhibit B, Section 6.0 (A)	-
Component 2 – Minimum Financial Capacity	Form B: Financial Officer’s Certificate	Exhibit B, Section 6.0 (B)	-

Component	SOQ Section	Reference Section	Page Limit
Component 2 – Minimum Financial Capacity	Surety Letter	Exhibit B, Section 6.0 (C)	-
Component 3 – Technical Experience	Form C: Past Project Descriptions	Exhibit B, Section 7.0	20 pages
Component 4 – Initial Statement of Technical Approach	Initial Statement of Technical Approach	Exhibit B, Section 8.0	20 pages
Component 5 – Technical Organization and Key Personnel	Technical Organization Chart and Resumes	Exhibit B, Section 9.0	-
Component 6 – Operating System and Rolling Stock Provider Approach and Experience	Initial Statement of Operating System and Rolling Stock Approach	Exhibit B, Section 10.0	10 pages

3.5 EVALUATION CRITERIA AND REQUIREMENTS

In providing an SOQ, Respondents should be guided by the Project goals in Section 1.1.2 The SOQ evaluations will be based on how well the SOQ responds to the requirements and meets the Project goals and the objectives for each of the Evaluation Criteria.

3.5.1 SOQ RESPONSIVENESS

The objective of the SOQ Responsiveness requirement is to ensure compliance with all submittal requirements both on the Procurement Portal and of this RFQ document, as detailed in Exhibit B. Respondents that do not meet all submittal requirements of this RFQ document may be disqualified.

3.5.2 KEY TEAM MEMBER PASS/FAIL EVALUATION FACTOR

The objective of the Key Team Member Pass/Fail Evaluation Factor is to identify that Respondents have organized themselves to meet the requirements of the RFQ and future pre-development work, if selected.

3.5.3 MINIMUM FINANCIAL CAPACITY PASS/FAIL EVALUATION FACTOR

The objective of the Minimum Financial Capacity Pass/Fail Evaluation Factor is to identify Respondents with demonstrated capability to undertake the financial responsibilities and obligations associated with development, delivery, and operation of the Project.

3.5.4 TECHNICAL PASS/FAIL EVALUATION FACTOR

A) Respondent Technical Experience Pass/Fail Subfactor

The following are objectives of the Technical Experience Pass/Fail Evaluation Subfactor:

- To identify Respondents that demonstrate a full understanding of the Project's scope and complexity; and
- To identify Respondents that demonstrate the technical capability, safety track record and project experience to successfully perform all Project phases, including design, construction, testing and demonstration, and operation and maintenance.

B) Initial Statement of Technical Approach Pass/Fail Subfactor

The following are the objectives for the Initial Statement of Technical Approach Pass/Fail Evaluation Subfactor:

- To identify Respondents that demonstrate a full understanding of the Project's scope and complexity; and
- To identify Respondents that demonstrate an understanding of Project risks and potential solutions, and an appropriate approach to safety during all Project phases, including design, construction, operation, and maintenance.

C) Technical Organization and Key Personnel Pass/Fail Evaluation Subfactor

The objective of the Technical Organization and Key Personnel Pass/Fail Evaluation Subfactor is to identify Respondents that can provide Technical Organization and Key Personnel that have the technical knowledge and project experience to complete this Project successfully and efficiently. All Key Personnel must have completed at least one project of similar size, scope and complexity to the Campus Connector.

3.5.5 OPERATING SYSTEM AND ROLLING STOCK PROVIDER APPROACH AND EXPERIENCE PASS/FAIL EVALUATION FACTOR

The objective of the Operating System and Rolling Stock Provider Approach and Experience Pass/Fail Evaluation Factor is to identify Respondents with prior experience in projects of similar size and complexity where they have demonstrated the capability of their System to meet the technical requirements for the Campus Connector. If a prior project cannot be used to demonstrate experience, the proposed approach to achieve the technical requirements shall be provided.

4. UNIVERSITY REQUIREMENTS AND CONSIDERATIONS

Please read and certify all U-M requirements and answer all required questions in the Procurement Services portal.

In addition, Respondents should be aware of the following requirements that would apply to the selected Developer:

- A) Diversity, Equity, Inclusion (**DEI**) and Sustainability – DEI and sustainability are values central to the University’s mission. Procurement Services is committed to providing business opportunities to suppliers who help the University honor these values by connecting the campus community with diverse suppliers and building a pipeline of socially impactful supplier options to procure sustainable products and services. For more information, please visit this page: <https://procurement.umich.edu/um-suppliers/supplier-diversity/>
- B) Prevailing Wage – The selected Developer must comply with the State of Michigan Prevailing Wages on State Projects Act, Act No. 10, Public Acts of 2023.
- C) Equal Employment Opportunity – The University of Michigan is committed to compliance with all applicable laws regarding non-discrimination. The University strives to build a diverse community in which opportunity is equal for all persons regardless of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight, or veteran status in employment, educational programs and activities, and admissions.

5. GOVERNING LAW

This Agreement shall be governed by and construed under the laws of the State of Michigan without regard for principles of choice of law. Any claims, demands, or actions asserted against the University shall be brought in the Michigan Court of Claims. Respondent, its successors and assigns, consent to the jurisdiction of a court with applicable subject matter jurisdiction sitting in the State of Michigan with respect to any claims arising under this procurement.

EXHIBIT A: ABBREVIATIONS AND DEFINITIONS

1.0 ABBREVIATIONS

CCF	Central Control Facility
CCTC	Central Campus Transit Center
DBE	Disadvantaged Business Enterprise
DEI	Diversity, Equity, Inclusion
FOIA	Freedom of Information Act
NCRC	North Campus Research Complex
O&M	Operations and Maintenance
OM&SF	Operations Maintenance and Storage Facility
PA	Project Agreement
PDA	Pre-Development Agreement
pphpd	passenger per hour per direction
RFC	Request for Clarifications
RFP	Request for Proposals
RFQ	Request for Qualifications
SOQ	Statements of Qualifications
U-M	University of Michigan

2.0 DEFINITIONS

“Affiliate” means any firm or legal entity associated with a Respondent or Key Team Member, as defined in Section 1.7.3.

“Amendments” has the meaning set forth in Section 1.4.

“Applicable Laws” means any statute, law, code, regulation, ordinance, rule, common law, judgment, judicial or administrative order, decree, directive, or other requirement having the force of law or other governmental restriction (including those resulting from the initiative or referendum process) or any similar form of decision of or determination by, or any interpretation or administration of any of the foregoing by, any Governmental Entity.

“ASCE 21-21” means the Automated People Mover Standards published by the American Society of Civil Engineers.

“Board of Regents” means the U-M Board of Regents.

“Campus Connector” has the meaning set forth in Section 1.1.1.

“Confidential Information” has the meaning set forth in Section 1.8.

“Critical Performance Requirements” has the meaning set forth in Exhibit B, Section 10.0.

“Developer” means the entity selected pursuant to the RFP to enter into a PDA with U-M to design, construct, operate and maintain the Project, as more fully defined in Section 1.7.1.

“Evaluation Committee” means the personnel leading the University’s SOQ evaluation.

“Evaluation Criteria” has the meaning set forth in Section 1.1.8.

“Fixed Facilities” include the following components of the Campus Connector: the guideway structure, stations, equipment rooms and the building shell for the OM&SF, which will house the Campus Connector maintenance functions, CCF and administration offices, and propulsion power substations.

“Freedom of Information Act (FOIA)” refers to Act 442 of 1976 of Michigan Compiled Laws.

“Governmental Entity” means the government of the United States of America, the State of Michigan, the cities and counties within the State of Michigan and any other agency, or subdivision of any of the foregoing, including any federal, state, or municipal government, and any court, agency, special district, commission or other authority exercising executive, legislative, judicial, regulatory, administrative or taxing functions of, or pertaining to, the government of the United States of America, the State of Michigan or the cities and counties within the State of Michigan. "Governmental Entity" does not include U-M.

“Guarantor” means, with respect to a Key Member, the parent company or another affiliate of that Key Member that will guarantee the performance of that Key Member’s obligations.

“Insolvency Event” means any voluntary or involuntary bankruptcy, insolvency, liquidation, restructuring, suspension of payments, scheme of arrangement, appointment of provisional liquidator, receiver or administrative receiver, resolution or petition for winding-up or similar proceeding, under any applicable law, in any jurisdiction.

“Key Personnel” has the meaning set forth in Exhibit B, Section 9.0.

“Key Team Members” has the meaning set forth in Section 1.7.1.

“Lead Contractor” has the meaning set forth in Section 1.7.1.

“Lead Designer” has the meaning set forth in Section 1.7.1.

“Licensing Requirements” has the meaning set forth in Section 1.7.2.

“Operating System” includes the following components of the Campus Connector: vehicles, train control, command, and control systems, running surface, guidance equipment and power distribution.

“Operating System and Rolling Stock Provider” has the meaning set forth in Section 1.7.1.

“Operations and Maintenance Contractor (O&M Contractor)” has the meaning set forth in Section 1.7.1.

“Post-Selection Shortlisted Respondent Meetings” means meetings scheduled with Shortlisted Respondents, as described in Section 1.1.9.

“Pre-Development Agreement (PDA)” has the meaning set forth in Section 1.1.10.

“Project” means the design, construction, operation and maintenance by the Developer and all other Work product to be provided by the Developer in accordance with the PDA and Project Agreement.

“Project Agreement” has the meaning set forth in Section 1.1.11.

“Project Schedule” means the schedule agreed upon for the Project.

“Proposals” has the meaning set forth in Section 1.1.6.

“Request for Clarifications (RFC)” has the meaning set forth in Section 1.1.8.

“Request for Proposals (RFP)” has the meaning set forth in Section 1.1.9.

“Request for Qualifications (RFQ)” has the meaning set forth in Section 1.0.

“Respondents” has the meaning set forth in Section 1.0.

“Shortlisted Respondents” has the meaning set forth in Section 1.1.5.

“Solicitation Managers” means the key University procurement personnel identified in Section 1.3.

“Statements of Qualifications (SOQ)” has the meaning set forth in Section 1.0.

“University or U-M” means the University of Michigan.

“Virtual Industry Day” means the meeting that was held virtually on June 6, 2024 for prospective RFQ Respondents to learn about the Project.

“Work” means, collectively, the development, planning, design, acquisition, installation, construction, completion, management, rolling stock supply, operation, repair and maintenance and any other services identified in the Project Agreement to be performed by the Developer.

**EXHIBIT B: STATEMENT OF QUALIFICATIONS SUBMITTAL
INSTRUCTIONS**

1.0 FORMAT AND ORGANIZATION OF THE STATEMENT OF QUALIFICATIONS

The Respondent shall draft its SOQ in accordance with the contents and format set out in Section 3.4 and in this Exhibit B. All information submitted in the SOQ will be used for its evaluation. SOQs will become the property of U-M and will be retained after the SOQ evaluation process for the Project files.

The Respondent shall submit the information required by this Exhibit B in the organization and format, and using the forms, specified herein. Failure to provide the requested information on the forms and in the format specified may result in U-M declaring the SOQ non-responsive.

The SOQ must be packaged as follows:

A) Component 0 - General SOQ Information

- i. Cover Page;
- ii. Cover Letter;
- iii. Table of Contents;
- iv. Executive Summary; and
- v. Respondent Feedback.

B) Component 1 – Key Team Member Information;

C) Component 2 – Minimum Financial Capacity;

D) Component 3 – Technical Experience;

E) Component 4 – Initial Statement of Technical Approach;

F) Component 5 – Technical Organization and Key Personnel; and

G) Component 6 – Operating System and Rolling Stock Provider Approach and Experience.

All forms named herein are found in Exhibit C unless otherwise noted.

2.0 COVER LETTER

The Respondent shall provide a one-page letter indicating its desire to be considered for the Project and confirming that the SOQ is being submitted on behalf of the entire Respondent team, including the Key Team Members identified in the SOQ. The letter must be signed by a representative of the Respondent team that is duly authorized by all Respondent team members to submit the SOQ on their behalf.

The Respondent shall identify a single point of contact for the Respondent and the address, E-mail address, and telephone number where questions should be directed. All communication regarding the procurement process and the Project shall be conducted with the Respondent's single point of contact.

3.0 EXECUTIVE SUMMARY

An Executive Summary, not to exceed five pages, highlighting the positive elements of the Respondent's SOQ must be included with its submission. While there is no specific format for

the Executive Summary beyond the page limit identified in this section, the Executive Summary should identify the strengths of the Respondent's qualifications, emphasizing why it should be considered for the shortlist. The Executive Summary will not be considered as confidential and, as such, should not contain any confidential proprietary or trade secret information. The Executive Summary of any or all Respondents may be made public, at the sole discretion of U-M, prior to or after the execution of the Project Agreement.

4.0 RESPONDENT FEEDBACK

The University has provided Respondents with a preliminary vision for the PDA and PA processes. As communicated during the University's Virtual Industry Day, U-M believes in clear and open communication between U-M and a potential partner. For this reason, Respondents are encouraged to provide feedback that the University should consider related to project delivery model/approach, risk allocation, performance security and project financing. Respondents are asked to limit their feedback to five (5) pages.

5.0 KEY TEAM MEMBER INFORMATION FOR COMPONENT 1 OF THE STATEMENT OF QUALIFICATIONS

The Respondent shall submit team member information of the nature described in Form A (Exhibit C), Respondent's Organization Information, for the Respondent's organization.

In addition, for each Key Team Member identified in Form A, provide a copy of the entity's current charter, articles or certificate of incorporation, organization, or formation, or the like, issued by the jurisdiction in which the entity is organized (e.g. for a Delaware limited liability company, a copy of the certificate of formation issued by the Delaware Secretary of State)(**Organizational Documents**). If the Key Team Member is not a legal entity, describe how the Key Team Member is organized or intended to be organized. If the Key Team Member is an unincorporated joint venture or consortium of two or more members, provide the information requested above for those members (as if the members are each a Key Team Member).

For the Respondent team as a whole, describe how the team is intended to be organized, such as through a teaming agreement, subcontracting arrangements, etc.

The Key Team Members and their personnel will be required to hold all necessary company and individual professional licenses necessary to complete the predevelopment work and eventually the work under the Project Agreement assigned to the Developer and other Key Team Members, if selected. This will include registration to do business in the State of Michigan, as well as professional licensing applicable to designers, engineers, and contractors. Confirm that the Key Team Members have, or will obtain, such licenses prior to conducting any work for which such licenses are required.

The Respondent shall identify a single point of contact for the Respondent and the address, e-mail address, and telephone where questions should be directed on Form A. The single point of contact identified on Form A shall be the same person identified in the cover letter (see Exhibit B, Section 2.0). All communication regarding the procurement process and Project shall be conducted with the Respondent's single point of contact.

The Respondent shall provide any information concerning any potential organizational conflicts of interest in this Section, as provided for in provided for in Section 1.6.

6.0 MINIMUM FINANCIAL CAPACITY INFORMATION FOR COMPONENT 2 OF THE STATEMENT OF QUALIFICATIONS

The Respondent shall submit the following formation:

A) Financial Statements

Financial statements for the three most recently completed fiscal years and any interim (e.g., quarterly, half-yearly) financial statements prepared after the most recent yearly financial statement must be provided consistent with the requirements below to demonstrate financial capability of the Respondent for each of the following entities (and if any entity is a joint venture (unincorporated or incorporated), all entities comprising the joint venture):

- the Developer (if different from the Lead Contractor, Operating System and Rolling Stock Provider and O&M Contractor),
- the Lead Contractor,
- the Operating System and Rolling Stock Provider,
- O&M Contractor, and
- any Guarantor (if applicable).

If a Guarantor is provided for the Developer, the Lead Contractor, the Operating System and Rolling Stock Provider, or the O&M Contractor, financial statements only need to be provided for the Guarantor and do not need to be provided for its guaranteed entity. In addition, U-M may, in its discretion based upon the review of the information provided specify that an additional Guarantor is required as a condition of shortlisting, in which case the information required of such Guarantor shall be submitted upon request to U-M post SOQ submission.

Information for each entity should be packaged separately and include a cover sheet identifying the name of the organization and its role as the Respondent, the Developer, the Lead Contractor, the Operating System and Rolling Stock Provider, the O&M Contractor, or a Guarantor.

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Financial statement information must include the following information:

- i. Opinion Letter (Auditor's Report);
- ii. Balance Sheet;
- iii. Income Statement;
- iv. Statement of Changes in Cash Flow; and
- v. Footnotes.

In addition, financial statements must meet the following requirements:

- a) **United States Generally Accepted Accounting Principles** – Financial statements must be prepared in accordance with United States Generally Accepted Accounting Principles (U.S. GAAP) or International Financial Reporting Standards (IFRS). If financial statements are prepared in accordance with principles other than U.S. GAAP or IFRS, a letter must be provided from a certified public accountant discussing the areas of the financial statements that would be affected by a conversion to U.S. GAAP or IFRS.
- b) **United States Dollars** – Financial statements must be provided in United States (U.S.) dollars. If financial statements are not readily available in U.S. dollars, the Respondent must

convert, at a minimum, Balance Sheet, Income Statement, and Cash Flow Statement, as well as any notes related to undrawn liquidity facilities, into U.S. dollars and provide a summary of the conversion methods and applicable foreign exchange rates used to do so.

- c) **Audited** – Financial statements must be audited by an independent party qualified to render audit opinions (e.g., a certified public accountant). If audited financials are not available for the Developer, Lead Contractor, Operating System and Rolling Stock Provider, O&M Contractor, or a Guarantor (if applicable), the SOQ shall include unaudited financial statements for the Respondent or such Developer, Lead Contractor, Operating System and Rolling Stock Provider, O&M Contractor, or Guarantor, certified as true, correct, and accurate by the chief financial officer (CFO) or equivalent position or role.
- d) **English** – Financial statement information must be prepared in English. If audited financial statements are prepared in a language other than English, translations of all financial statement information, including footnotes, must be provided.
- e) **Newly Formed/Not Yet Formed Entity** – If the Developer is a newly formed entity or has not yet formed a legal entity and does not have independent financial statements, financial statements for the Lead Contractor, the Operating System and Rolling Stock Provider, O&M Contractor, and Guarantors (if applicable) shall be provided (and the Respondent shall expressly state that the Developer is a newly formed entity or not yet formed entity, as applicable, and does not have independent financial statements).
- f) **Securities and Exchange Commission Filings** – If any entity for which financial information is submitted hereby files reports with the Securities and Exchange Commission (SEC), then such financial statements shall be provided through a copy of its annual report on Form 10K. For all subsequent quarters, a copy of any report filed on Form 10Q or Form 8-K which has been filed since the latest filed Form 10K shall be provided. Instead of providing hard copies of such forms, Respondents may submit digital copies of such information in a read-only format on a USB drive with each submission.

B) Financial Officer’s Certificate

Provide a certificate (**Financial Officer’s Certificate**) using Form B (see Exhibit C), with all annexes, executed by the CFO (or similar financial officer) from each of the following entities (and if any entity is a joint venture (unincorporated or incorporated), all entities comprising the joint venture):

- i. The Developer (if different from the Lead Contractor, Operating System and Rolling Stock Provider and O&M Contractor);
- ii. The Lead Contractor;
- iii. the Operating System and Rolling Stock Provider;
- iv. O&M Contractor (and if the Operations and Maintenance Contractor is a joint venture (unincorporated or incorporated), all entities comprising the joint venture); and
- v. Each Guarantor (if any).

Each entity noted above should provide its own separate certificate. However, if any company has a Guarantor, only one consolidated certificate is required for such Guarantor and its guaranteed entity.

C) Surety Letter

A letter from a surety(ies) indicating that the Respondent is capable of obtaining a Proposal bond and performance and payment bonds covering the design and construction components of the Project. In the event the Respondent is unable to obtain such letter for any of the bonds, a

letter from a surety(ies) indicating that the Developer, Lead Contractor, and Operating System and Rolling Stock Provider are capable, in aggregate, of obtaining a Proposal bond and performance and/or payment bonds, as applicable, of, at minimum, 50% of the Project construction value. The letter must specifically state that the surety/insurance company has evaluated the Respondent's or Developer's, Lead Contractor's or Operating System and Rolling Stock Provider's, as applicable, backlog and work-in progress in determining its bonding capacity. Letters indicating "unlimited" bonding/security capability are not acceptable.

7.0 TECHNICAL EXPERIENCE INFORMATION FOR COMPONENT 3 OF THE STATEMENT OF QUALIFICATIONS

Using Form C (Exhibit C), Past Project Descriptions, the Respondent shall provide no more than five and a minimum of three descriptions of past projects per each Developer, Lead Designer, Lead Contractor, Operating System and Rolling Stock Provider, and O&M Contractor, and highlighting experience in the last 10 years relevant to the Project. The Respondent should demonstrate past performance experience in the following:

Element 1 – Safety

- Safety: Demonstration of successful safety track record during both construction and installation and operations and maintenance of projects of similar size, scope and complexity as the Campus Connector;

Element 2 – ATS Equipment Design and Installation Experience

- Successful Automated Transit System Installation: Demonstration of successful experience with Automated Transit System design, construction, installation, integration, testing and commissioning and start of Automated Transit Systems for passenger service;
- Flexible/efficient operations to meet sustainability requirements: Demonstration of successful experience with the design, construction and operations of Automated Transit Systems to meet client sustainability requirements;

Element 3 – Fixed Facilities Design and Construction Experience

- Fixed Facilities Design & Construction Experience and Capabilities: Demonstration of experience and ability in successful design and construction of projects of similar size, scope and complexity as the Campus Connector;
- Ability to deliver major infrastructure in dense urban/campus areas: Demonstration of experience and ability in delivering major complex infrastructure programs in dense urban/campus areas considering maintenance of traffic, natural terrain variations, environment and variations in weather similar to those of the Campus Connector;
- Architectural and Urban Landscape Integration Experience: Demonstration of direct experience and ability in successfully integrating similar projects into an urban or campus environment;

Element 4 – O&M Experience

- Flexible/efficient operation to support varying system demands and local conditions: Demonstration of experience and ability with Automated Transit System operations to support varying passenger demands through the day and ability to grow capacity over time;

- Operations and Maintenance / Asset Management Experience and Capabilities: Demonstration of direct experience and ability in the operations and maintenance of Automated Transit Systems of similar complexity to meet the needs of the University. Additionally, examples of successful asset management to extract best Life Cycle value from the Asset.

The Respondent shall describe those projects having a scope comparable to or more complex than that anticipated for the Project, any challenges presented during those projects, and how those challenges were resolved. The Respondent shall also cite any (preferably similar) project examples demonstrating innovations and management of risks

If the Respondent chooses to submit work completed by an Affiliate of any of the Respondent team members in response to this evaluation subfactor, the Respondent shall identify the full legal name of the Affiliate, identify experience relevant to the objectives stated in this section, and clearly describe the role such entity will have on this Project. Affiliate experience will be considered if the Affiliate's participation will be provided to support the Respondent team on this Project.

8.0 INITIAL STATEMENT OF TECHNICAL APPROACH INFORMATION FOR COMPONENT 4 OF THE STATEMENT OF QUALIFICATIONS

The Respondent shall provide an initial statement of the Respondent's technical approach to the Project. This statement shall include the following:

- A) Understanding of the Project scope, including the following:
 - 1) The approach to safety during the construction and installation and the operations and maintenance phases of the Project;
 - 2) A description of how the Project goals will be met;
 - 3) The approach to design and construction, as well as operations and maintenance;
 - 4) The approach to meeting environmental and sustainability commitments;
 - 5) The approach to providing business opportunities to suppliers who help U-M honor its DEI values, including outreach, inclusion, and compliance considerations;
 - 6) The approach to supporting the University with regard to public information/public relations and stakeholder engagement;

- B) Approach to successfully delivering the Project, including the proposed approach relating to:
 - 1) Project Design;
 - 2) Project Management;
 - 3) Integration of ATS Operating System Technology with fixed facilities;
 - 4) Development of design-to-budget project GMP;
 - 5) Project Construction;

- 6) Integration of O&M into System Design and Construction;
 - 7) Operating System, rehabilitation, equipment and system renewal and life cycle management;
 - 8) Project delivery & coordinating with the University on permitting for design and construction for a project traversing across a multi-jurisdictional route (University of Michigan, City of Ann Arbor, State of Michigan, Norfolk Southern Railroads, Amtrak, and jurisdiction with respect to the Huron River);
- C) Identification and understanding of the top Project risks and potential solutions to address the risks, including the following:
- 1) Risks with consequences arising during design;
 - 2) Risks with consequences arising during construction;
 - 3) Risks with consequences arising during the operations and maintenance period; and
- D) Applying innovative measures.

9.0 TECHNICAL ORGANIZATION AND KEY PERSONNEL INFORMATION FOR COMPONENT 5 OF THE STATEMENT OF QUALIFICATIONS

The Respondent shall provide an Organization Chart and resumes for the following key personnel:

- Overall Program Manager
- Fixed Facilities (Infrastructure) Engineering Manager
- Operating System Engineering Manager
- Lead Engineer of Record (EOR) for Bridge & Other Structures
- Lead Architect for Stations and other buildings
- Lead Integration and Interface Manager
- Lead Construction Manager
- Automated Transit System Operations Manager
- Automated Transit System Safety Manager

10.0 OPERATING SYSTEM AND ROLLING STOCK PROVIDER APPROACH AND EXPERIENCE INFORMATION FOR COMPONENT 6 OF THE STATEMENT OF QUALIFICATIONS

The Respondent shall submit its prior experience with one example project of similar size and complexity demonstrating the capability to meet the following minimum requirements for the Campus Connector. If a past project application is not available, the Respondent shall provide a detailed project approach to comply with the requirements. Additional information regarding the technical requirements is provided in Exhibit E.

1. Technical Maturity of the Proposed Campus Connector Operating System

The proposed Campus Connector Operating System must have a sufficient degree of “technical maturity” to avoid product development risks. In that regard, Respondent must demonstrate that

the “technical maturity” of the proposed Campus Connector technology satisfies the requirements of Exhibit E, Section 2.0.

2. Ability to Meet Critical Performance Requirements

Ability of the Respondent to adapt, deliver, operate and maintain the proposed Campus Connector as an optimized life cycle asset that meets anticipated project performance requirements, including but not limited to the following:

- The achievable line capacity of the Campus Connector, evaluated with respect to the System operations defined in Exhibit E, Section 3.0. Line capacities, fleet size, train lengths and spare vehicles are to be determined in accordance with the requirements provided in Exhibit E, Section 3.0.
- Conformity between the proposed minimum operating headway and the desirable headways defined in Exhibit E, Section 3.0 and the achievable line capacity of the Campus Connector.
- Past project application example or approach to design of the Campus Connector’s ability to operate in different modes per ASCE 21-21.
- Past project application example or approach to design of the Campus Connector’s airborne and interior noise limits per ASCE 21-21.
- Past project application example or approach to design of the Campus Connector’s ride quality requirements per ASCE 21-21.
- Past project application example or approach to the Campus Connector’s vehicle design per ASCE 21-21 , including envelope and clearances, space and weight allocation, capacity, crash worthiness, structure, design life and safety.
- Past project application example or approach to design of the Campus Connector’s Power Distribution Subsystem per ASCE 21-21 power distribution.
- Past project application example or approach to design of the Campus Connector’s Automatic Train Control and Communications Subsystems per ASCE 21-21.
- Past project application example or approach to cold weather operations and design features, with specific focus on guideway heating.

3. Ability to Fit Within Site Specific Constraints

Demonstrated ability of the Respondent to adapt the proposed Campus Connector alignment and infrastructure elements to fit within the right-of-way identified in Exhibit F, *ATS Reference Drawings*. Within these constraints, innovative approaches to optimizing the Campus Connector may be considered and approved by U-M, provided that these proposed approaches do not impact existing facilities.

EXHIBIT C: STATEMENT OF QUALIFICATION FORMS

FORM A: RESPONDENT'S ORGANIZATION INFORMATION

Respondent:

Name of Entity:

Address:

Contact Name:

Title:

Telephone Number:

Email:

NAME(S) OF RESPONDENT TEAM MEMBERS			
Legal Name	DBE (Yes/No)	Address, E-mail Address, and Telephone Number	Jurisdiction of Incorporation
Developer			
Lead Designer			

Lead Contractor			
Operating System and Rolling Stock Provider			

O&M Contractor			
Guarantor (if applicable)			

FORM B: FINANCIAL OFFICER'S CERTIFICATE

[Complete a separate Form B for the Developer, Lead Contractor and Operating System and Rolling Stock Provider (and each Guarantor, if any).¹]

I, [Name], the [Title] of [Name of the Developer, Lead Contractor, Lead Operating Systems and Rolling Stock Provider or the O&M Contractor] (the Member) [and the [Title] of [Name of Guarantor] (the Guarantor)], do hereby certify as of [Date]² that:

- (a) This certificate is being executed and delivered in connection with the Statement of Qualifications (the SOQ) submitted by [Respondent Name] (the Respondent) in response to the Request for Qualifications for the University of Michigan Connector Project, dated 7 17, 2024 (the RFQ), issued by the University of Michigan (U-M).
- (b) As to the matters herein set forth below, I either have personal knowledge or have obtained information from officers or employees of the [Member] [and the Guarantor] in whom I have confidence and whose duties require them to have personal knowledge thereof. I make the certifications herein to U-M pursuant to the requirements of the RFQ with the intent and understanding that they will be relied upon by U-M as a basis for the evaluation of the SOQ contemplated by the RFQ.
- (c) **[Guarantor Support:** It is the intention of the Guarantor to support the Member with the financial, human resources, and other support needed by the Member to successfully satisfy its obligations in respect of the Project if the Respondent were to become the Developer.]³
- (d) **Audited Financial Statements:** The audited financial statements provided by [the Member] [the Guarantor] in the SOQ for the fiscal years ended [___], [___] and [___] [and the interim financial statements for the following periods [___] and [___]] are complete and correct copies thereof. Where [the Member] [the Guarantor] has provided unaudited financial results, such financial results present fairly, in all material respects, the financial position and results of operations and cash flows of [the Member] [the Guarantor and its consolidated subsidiaries, including the Member,] as of such dates and for such periods. [The Member] [The Guarantor] has no material contingent liabilities or unusual forward or long-term commitments not disclosed therein.⁴

¹ The Developer, Lead Contractor, and Operating Systems and Rolling Stock Provider should provide its own separate certificate. However, if any such company is proposing a Guarantor, only one consolidated certificate is required for the Guarantor and its guaranteed entity. If a company has no Guarantor, all references to "Guarantor" should be deleted from this certificate.

² Date must not be earlier than ten calendar days prior to the SOQ Submission Deadline.

³ Delete if there is no Guarantor and not applicable.

⁴ For entities that do not prepare audited financial statements, Respondents should submit a question to U-M by the last day for Respondent questions indicated in the RFQ, outlining proposed information that would provide similar support to audited financial statements to seek confirmation of its appropriateness by U-M.

- (e) **Off-Balance Sheet Liabilities:** The [Member] [Guarantor] does not have any material off-balance sheet liabilities [other than as described in the financial statements referred to above] [other than the following: [_____]].
- (f) **Financial Information Summary:** Attached hereto as Annex A is a completed Company Information Summary relating to [the Member] [the Guarantor]. All the information provided in the attached Annex A is complete and correct to the best of my knowledge.
- (g) **Bankruptcy/Insolvency Proceedings:** [There has been no Insolvency Event relating to the Member [or Guarantor] or any person or entity which directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, the Member [or Guarantor] which has occurred within the most recent three fiscal years (whether or not such proceeding was ultimately dismissed).] [Attached hereto as Annex B is a detailed description of an Insolvency Event relating to [*Entity Name*].]⁵

For the purposes of this certification, “Insolvency Event” means any voluntary or involuntary bankruptcy, insolvency, liquidation, restructuring, suspension of payments, scheme of arrangement, appointment of provisional liquidator, receiver or administrative receiver, resolution or petition for winding-up or similar proceeding, under any applicable law, in any jurisdiction.

- (h) **Material Changes in Financial Condition:** [No material change in the financial condition of the Member [or Guarantor] has occurred or is projected to occur, as applicable (i) within the most recently completed three fiscal years that is not reflected in its audited financial statements or (ii) since the date of its audited financial statements for its most recently completed fiscal year.] [Attached hereto as Annex C is a detailed description of material changes in the financial condition of [the Member][the Guarantor].]⁶

Capitalized terms used but not defined herein shall have the meanings set forth in the RFQ.

IN WITNESS WHEREOF, the undersigned is the [Chief Financial Officer, Treasurer or equivalent officer] of the entity to which this form relates,⁷ and has duly Executed this certificate as of the date first written above.

Name:

Title:

⁵ Complete the appropriate certification. Delete the sentence that is not applicable. Do not provide an Annex B if there is not Insolvency Event to disclose.

⁶ Complete the appropriate certification. Delete the sentence that is not applicable. Do not provide an Annex C if there is not material change in financial conditions to disclose. Further instructions regarding material changes are provided in Annex C.

⁷ If the company does not have this type of corporate officer internally and will rely on the financial officer of an affiliated or unaffiliated entity, such as an investment advisor or financial manager, both the financial officer delivering this certificate and a duly authorized signatory of the company must sign this certificate.

Annex A to Financial Officer’s Certificate COMPANY INFORMATION

Entity: _____

Designated Team Member Role(s): _____

SHAREHOLDER⁸	INTEREST (%)
[Shareholder name]	
[No current shareholders or equivalent have a holding of 15% of greater]	

RATING AGENCY⁹	CURRENT RATING
[Rating agency name]	
[Debt of the [Member] [Guarantor] is not rated by any major credit rating agency.]	
[[Member][Guarantor] has no debt]	

⁸ List current shareholders or equivalent holding a 15% or greater interest in the company (indicate their percentage interest), as well as those having the right to appoint one or more board director(s). If such interest is held by a holding company, a shell corporation, or other form of intermediary, also identify the ultimate or parent entity.

⁹ If applicable, list all credit ratings available for the company.

Annex B to Financial Officer's Certificate INSOLVENCY EVENT

[RESPONDENT MEMBER TO PROVIDE DETAILS]

Annex C to Financial Officer's Certificate MATERIAL CHANGE IN FINANCIAL CONDITION

[DEVELOPER TO PROVIDE DETAILS]

INSTRUCTIONS TO RESPONDENTS REGARDING ANNEX C:

If applicable, this Annex C must include the following details regarding material changes in the Member or Guarantor's financial condition:

- a) a description of each material change, actual and projected, and any related changes or disruptions in executive management;
- b) actual and projected impacts on the affected entity's organizational and financial capacity, and its ability to remain engaged in this solicitation and submit a responsive proposal; and
- c) a detailed description of any other projected impacts, positive and negative, of the changes experienced and anticipated to be experienced in the periods ahead, including the likelihood that the circumstances of the change or impacts thereof will continue during the term of Phase 1.

Estimates of the impact on revenues, expenses, and the change in equity must be provided separately for each material change. References to the notes in the financial statements are not sufficient to address the requirement to discuss the impact of material changes. Where a material change will have a negative financial impact, the affected entity must describe measures that would be undertaken to insulate from any recent material changes and those currently in progress or reasonably anticipated in the future. If its financial statements indicate that expenses and losses exceed income in each of the three completed fiscal years (even if there has not been a material change), the affected entity must describe measures that will be undertaken to make the entity profitable in the future and an estimate of when the entity will be profitable.

Set forth below is a list of examples of what U-M considers to be a material change in financial condition. **At the discretion of U-M, any failure to disclose a prior or pending material change may result in disqualification from the solicitation process:**

- a) a change in the tangible net worth of 10% or more of net assets;
- b) a sale, merger, or acquisition exceeding 10% of the value of net assets prior to the sale, merger, or acquisition which in any way involves the affected entity or its parent company or Guarantor;
- c) a change in credit rating for the affected entity or its parent company or Guarantor;
- d) inability to meet material conditions of loan or debt covenants by the affected entity or its parent company or Guarantor that has required or will require a waiver or modification of agreed financial ratios, coverage factors, or other loan stipulations, or additional credit support from shareholders or other third parties;
- e) in the current and three most recent completed fiscal years, the affected entity or its parent company or Guarantor: (i) incurred a net operating loss; (ii) sustained charges exceeding 5% of the then net assets due to claims, changes in accounting, write-offs, or business restructuring; or (iii) implemented a restructuring/reduction in labor force exceeding 5% of employees or involved the disposition of assets exceeding 10% of the then-net assets; and
- f) other events known to the affected entity that represent a material change in financial condition over the past three years, or which may be pending for the next reporting period.

FORM D: RFC TEMPLATE

(Please complete using the provided Microsoft Excel template – word version is for illustrative purposes)

Respondent: _____

Date: _____

RFQ RFC Submission No. []

Comments on RFQ dated [Insert Date]

No.	<u>RFQ Section</u>	<u>Category</u>	<u>RFQ Comment or Question</u>
1.			
2.			
3.			

Categories:	
<u>“Category A”</u> -	an issue that, if not resolved in acceptable fashion, would likely preclude the Respondent from submitting an SOQ;
<u>“Category B”</u> -	a substantive issue that does not qualify as a Category A or C issue; or
<u>“Category C”</u> -	a drafting issue, a clarification or a comment concerning conflicts between or within documents, or the equivalent of one of these, in each case which a reasonable Respondent would not interpret as intentional.
<u>“Category D”</u> -	used along with Category A, B, or C to identify an item that the Respondent considers confidential or proprietary. If any comments or questions are identified as Category D, please attach a justification for each such item.

EXHIBIT D: INDICATIVE PRE-DEVELOPMENT AGREEMENT TERM SHEET

The following is a summary of key terms anticipated to be included in the Predevelopment Agreement (**PDA**). This summary is provided for informational purposes at this stage of the procurement. The summary is not binding and remains subject to change. This summary will be superseded by the form of PDA to be issued with the Request for Proposals (**RFP**).

Scope and Performance	
Key Principles	<p>The PDA will be entered by the University and the selected proposer (the “ Developer”). It is anticipated that the Developer will be responsible for all performance obligations under the PDA and implementation of the Project pursuant to the future Project Agreement, whether directly or through subcontractors.</p> <p>If the Developer is an unincorporated joint venture, its members will be jointly and severally liable for its obligations. If the Developer’s members include a Lead Contractor responsible for construction of the Fixed Facilities (as defined in the RFQ), that contractor may withdraw after expiration of the Latent Defect Period under the Project Agreement.</p>
Developer’s Scope of Predevelopment Work	<p>The PDA will set out a basic scope of services to be provided by the Developer during the PDA period, which will include the following:</p> <ul style="list-style-type: none"> • Preliminary Project development work, e.g. site investigations, identifying third-party approvals and permits needed for the Project, assisting the University in advancing third-party approvals and permits, etc. • Completion and submission of iterative designs, including at minimum a concept design and a level of design sufficient for committed pricing. • Completion and submission of definitive pricing terms on an open-book basis. • Negotiation of a final form of Project Agreement for implementation of the Project. <p>These deliverables will be included in the Committed Project Proposal. The University expects deliverables to be developed collaboratively with interim draft submissions as appropriate to ensure alignment between the University and the Developer.</p> <p>The Project will be subject to the Michigan Prevailing Wage for State Projects Act.</p>

<p>University's Scope of Predevelopment Work</p>	<p>The PDA will set out the University's responsibilities related to predevelopment work during the PDA period, which will include the following:</p> <ul style="list-style-type: none"> • Review, comment, and approval of submissions from the Developer. • Coordinate with the City of Ann Arbor and other government and community stakeholders. • Provide (and as necessary, acquire) Project right of way. • Provide reasonable site access for investigation. • Provide data needed to scope the Project, such as estimated ridership, peak demand periods, etc. • Define minimum technical requirements and performance standards. • Arrange the funding and/or financing for the Project, except to the extent otherwise agreed with the Developer.
<p>Risk Register</p>	<p>The Developer will prepare and maintain a risk register for the Project in collaboration with the University. The risk register will be updated as risks are addressed or mitigated through the predevelopment work and responsibility for those risks are assigned in the Project Agreement.</p>
<p>Predevelopment Work Schedule</p>	<p>The Developer will propose a work schedule for its predevelopment work as part of its initial proposal to be received in accordance with the RFP. The work schedule should set a deadline for the Developer to submit its Committed Project Proposal to the University. The predevelopment work schedule will include milestones and/or phases with interim deliverable deadlines.</p>
<p>Project Site & ROW</p>	<p>The University owns or has rights to a significant portion of the Project right of way. The University will take responsibility, with input from the Developer, for identifying and obtaining any additional needed parcels or rights based on the Project alignment. The Developer will be responsible for obtaining access to any temporary construction areas that it may need.</p>
<p>Reference and Reliance Information</p>	<p>The University will make available its existing information about the Project site, which will generally be on a reference (non-reliance) basis, subject to certain limited exceptions. The Developer will be expected to investigate the Project site to its own satisfaction.</p>
<p>Performance Security</p>	<p>The PDA will set out the performance security required for the PDA work.</p>
<p>Relief Events and Change Orders</p>	<p>The Developer will be entitled to change orders for costs and/or schedule based on certain relief events outside of its control to be defined in the PDA. The PDA will include the process for issuance and approval of change orders.</p>

Project Proposal	
Project Agreement Negotiations	<p>A summary of Project Agreement terms will be attached to the PDA. At the start of the PDA phase, the University will prepare a first draft of the Project Agreement based on that term sheet and the Developer's proposal.</p> <p>The University and Developer will be required to engage in good faith negotiations on the final form of the Project Agreement, with terms no less favorable to the University than those included in the term sheet.</p>
Committed Project Proposal	<p>The Developer will submit the Committed Project Proposal for the design and construction of the Project (including both Fixed Facilities and Operating System, as defined in the RFQ) and the operation and maintenance of the Operating System at the conclusion of the PDA period.</p> <p>In advance of submitting the final Committed Project Proposal, the Developer will be expected to provide certain drafts for the University's input. The University anticipates that the Committed Project Proposal development will be collaborative and will expect to review iterative drafts and inputs from the Developer.</p>
Funding	<p>In developing the Committed Project Proposal, the University and Developer will determine the amounts and terms of funding from the University and the Developer, and if applicable other sources.</p>
Costs, Termination, and Work Product Ownership	
Predevelopment Costs	<p>As part of its response to the RFP, the Developer will propose certain pricing information related to its predevelopment costs as indicated in the RFP.</p>
Termination	<p>Each party will have the right to terminate for cause based on the default of the other party. Additionally, the parties will have the right to terminate if they fail to come to agreement on a final Project Agreement despite their good faith negotiations.</p> <p>The University will have the right to terminate at any time for convenience. The PDA will specify compensation for predevelopment costs payable upon most events of termination.</p>
Intellectual Property Rights	<p>Work product created for this Project will be owned by the University as "work for hire," and the University will have a license to use any necessary proprietary intellectual property for that purpose.</p>

EXHIBIT E: RFQ PHASE – EXCERPTS FROM RFP TECHNICAL PROVISIONS



**University of Michigan Campus Connector Project
Request for Qualifications**

Exhibit E

RFQ Phase - Excerpts from RFP Technical Provisions

Prepared by:

LEA  ELLIOTT

June 2024

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NOTE: THESE RFQ PHASE TECHNICAL REQUIREMENTS ARE EXCERPTS FROM THE TECHNICAL PROVISIONS THAT WILL BE PROVIDED DURING THE RFP PHASE. THESE ARE PROJECT SPECIFIC CONDITIONS AND KEY ADDITIONAL CRITERIA OVER ASCE 21-21, APM STANDARDS. THESE REQUIREMENTS ARE PRELIMINARY AND SUBJECT TO CHANGE.

1 ALIGNMENT & CAMPUS CONNECTOR LAYOUT

The base alignment for the Campus Connector (System) is provided in Exhibit F, RFQ phase - Reference Drawings.

The proposed Technology must fit within the right of way established in the Reference Drawings, and if any adjustments are proposed to better fit the technology needs, such proposed adjustments must not result in an alignment that encroaches beyond the established right of way envelope.

1.1 SYSTEM EXTENSION AND EXPANSION REQUIREMENTS

The Developer shall provide a system that satisfies the initial System requirements. In addition, it must include provisions for future extension(s) and line capacity expansion(s). Features shall be provided by the Developer such that future extension(s) and line capacity expansion(s) of the System may be implemented utilizing the same technology and be of the same design as the initial System installation, with minimal disruption to the initial System operations.

The line capacity shall be expandable as specified in Section 3.1.

2 CAMPUS CONNECTOR TECHNICAL MATURITY

The Campus Connector shall be sufficiently technically mature to not introduce deployment risks nor risks to its eventual performance.

2.1 OPERATING SYSTEM TECHNOLOGY MATURITY

Technical maturity is a measure of the degree of the technology's readiness for deployment for the Campus Connector and will be evaluated in accordance with the criteria in Sections 2.1.1, 2.1.2 and 2.1.3 as applicable.

Definitions used in this Section 2.1 are as follows:

Major Subsystems - Those subsystems that comprise the most important functional elements of the Operating System. For the purposes of this Section 2.1, the major subsystems are:

- A. Vehicles.
- B. Power distribution, power rail, signal rail (if appropriate) and Vehicle power collector assemblies and interfaces and/or other alternate power sources (such as on-board batteries and wayside battery charging etc.) for traction and auxiliary power.
- C. Automatic Train Control (ATC).
- D. Vehicle running gear/guidance assemblies and interface.
- E. Vehicle/train switching.
- F. Automatic station platform doors.

Operating System Technology - The Major Subsystems, when appropriately and successfully combined with other System components to form an integrated, functioning whole, constitute the Operating System Technology. All Major Subsystem designs and integration shall be based on the premise that a single point failure will not result in a shutdown of the Campus Connector service. The Developer is allowed to propose and provide technology-specific strategies to mitigate any area where single point failure cannot be removed by design. This should be supported by Reliability, Availability, Maintainability (RAMs) level analysis and quantified evaluation of risk and resilience of proposed solution.

Technology Modification - With respect to a Major Subsystem of the Developer's existing service-proven Operating System technology, the term Technology Modification refers to a changed design for any Major Subsystem. The changed design shall be progressive, as evidenced by incremental changes to a previous design and/or a previous generation of the subsystem. A new subsystem to be used as a replacement for a Major Subsystem in a first-time implementation as part of the Campus Connector is not a Technology Modification and shall be considered as a Replacement Subsystem. Similarly, a radical design change or incorporation into the Operating System Technology of technically immature (without analysis, performance, and test data documentation) or experimental processes, components, or materials does not qualify as a Technology Modification.

Replacement Subsystem – A completely new design that has been tested and validated but has not been incorporated into an integrated System in passenger service.

Service-Proven Operating System Technology or **Service-Proven Technology** – Operating System Technology meeting the requirements of Section 2.1.1.

Non-Service-Proven Operating System Technology or **Non-Service-Proven Technology** - Developer’s Operating System Technology that does not meet the requirements of Section 2.1.1. Developer may request a waiver as provided for in Section 2.1.3.

2.1.1 Service-Proven Operating System Technology

Except as otherwise provided in Section 2.1.1.1 and Section 2.1.1.2 below, the Developer’s Operating System Technology, including its Major Subsystems, shall have been successfully proven in current, daily, year-round passenger service operation for a period of approximately two (2) years. Successful operation of the Operating System shall be determined by U-M to be attainable by the proposed Campus Connector technology based on documented evidence that the proposed Campus Connector technology can meet the specified operational performance and the System service availability requirements.

For the purpose of qualifying the proposed Operating System Technology under this section, successful passenger service operation shall constitute an owner or owners of the Developer’s Operating System Technology proposed by the Developer to comply with the requirements of these “RFQ Phase – Excerpts from RFP Technical Provisions” is satisfied that such Operating System Technology has met original expectations, and shall be indicated as such in a letter from the senior management executive(s) of the system owner(s). Additionally, the Developer shall provide evidence from at least one passenger service-proven application, documenting that the Operating System Technology is technically mature and has been satisfactorily and appropriately integrated into a functional whole. Documented evidence shall clearly show that the preceding features and components are capable of satisfying the requirements of these “RFQ Phase – Excerpts from RFP Technical Provisions”.

2.1.1.1 Use of Technology Modifications

In determining compliance with the service-proven requirements of Section 2.1.1, U-M will permit Technology Modifications to be implemented as part of the Operating System with the following restrictions:

- A. No more than one (1) Major Subsystem Technology Modification shall be accepted, except as outlined in Section 2.1.3.
- B. Integrated operation of the modified subsystem in a similar Operating System Technology shall have been successfully proven in current or seasonal passenger service operation for a minimum of two (2) years. This passenger service shall approximate the Operating System operations specified in this document.
- C. If successful operation of the Technology Modification has not been demonstrated through passenger service operation as in (B) above, operation on a test track

demonstrating capability to meet System operations specified in this document will be considered if supported by analysis, performance, and test data documentation.

- D. The Developer presents design documentation as evidenced by analysis, performance and/or test data documentation, that the modified subsystem has been successfully integrated into the Developer’s Operating System technology design.
- E. The Technology Modification meets all other requirements of this document.

2.1.1.2 Requirements for Replacement Subsystems

In determining compliance with the service-proven requirements of Section 2.1.1, U-M will permit a Major Subsystem (as defined in Section 2.1 above) to be replaced with another in a first-time implementation as part of the System, but only under the following conditions:

- A. No more than two (2) Major Subsystem replacements shall be accepted, except as outlined in Section 2.1.3.
- B. Integrated operation of the replacement subsystem in a similar Operating System Technology shall have been successfully proven in current or seasonal passenger service operation for a minimum of two (2) years. This passenger service shall approximate the Operating System operations specified in this document.
- C. If successful operation of the Replacement System has not been demonstrated through passenger service operation as in (B) above, operation on a test track demonstrating capability to meet System operations specified in this document will be considered if supported by analysis, performance, and test data documentation.
- D. The Developer presents design documentation as evidenced by analysis, performance and/or test data documentation, that the replacement subsystem has been successfully integrated into the Developer’s Operating System technology design.
- E. The replacement subsystem meets all other requirements of this document.

2.1.2 Operation and Maintenance

The Developer’s Operation and Maintenance capability shall be considered proven based on prior experience successfully operating and maintaining an automated transit system of the same or equivalent magnitude and complexity.

2.1.3 Non-Service Proven Technology

U-M may make exceptions to any of the requirements of this Section 2.1 and accept a Campus Connector technology that is not service-proven as defined in Section 2.1.1 when, in U-M's sole opinion, such exception(s) do not introduce unacceptable product development, deployment and/or other risks to the Campus Connector as determined by U-M, while taking the following factors into consideration:

- A. The Developer’s successful proven experience in designing, supplying, and installing applications of new Automated Transit System technologies.

- B. The sufficiency of the Developer’s proposed Campus Connector management plan, as applicable for the design, supply, and installation of any Technology Modifications.
- C. The qualifications and experience of participating personnel, as indicated on their resumes, in designing, supplying, and installing new Campus Connector technologies.
- D. The extent of documented design, analysis, qualification testing and/or test track operations of the proposed Operating System Technology, including but not limited to any Technology Modifications.
- E. The Developer’s proposed plan and schedule for qualification testing of the proposed Technology, including but not limited to any Technology Modifications for the Campus Connector, prior to their scheduled deployment.

3 SYSTEM OPERATING CHARACTERISTICS

3.1 SYSTEM OPERATIONS

The Campus Connector initial operational time windows and projected levels of service during these periods are provided below:

Table 3.1: Campus Connector Operational Requirements

Operating Period	Hours of Service	Line Capacity Range (pphd)	Desired Operating Headway (mins)
Peak	7:00 am – 6:00 pm	4,000 pphpd	3 mins
Off-Peak	5:00 am – 7:00 pm	2,000 pphpd	6 mins
	6:00 pm to 10:00 pm		
Night	10:00 pm – 5:00 am	1,000 pphpd	12 mins

The following operating characteristics are critical:

- A. Trains (and vehicles) must come to a complete stop during passenger boarding/deboarding.
- B. The Campus Connector shall have the capability for passengers to self-evacuate from trains (i.e., without assistance from O&M or emergency response personnel).

The Campus Connector line capacity shall be expandable up to 5,500 pphpd by increasing the operating fleet (number of trains) and without modification to the maximum-length train, guideway, stations, power distribution system, automatic train control or Maintenance & Storage Facility beyond those provided for the initial System installation. Expansion of the System shall be possible without replacing or destroying any of the initial System installation.

3.2 SYSTEM OPERATIONS CRITERIA

This section defines the criteria and requirements for Campus Connector operations.

3.2.1 Passenger Service Characteristics

3.2.1.1 Headway

Headway is the elapsed time between the same part of consecutive trains operating in the same direction on the same guideway, measured at any given point on the guideway. During all normal operations, all trains on the same route shall operate continuously at nominally equal headways and all trains on

different routes that share a common guideway track section shall also operate continuously at nominally equal headways.

The minimum operational headway involves multiple trains, station stops, normal disturbances, passenger interference, etc. and is for operational planning to “ensure” smooth normal operations without train bunching and unscheduled stopping on the guideway.

Desirable operating headways to provide service during different anticipated line capacity scenarios are defined in Table 3-1, Campus Connector Operational Requirements.

Special case definitions of headway are:

Safe Separation Headway - A two-train minimum headway based on Automatic Train Control (ATC), braking, etc. that allows the following train to stop safely without a collision with the lead train. This is part of the Automatic Train Protection (ATP) subsystem design in accordance with this section. Operations based on minimum safe separation headway will allow a given train's velocity versus distance profile to influence the velocity versus distance profile of following trains.

Non-Interference Headway - The minimum sustainable headway that does not result in any given train's velocity versus distance profile influencing any other train's velocity versus distance profile, regardless of the number of routes that may be in simultaneous operation (i.e., there shall be no inter-train performance interference). For purposes of this definition, all external interferences such as passenger-induced delays are assumed to not be present.

Minimum Operational Headway - The minimum operational headway involves multiple trains, station stops, normal disturbances, passenger interference, etc. and is for operational planning to “ensure” smooth normal operations without train bunching and unscheduled stopping on the guideway. The minimum operational headway capability shall not be less than 115 percent of the non-interference headway.

Operational Headway - The headway determined appropriate for planned scheduled operations to meet passenger demand.

The Operational Headway shall be used to calculate the Campus Connector line capacities, fleet size and predicted Campus Connector performance. The Operational Headway shall not be less than the Minimum Operational Headway.

The Developer shall design the Campus Connector such that the specified line capacity can be met with an operational headway as specified in this section.

3.2.1.1.1 Maximum Operational Headways

The Operational headway required to meet the specified capacities shall conform, to the maximum extent practical, to the range of values for the specified period as illustrated in Table 3.1, Campus Connector Operational Requirements.

3.2.1.2 Station Dwell Time

Station dwell time is the time during which the train is stopped in the station, beginning from the time the train doors are commanded to open, and ending at the time train doors are closed and locked. The dwell time for trains at each station shall be a minimum of ten (10) seconds adjustable in one second increments up to a maximum of sixty (60) seconds. Within this fifty (50) second range, station dwell times shall be automatically adjustable by the Automatic Train Supervision (ATS) subsystem to achieve proper train spacing on the route, or manually adjusted by the Central Control Operator (CCO) to provide dwell times that are appropriate for specific, short-term patronage or other conditions.

Nominal station dwell times for each station shall be calculated for all operating periods by the Developer based on the following criteria, which shall all be satisfied:

- A. Vehicle loaded to design capacity, per ASCE21-21.
- B. For the Campus Connector, the percent of the total number of passengers on each vehicle loaded to normal capacity deboarding and boarding at each station location is defined in Table 3.2.1.2 below.

Table 3.2.1.2: Passenger Boardings and Deboardings at Each Station

Passenger Movement	CCTC Station	Medical Station	Pierpont Station	NCRC Station	Hubbard/Murfin Station	Green Rd. Station
Ons	TBD	TBD	TBD	TBD	TBD	TBD
Offs	TBD	TBD	TBD	TBD	TBD	TBD

- C. Vehicle door size shall represent actual dimensions of the specific technology employed by the Developer.
- D. The passenger load/unload rate for the Campus Connector shall be coordinated with the vehicle door design.
- E. A time allowance that represents actual equipment performance allowance shall be included for all ATP interlock functions, plus door unlocking/opening and closing/locking times; this time allowance does not include door fully-open time. This allowance may not exceed ten seconds.

These calculated nominal station dwell times shall be used to determine the operational headways and round trip time requirements.

3.2.1.3 Travel and Round Trip Times

Travel time between sequential stations on a route is the time a train takes to travel from one station to the next, beginning at the time train doors are closed and locked at the originating station and ending at

the time the train is stopped and the doors are commanded to open at the destination station. Station dwell times are not included in travel times.

The round trip time is the time a train takes to complete one circuit around its route. Round trip time consists of the sum of all travel times and station dwell times on a route.

For determination of the travel times and round trip time, the Developer shall assume station dwell times as defined in this Section 3 and trains loaded at AW1 weight specified in ASCE 21-21.

3.2.1.4 Line Capacity

Line capacity requirements are provided in Section 3.1.

Line capacity is the number of passengers per hour per direction (pphpd) that can be carried past a given point on each independent route by trains operating on that route.

All line capacities shall be provided by trains that are:

- A. Operating in accordance with Campus Connector operating hours;
- B. Operating at the operational headway;
- C. Operating with station's calculated dwell times; and
- D. Are loaded at the normal capacity as specified in ASCE 21-21 and the following requirements.

Total passenger area shall be the area available to and intended for seated and standing passengers. Standee floor area is defined as the area available to standing passengers and is equal to the total passenger area less 4.5 ft² for each fixed seat position. For calculating the number of seat positions on benches, 18 inches of bench width and no more than 24 inches of bench depth shall be allocated for each seat position.

Each vehicle shall comply with the accessibility provisions. Flip up and stowable seats shall be prohibited.

The following definitions of vehicle capacity shall be used:

1. **Seating Capacity** - Seating capacity is the number of seat positions provided for passengers (not including wheelchair passengers). Each vehicle shall have a seating capacity of at least ten (10) percent and not more than fifteen (15) percent of the normal capacity.
2. **Design Capacity** – Design capacity shall be calculated by assuming all seat positions are occupied by passengers, no wheelchair passengers, and one standing passenger for each 3.2 ft² of standee floor area.
3. **Normal Capacity** - Normal capacity shall be calculated by assuming all seat positions are occupied with passengers, no wheelchair passengers, and one standing passenger for each 3.0 ft² of standee floor area.

In calculating design capacities, the number of standing passengers shall be rounded downward to the nearest integer.

3.2.1.5 Fleet Size, Train Length and Spare Vehicles

Fleet size shall be sufficient to meet the line capacities for each operating scenario; spare fleet shall be provided as appropriate to facilitate maintenance of the operating fleet. The fleet shall meet all requirements of the Campus Connector in accordance with the following requirements.

3.2.1.5.1 Peak Period Operating Fleet

The headway requirements of Section 3.2.1.1, the round trip time requirements of Section 3.2.1.3, and the line capacity requirements of Section 3.2.1.4 shall be used by the Developer to establish the length of trains (number of entrained vehicles) and the operating fleet size of the Campus Connector so that all Campus Connector requirements are met.

During Peak period operations, it is preferred though not required that the operating fleet include one spare train(s) in standby mode, equipped and functioning with no faults and ready for passenger-carrying service.

3.2.1.5.2 Spare Vehicles

In addition to the peak period operating fleet of trains specified in Section 3.2.1.5.1, the Developer shall provide sufficient spare vehicles to meet System service availability and maintenance requirements and as follows. The number of spare vehicles shall be such that:

- A. The average annual vehicle mileage shall ensure the vehicle design life requirements are satisfied;
- B. The number of spare vehicles is at least twenty percent of the peak period operating fleet, rounded up to a whole number, where the spare train(s) in standby mode is (are) included in the peak period operating fleet.
- C. The minimum number of spare trains shall be one.

All vehicles, including spares, shall be operated in scheduled passenger service.

3.2.1.5.3 Fleet Size to Meet Campus Connector Line Capacity

The headway requirements of Section 3.2.1.1, the round trip time requirements of Section 3.2.1.3, the line capacity requirements of Section 3.2.1.4, and up to the maximum length train shall be used by the Developer to determine the fleet size necessary to meet the Campus Connector line capacity requirements in accordance with the requirements as specified in Section 3.2.1.5.1 and Section 3.2.1.5.2.

3.2.1.5.4 Maximum Length Train

Based on the determination of the required train lengths (number of entrained vehicles) for the Campus Connector, the Developer shall establish the maximum length train. All facilities and equipment provided by the Developer shall be sized to accommodate a maximum length train.

3.2.1.5.5 Train Composition

All trains supplied by the Developer and operated in the System shall be of equal length and identical composition.

EXHIBIT F: RFQ PHASE – ATS REFERENCE DRAWINGS

UNIVERSITY OF MICHIGAN
CAMPUS CONNECTOR PROJECT
REQUEST FOR QUALIFICATIONS
EXHIBIT F
RFQ PHASE - ATS REFERENCE DRAWINGS

PREPARED FOR



UNIVERSITY OF MICHIGAN

PREPARED BY

LEA  ELLIOTT

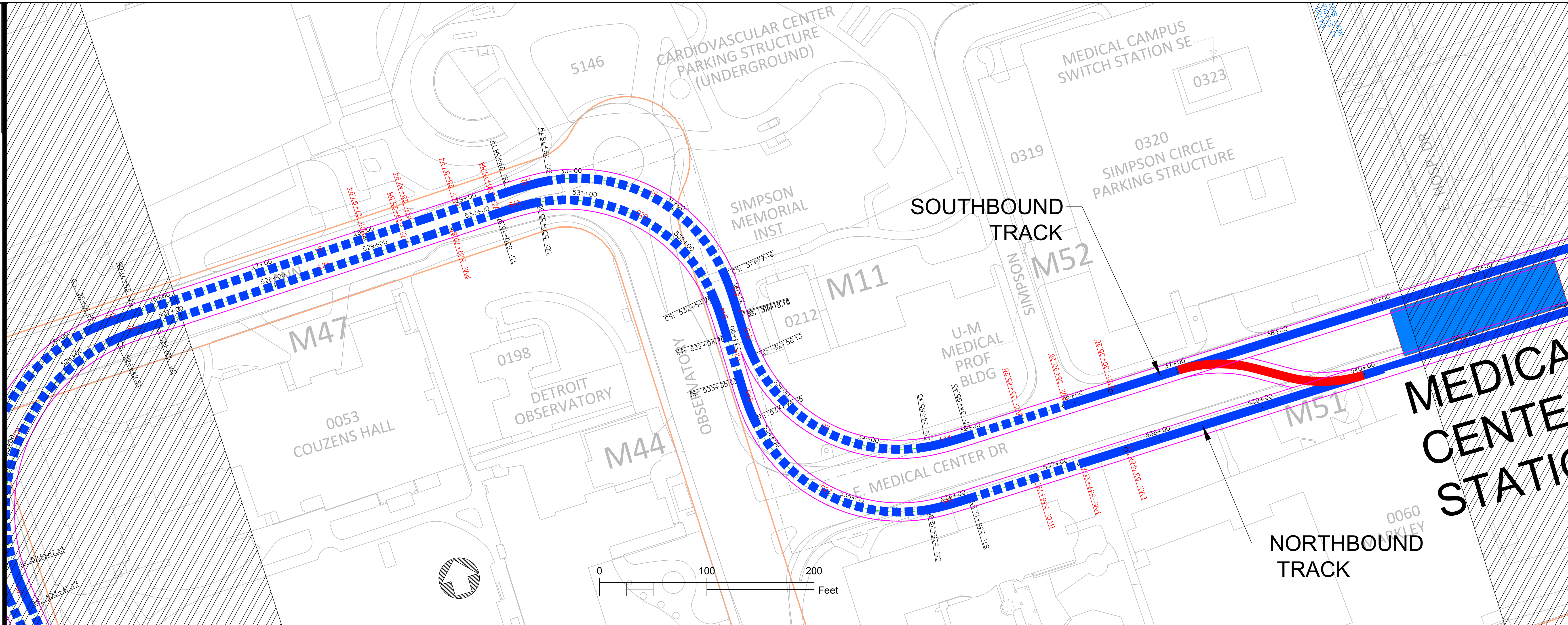
JULY 2024

Drawn By: E. CUDDA
 Checked By: S. BHATT
 Approved By:

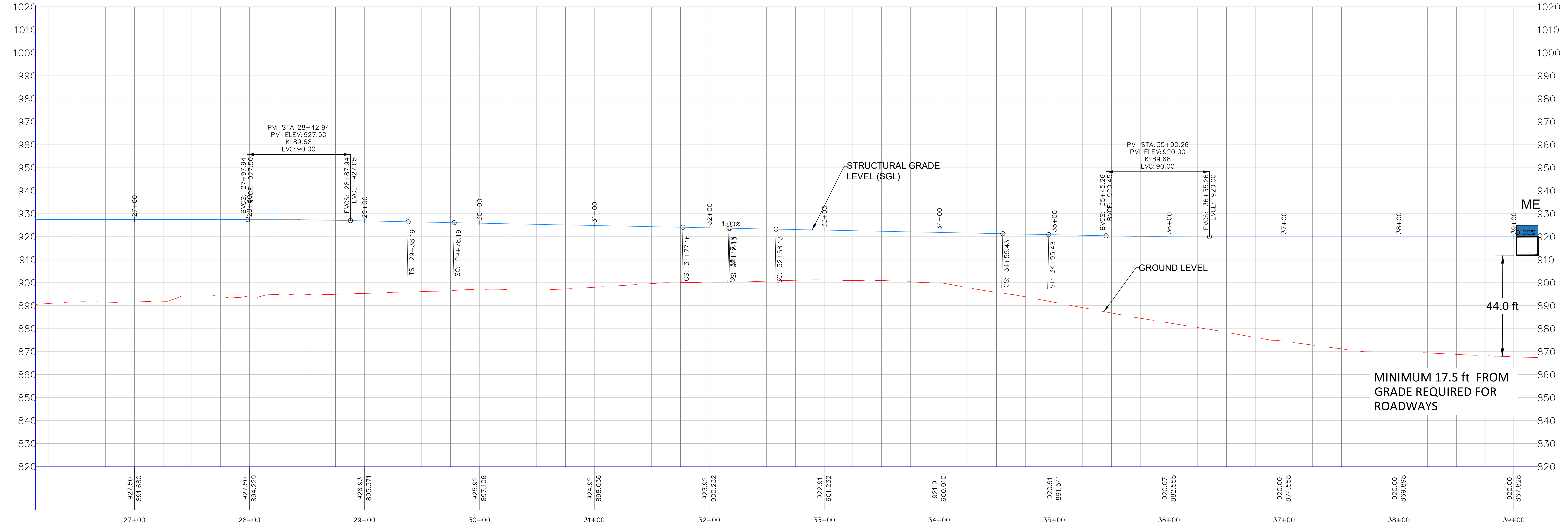


**AUTOMATED TRANSIT SYSTEM
 U-M CONNECTOR**

LEA ELLIOTT
 44965 Aviation Drive
 Suite 290
 Dulles, Virginia 20166



SouthBound Track PROFILE



Scales Labeled on This Sheet Will Only be Accurate if Sheet Printed Full Size at 30" x 42"

Scales Labeled on This Sheet Will Only be Accurate if Sheet Printed Full Size at 30" x 42"

PROJECT PACKAGE:
**ATS
 REFERENCE
 DRAWINGS**

Revision		
No.	Date	Description
1	July 2024	

**PLAN AND
 PROFILE**
**TR-03
 (WASHTENAW ROUTE)**
 PROJECT:
 DATE:

Drawn By: E. COLLADA
 Checked By: S. BHATT
 Approved By:

SouthBound Track																				
Number	Length	Radius	Line/Chord Direction	A Value	Start Station	End Station	Delta Angle	Degree of Curvature	Start Pt.	End Pt.	Long Tan	Mid Ordinate	PI Station	External Tangent	Total X	P	K	Total Y	Short Tan	Chord Len
L1	401.35		S43° 53' 17"E		0+00.00	4+01.35			284347.0932, 13294145.0452	284057.8407, 13294423.2830										
S1	40.00	INFINITY		87.18	4+01.35	4+41.35	6.0311		284057.8407, 13294423.2830	284030.0171, 13294451.9930	26.68		4+28.03	39.96	0.35	19.99	1.40	13.35		
C1	419.31	190.00	N66° 51' 28"E		4+41.35	8+60.66	126.4462	30.5150	284030.0171, 13294451.9930	284163.3483, 13294763.9456		104.402	8+17.86	376.51					339.25	
S2	40.00	190.00		87.18	8+60.66	9+00.66	6.0311		284163.3483, 13294763.9456	284203.3277, 13294763.6761	26.68		8+74.01	39.96	0.35	19.99	1.40	13.35		
L2	368.52		N2° 23' 47"W		9+00.66	12+69.18			284203.3277, 13294763.6761	284571.5226, 13294746.2666										
S3	50.00	INFINITY		316.23	12+69.18	13+19.18	0.7162		284571.5226, 13294746.2666	284621.4868, 13294746.3840	33.33		13+02.51	50.00	0.05	25.00	0.21	16.67		
C2	40.23	2000.00	N1° 06' 14"W		13+19.18	13+59.41	1.1526	2.8651	284621.4868, 13294746.3840	284661.7114, 13294745.6088		0.101	13+39.30	20.12					40.23	
S4	50.00	2000.00		316.23	13+59.41	14+09.41	0.7162		284661.7114, 13294745.6088	284711.7111, 13294745.5650	33.33		13+76.08	50.00	0.05	25.00	0.21	16.67		
L3	59.30		N0° 11' 18"E		14+09.41	14+68.71			284711.7111, 13294745.5650	284771.0123, 13294745.7600										
S5	50.00	INFINITY		316.23	14+68.71	15+18.71	0.7162		284771.0123, 13294745.7600	284821.0120, 13294745.7162	33.33		15+02.05	50.00	0.05	25.00	0.21	16.67		
C3	40.23	2000.00	N1° 06' 14"W		15+18.71	15+58.95	1.1526	2.8651	284821.0120, 13294745.7162	284861.2366, 13294744.9410		0.101	15+38.83	20.12					40.23	
S6	50.00	2000.00		316.23	15+58.95	16+08.95	0.7162		284861.2366, 13294744.9410	284911.2008, 13294743.0584	33.33		15+75.61	50.00	0.05	25.00	0.21	16.67		
L4	183.43		N2° 23' 47"W		16+08.95	17+92.37			284911.2008, 13294743.0584	285094.4673, 13294735.3884										
S7	50.00	INFINITY		223.61	17+92.37	18+42.37	1.4324		285094.4673, 13294735.3884	285144.4031, 13294732.8815	33.33		18+25.71	50.00	0.10	25.00	0.42	16.67		
C4	54.52	1000.00	N5° 23' 27"W		18+42.37	18+96.90	3.1239	5.7320	285144.4031, 13294732.8815	285198.6781, 13294727.7598		0.372	18+69.64	27.27					54.52	
S8	50.00	1000.00		223.61	18+96.90	19+46.90	1.4324		285198.6781, 13294727.7598	285248.2013, 13294720.8810	33.33		19+13.57	50.00	0.10	25.00	0.42	16.67		
L5	290.09		N8° 23' 07"W		19+46.90	22+36.99			285248.2013, 13294720.8810	285535.1904, 13294678.5777										
S9	40.00	INFINITY		83.67	22+36.99	22+76.99	6.5481		285535.1904, 13294678.5777	285574.9332, 13294674.2583	26.68		22+63.67	39.95	0.38	19.99	1.52	13.35		
C5	254.67	175.00	N39° 51' 08"E		22+76.99	25+31.65	83.3786	33.2031	285574.9332, 13294674.2583	285753.6399, 13294823.4270		44.317	24+32.85	155.86					232.78	
S10	40.00	175.00		83.67	25+31.65	25+71.65	6.5481		285753.6399, 13294823.4270	285756.4932, 13294863.3018	26.68		25+45.00	39.95	0.38	19.99	1.52	13.35		
L6	366.54		N88° 05' 22"E		25+71.65	29+38.19			285756.4932, 13294863.3018	285768.7125, 13295229.6370										
S11	40.00	INFINITY		77.46	29+38.19	29+78.19	7.6394		285768.7125, 13295229.6370	285768.2691, 13295269.6029	26.69		29+64.88	39.93	0.44	19.99	1.78	13.36		
C6	198.97	150.00	S46° 16' 16"E		29+78.19	31+77.16	75.9995	38.9424	285768.2691, 13295269.6029	285640.5978, 13295403.0690		31.798	30+95.38	117.19					184.70	
S12	40.00	150.00		77.46	31+77.16	32+17.16	7.6394		285640.5978, 13295403.0690	285600.6909, 13295405.2849	26.69		31+90.51	39.93	0.44	19.99	1.78	13.36		
L7	0.97		S0° 37' 55"E		32+17.16	32+18.13			285600.6909, 13295405.2849	285599.7213, 13295405.2956										
S13	40.00	INFINITY		77.46	32+18.13	32+58.13	7.6394		285599.7213, 13295405.2956	285559.8144, 13295407.5114	26.69		32+44.82	39.93	0.44	19.99	1.78	13.36		
C7	197.30	150.00	S45° 57' 09"E		32+58.13	34+55.43	75.3621	38.9424	285559.8144, 13295407.5114	285432.3189, 13295559.3182		31.286	33+73.98	115.85					183.38	
S14	40.00	150.00		77.46	34+55.43	34+95.43	7.6394		285432.3189, 13295559.3182	285431.4309, 13295579.2767	26.69		34+68.78	39.93	0.44	19.99	1.78	13.36		
L8	963.79		N88° 43' 37"E		34+95.43	44+59.22			285431.4309, 13295579.2767	285452.8432, 13296542.8303										
S15	50.00	INFINITY		122.47	44+59.22	45+09.22	4.7746		285452.8432, 13296542.8303	285455.3412, 13296592.7524	33.35		44+92.56	49.97	0.35	24.99	1.39	16.68		
C8	206.92	300.00	N64° 11' 35"E		45+09.22	47+16.14	39.5184	19.1881	285455.3412, 13296592.7524	285543.6456, 13296775.3630		17.663	46+16.98	107.77					202.84	
S16	50.00	300.00		122.47	47+16.14	47+66.14	4.7746		285543.6456, 13296775.3630	285581.2255, 13296808.3206	33.35		47+32.81	49.97	0.35	24.99	1.39	16.68		
L9	154.89		N39° 39' 33"E		47+66.14	49+21.02			285581.2255, 13296808.3206	285700.4674, 13296907.1741										
S17	50.00	INFINITY		316.23	49+21.02	49+71.02	0.7162		285700.4674, 13296907.1741	285738.8265, 13296939.2451	33.33		49+54.36	50.00	0.05	25.00	0.21	16.67		
C9	42.08	2000.00	N40° 58' 42"E		49+71.02	50+13.10	1.2054	2.8651	285738.8265, 13296939.2451	285770.5929, 13296966.8379		0.111	49+92.06	21.04					42.08	
S18	50.00	2000.00		316.23	50+13.10	50+63.10	0.7162		285770.5929, 13296966.8379	285807.7157, 13297000.3321	33.33		50+29.77	50.00	0.05	25.00	0.21	16.67		
L10	53.46		N42° 17' 50"E		50+63.10	51+16.56			285807.7157, 13297000.3321	285847.2583, 13297036.3094										
S19	50.00	INFINITY		316.23	51+16.56	51+66.56	0.7162		285847.2583, 13297036.3094	285884.3812, 13297069.8036	33.33		51+49.90	50.00	0.05	25.00	0.21	16.67		
C10	42.08	2000.00	N40° 58' 42"E		51+66.56	52+08.64	1.2054	2.8651	285884.3812, 13297069.8036	285916.1475, 13297097.3964		0.111	51+87.60	21.04					42.08	
S20	50.00	2000.00		316.23	52+08.64	52+58.64	0.7162		285916.1475, 13297097.3964	285954.5066, 13297129.4674	33.33		52+25.31	50.00	0.05	25.00	0.21	16.67		
L11	2474.89		N39° 39' 33"E		52+58.64	77+33.53			285954.5066, 13297129.4674	287859.8063, 13298708.9925										
S21	50.00	INFINITY		122.47	77+33.53	77+83.53	4.7746		287859.8063, 13298708.9925	287899.1582, 13298739.8127	33.35		77+66.87	49.97	0.35	24.99	1.39	16.68		
C11	157.66	300.00	N19° 49' 47"E		77+83.53	79+41.18	30.1100	19.1881	287899.1582, 13298739.8127	288045.7650, 13298792.6800		10.297	78+64.22	80.69					155.85	
S22	50.00	300.00		122.47	79+41.18	79+91.18	4.7746		288045.7650, 13298792.6800	288095.7303, 13298794.0682	33.35		79+57.86	49.97	0.35	24.99	1.39	16.68		
L12	293.13		N0° 00' 00"E		79+91.18	82+84.32			288095.7303, 13298794.0682	288388.8635, 13298794.0682										
S23	50.00	INFINITY		122.47	82+84.32	83+34.32	4.7746		288388.8635, 13298794.0682	288438.8288, 13298792.6800	33.35		83+17.66	49.97	0.35	24.99	1.39	16.68		
C12	12.03	300.00	N5° 55' 25"W		83+34.32	83+46.35	2.2979	19.1881	288438.8288, 13298792.6800	288450.7957, 13298791.4384		0.060	83+40.33	6.02					12.03	
S24	50.00	300.00		122.47	83+46.35	83+96.35	4.7746		288450.7957, 13298791.4384	288499.9817, 13298782.5390	33.35		83+63.03	49.97	0.35	24.99	1.39	16.68		
L13	82.52		N11° 50' 50"W		83+96.35	84+78.87			288499.9817, 13298782.5390	288580.7435, 13298765.5975										
S25	50.00	INFINITY		122.47	84+78.87	85+28.87	4.7746		288580.7435, 13298765.5975	288629.9295, 13298756.6981	33.35		85+12.21	49.97	0.35	24.99	1.39	16.68		
C13																				

