



1310 S Main St  
Joplin, MO 64801  
417-885-0002  
paragonarchitecture.com

## Addendum ADD01

<b>Project:</b>	<b>21-623 Missouri Southern State University Campus Improvements</b>
<b>Client:</b>	<b>Missouri Southern State University</b>
<b>Date:</b>	<b>07/02/21</b>

This addendum shall modify the drawings and specification requirements as herein noted. However, this addendum shall not relieve the general contractor or sub-contractors of any responsibility under the plans and specifications except as amended herein.

### GENERAL:

1. Pre-bid meeting was held on July 01, 2021. The attendee list and the meeting agenda are attached. Also attending not listed on the attendee list was Bryan Goodwin, Physical Plant Director.
  - a. During the Pre-bid meeting, MSSU indicated that fencing would not be required around the construction site and flags would be sufficient. However, student safety is of upmost importance.
  - b. Staging and contractor parking shall be coordinated with MSSU whenever construction commences.
  - c. Preliminary approval has been given by MODOT. Contractor is responsible for pulling the MODOT permit and including the cost of the permit in the bid.
2. Attached are sheets S101 and S102. These sheets were missing from the bid set issued 06/25/21. These sheets should be considered part of the bid set Construction Documents moving forward.
3. Attached is the geotechnical report prepared by Anderson Engineering dated May 27, 2021.
  - a. The geotechnical data provides information for the Bidder's convenience and is intended to supplement the Bidder's own investigations. The geotechnical data and its attachments are not part of the Construction Documents.
  - b. Because subsurface conditions indicated by the soil borings are a sampling of the project site, the Owner, the Architect, the Architect's consultants, and the firm reporting the subsurface conditions do not warranty the conditions below the depths of the borings or the strata identified by the borings are typical of the entire site. Any party using the geotechnical data in the soil borings and geotechnical data report shall accept full responsibility for its use.
  - c. Opinions expressed in the report are those of a geotechnical engineering and represent their interpretations of subsoil conditions, tests, and results of analysis conducted by the geotechnical engineer. The Owner is not responsible for interpretations or conclusions drawn from the data.
  - d. Any party using information described in the geotechnical reports shall make additional test borings and conduct other exploratory operations that may be required to determine the character of subsurface materials that are encountered.

**END OF ADDENDUM**



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## Pre-Bid Agenda

<b>Project:</b>	<b>21-623 MSSU Campus Improvements</b>
<b>Client:</b>	<b>Missouri Southern State University</b>
<b>Date:</b>	<b>07/01/21 @ 2:00PM</b>

### A. PROJECT INTRODUCTION:

- Project Name: MSSU Campus Improvements
- Project No.: 21-623

### B. PROJECT DESCRIPTION:

- The project consists of campus improvements to landscaping, hardscaping, paving, stormwater, student safety and security inside the campus oval and entries at the surrounding buildings, pedestrian tunnel under Newman Road and the adjacent parking lot.

### C. TEAM INTRODUCTIONS:

- OWNER  
Missouri Southern State University      Rob Yust  
   Brad Hodson  
   Bryan Goodwin  
   Ashley Brownfield
- DESIGN TEAM  
Paragon Architecture      Jessica Struckhoff  
Anderson Engineering      Josh Oathout  
   Logan Ellis  
frankZdesign      Frank Zanaboni  
RTM Engineering      Jennifer Luce  
   Tyler Enserro

### D. BIDDING AND CONTRACTING REQUIREMENTS:

- The Contractor shall seal their Bid in an envelope and clearly mark the outside with the Name of the Project and with Company Name/Letterhead.
- Bids will be received at **MSSU BSC 309**.
- Bids will be opened and read aloud on **July 22, 2021 @ 2:00PM at MSSU BSC 309**.
- The following items are required with each Bid. These forms are available in the Project Manual – Appendix A. Copies of these forms may be made but **original signatures** must be on the forms submitted at the time of Bid:
  - Bid Form
    - Must be signed
    - Words AND Numbers – Words shall govern
    - Acknowledgement of Addenda
    - Include Alternates
    - Include Subcontractor list
  - Bid Guaranty – 5% Bid Bond
  - Statement of Qualifications
  - Bidder's Certification – Not Excluded from Federal or State Programs
  - Certificate of Compliance with Executive Order #07-13
  - E-Verify documentation
- Anticipated Notice to Proceed:      **Within 7 days of the bid opening**
- Anticipated date for last Addendum:      **July 19, 2021**
  - All questions must be submitted by      **July 15, 2021**



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- A draft of the AIA construction contract is included in Project Manual for review prior to bid submission.
  - Upon approval and execution of the AIA contract, the General Contractor will be allowed to begin work bearing that all requirements set forth within the Project Manual and contract documents have been met.

#### E. INSTRUCTIONS TO BIDDERS:

- 100% Performance/Payment Bond is required when the Contract is executed.
- Contractor's Insurance:
  - Worker's Compensation for ALL employees
  - Public Liability and Property Damage in the amounts listed in the Bid Documents
  - Builder's Risk insurance is identified in the draft contract draft in the project manual.
- A Certificate of Insurance is required to be on file prior to any Work on Site.
- Sales Tax: A tax exemption certificate shall be issued to the successful Contractor upon award of the Contract. It is the Contractor's responsibility to ensure that copies of the certificate are provided to other necessary parties per RSMo144.06203.
  - A Project Tax Exemption Form 5060 with Exempt Entity and Project Information will be issued to the successful Contractor upon award of the Contract. It is the Contractor's responsibility to complete the Contractor and Subcontractor information.
- Building Permit: Not required.
- Trade Permits, Tap and Meter Fees (plumbing, mechanical, electrical, gas, etc.) are to be obtained by the Contractor and costs are to be included in the Base Bid.
- Prevailing Wage Order: The Contractor and each Subcontractor engaged in any construction of public works shall keep full and complete certified payroll records. The current wage order is included in the Project Manual for reference by the Contractor.
  - Prior to commencement of the Work, the Contractor shall complete the Division of Labor Standards Form PW-2.
- Application for Payment: Each application for payment shall be submitted on the AIA G702 Form with a 5% retainage to be held until project completion at the discretion of Architect.
- Periodic Applications for Payment: Certified payroll reports and lien waivers are required from the Contractor and all Subcontractors.
  - Applications for payment will not be processed without up-to-date and complete certified payroll reports and lien waivers. Refer to the Project Manual for more information.
- Final Application for Payment: Before final payment is released, the Contractor shall provide all certified payroll reports, final lien waivers, and the "Affidavit for Compliance with Prevailing Wage Law." This paperwork is required of the Contractor, as well as all Subcontractors, and Major Suppliers providing Work on the Project.
- Liquidated Damages: The Contractor and the Contractor's Surety, if any, shall be liable for and shall pay the Owner the sums hereinafter stipulated as liquidated damages, and not as a penalty, for each calendar day of delay after the date established for Substantial Completion in the Contract Documents until the Work is substantially complete. Liquidated damages shall consist of **\$500.00** per calendar day for failure to fulfill the terms of the Contract Documents.
  - Substantial Completion shall be met on: **October 15, 2021 for Phase I**  
**December 10, 2021 for Phase II**
  - Final Completion shall be 30 calendar days post Substantial Completion.

#### F. ADDITIONAL REQUIREMENTS

- All bidders must provide a sworn affidavit affirming participation in a federal work authorization program and stating that the bidder does not knowingly employ any person who is not authorized to work in the U.S.
- The contractor must comply with current Prevailing Wage laws and with all OSHA requirements including an approved 10-hour safety course.



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#### G. RULES:

- Use of the Premises: The Site shall be maintained in a neat, clean, and organized manner. Corridors, stairs, and public areas shall remain unobstructed from construction materials, equipment, and/or debris. The Site shall be adequately secure at the end of each work day.
  - Take caution of crosswalks near the construction site.
  - Verify construction parking areas with the Owner.
- Workers shall be courteous and polite at all times: obscene language, gestures, etc. will not be tolerated.
- Tobacco Use Policy: No smoking or tobacco use on or near school property.
- Alcohol Use Policy: No alcohol use on or near school property.
- Substitutions:
  - Use designated substitutions forms in Appendix B of the Project Manual.
  - Any and all acceptable substitutions will be listed by Addendum and sent to the designated plan room.
  - Request for Substitutions must be received no later than **July 15, 2021**.
  - If an accepted substitution later causes problems which are not pointed out in the Substitution Request, corrective action could include replacement with the specified item at no cost to the Owner. Refer to Project Manual for more information.

#### H. CONSTRUCTION SCHEDULE:

- Review requirements set forth within the Project Manual.
  - Anticipated Notice to Proceed: **Within 7 days of the bid opening**
  - Submittal Process Begins: **As soon as possible**
  - On-Site Construction Begins: **As soon as possible**

#### I. POST-MEETING ADDENDUM:

- Notes and Attendance from the Pre-bid Meeting shall be incorporated into an Addendum following pre-bid meeting.

#### J. SUMMARY OF WORK/DRAWINGS:

- Review project Plans and Specifications per attendee questions
- General Questions and Answer session
- Review Project Site

**END OF AGENDA**





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## Pre-Bid Sign-in

Project:	21-623 MSSU Campus Improvements		
Client:	Missouri Southern State University		
Date:	07/01/21 @ 2:00PM		

Name	Company/Organization	Telephone	Email
JESSICA STRUCKHOFF	Paragon Architecture	417-889-0002	struckhoff@paragonarchitecture.com
EMILY HOCK	"	"	"
OSMUND JOHNSON	RE Smith Construction	417-623-4545	
Colby Mitchell	Crossland Construction	620-763-2220	cmitchell@crossland.com
Chad Evers	Crossland Construction	620-202-2568	bids@crossland.com
Gary Callaway	BEI	417-850-2269	gcallaway@beijoin.com
JUSTIN UNBEER	BRANCO EMT	417-955-8143	estimating@branco.com
FRANK ZANARONI	FRANKDESIGN	417-849-5123	FRANKZDESIGN@GMAIL.COM

May 27, 2021

Paragon Architecture  
Attn: Jessica Struckhoff  
1310 South Main Street  
Joplin, MO 64801

Re: Report of Geotechnical Investigation – MSSU Site & Crosswalk Improvements  
Joplin, Missouri  
Anderson Engineering WO #21JO10030

Ms. Struckhoff,

This letter is to summarize the results of a geotechnical investigation performed for the above referenced project.

We understand the project will consist of the construction of new crosswalks across a portion of the existing MSSU main parking lot and crosswalks across International Ave. and University Parkway. In addition to the crosswalk improvements, asphalt replacement is also planned for portions of International Ave and University Parkway.

Our scope of work for this project included collecting one or two asphalt cores at each of the crosswalk locations and five or six asphalt cores in the area of the proposed walkway crossing the existing parking lot. A visual pavement conditions assessment will be conducted at each crosswalk and in the area of the walkway across the existing parking lot to assist with recommendations for repair or replacement as necessary. Soil beneath the existing asphalt will be evaluated using a Dynamic Cone Penetrometer (DCP). An engineering letter report will be issued with the findings of the cores, visual site assessment, and DCPs along with recommendations for site development and pavement design.

Asphalt cores and DCP tests were conducted as generally proposed. The U.S. Army Corps of Engineers has developed correlations between the dynamic cone penetrometer (DCP) test and California Bearing Ratio (CBR) for CL and CH soils. This data is contained in a Technical Report GL-94-17 titled "Force Projection Site Evaluation Using the Electric Cone Penetrometer (ECP) and Dynamic Cone Penetrometer (DCP)" dated April 1994. Core info and graphic results of each DCP test are attached to this report.

In general, the existing asphalt conditions on University Parkway and International Ave were poor. Significant alligator cracking, block cracking, and surface raveling was present in these areas. Asphalt cores collected from those locations often consisted of two to three different layers of asphalt in varying conditions. Some layers of asphalt were in such a poor condition that the asphalt deteriorated to a sand and gravel during coring. Cracks ranged in size from hairline to ½ inch or wider. Cracks that were cored generally continued through the full depth of asphalt. Based on DCP tests, subgrade conditions in these areas appeared to be generally suitable for the proposed improvements.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Soil Subgrade**

Based on the DCP testing conducted during this investigation, the subgrade soils appear to have sufficient strength to support the proposed site improvements. After the removal of the existing paving and baserock, the sub grade should be proof rolled with a loaded tandem axle dump truck, where possible, prior to beginning filling or placing of

baserock operations. Areas where proof rolling is not possible should be evaluated by visual-manual methods, probing, penetrometer, or DCP testing by a representative of Anderson Engineering prior to beginning filling operations.

The geotechnical engineer of record should be retained to provide specific recommendations for evaluation.

Should soft, unstable or spongy areas be found in the subgrade at that point, they should be removed and replaced with controlled, compacted fill or shot rock. The geotechnical engineer of record should be retained to provide specific recommendations for repair.

### **Pavement Recommendations**

1. Based on the observations of the existing pavement conditions on University Parkway and International Ave. and the condition of the cores taken from those areas, it appears that the asphalt is at or nearing the end of its useful life. As such the recommendations below pertain to a full depth asphalt and base rock removal and replacement plan. While not recommended as a long-term solution, recommendations for a mill and overlay with asphalt fibers could be provided upon request if the project budget does not allow for full depth replacement.
2. Just prior to paving, the pavement areas should be rough graded and then proof rolled with a loaded tandem axle dump truck. Subgrade areas that are disturbed and/or rutted during construction and backfilled trenches should be carefully observed during the proof rolling operations. Areas where unstable or unsuitable conditions are found should be cut out and replaced with controlled, compacted fill and re-proof rolled.
3. The pavement designs are based upon the "AASHTO GUIDE FOR DESIGN OF PAVEMENT STRUCTURES 1993" using a CBR value obtained as noted above and/or ACI 330R-92 (Reapproved 1997) "Guide for Design and Construction of Concrete Parking Lots". The pavement designs are based on the following design criteria:

Design Life of 20 Years

Traffic counts are not available, but we understand that, in addition to passenger vehicle, buses, trash trucks, and the occasional tractor-trailer access the project areas. We have assumed average daily traffic to be 300 vehicles with 5 percent distribution of buses, trash trucks, and tractor-trailers.

Terminal Serviceability = 2.0

Reliability = 88%

Initial Serviceability = 4.2

Standard Deviation = 0.45 (Flexible Pavements), 0.35 Concrete Pavement

Good Drainage

Soil Resilient Modulus = 4118 psi (CBR = 3)

Recommended pavement thicknesses are as follows:

Heavy Duty Pavement:

Asphaltic Concrete:	4.0 Inches of Plant Mix Bituminous Pavement
	8.0 Inches of Crushed Limestone Base Rock

or

Concrete:	6.0 Inches of Concrete
	4.0 Inches of Crushed Limestone Base Rock





4. The Plant Mix Bituminous Pavement should meet the requirements of the Missouri Department of Transportation (MoDOT), Standard Specifications for Plant Mix Bituminous Pavement surface course (structural number coefficient = 0.42) as described in Section 401-Type BP-2. The Plant Mix Bituminous Base mix should meet the requirements of Section 401 Plant Mix Bituminous Base (structural number coefficient = 0.34). The base rock (structural number coefficient = 0.14) can be constructed of compacted crushed limestone meeting the requirements of Section 304 for Aggregate Base Course. The maximum compacted thickness of any one layer of base rock material shall not exceed 6 inches with each lift compacted to 100% of maximum dry density as determined by ASTM D698 (Standard Proctor). The compacted thickness of a single layer of Plant Mix Bituminous Base Course shall be between 3 and 4 1/4 inches (except when a thinner layer thickness is specified) with each layer compacted to 95% of 50 blow Marshall Density (ASTM D1559). The compacted thickness of a single layer of Plant Mix Bituminous Pavement shall not exceed 2 inches for the surface course with each layer compacted to 98% of a laboratory specimen made in the proportions of the job-mix formula in accordance with AASHTO T167 or 96% of a laboratory specimen made in proportions of the job-mix formula in accordance with AASHTO T245.

5. Concrete pavements should meet the requirements of Section 502 of the MODOT standard specifications for Portland Cement concrete pavements. Concrete strength at 28 days should be a minimum of 4,000 psi.

6. Care must be taken to develop positive drainage across and from around the pavement edges. Water allowed to pond on or adjacent to pavements would increase the potential for moisture intrusion into the subgrade soils and could result in premature pavement failure.

7. The pavement sections given above are minimums for the design criteria. Periodic maintenance of the pavement is anticipated in the designs. A maintenance program that includes surface sealing, joint cleaning and sealing and timely repair of cracks and deteriorated areas will increase the pavements life.

## LIMITATIONS

This report has been prepared for the exclusive use of our client for specific application to the project discussed in accordance with generally accepted soils engineering practice common to the local area. This report must be read in its entirety. No other warranty, express or implied, is made. Issues beneath the ground are a significant source of issues in construction projects where risk cannot always be removed, though it can be handled. This geotechnical investigation is provided to aid in handling these risks.

Geotechnical investigation reports are unique to the specific project for which they are written. Factors considered in preparation of this geotechnical investigation report include, but are not limited to, specific project information, specific site information, the soils encountered in the borings and the client's risk level. This report is specifically prepared for this project and any change in project or site information should be brought to our attention so that adjustments to recommendations can be made, if necessary. Also, this report should not be relied upon by anyone other than the client for which it is written without our prior approval.

The analyses and recommendations contained in this report are preliminary and are based on the data obtained from the referenced subsurface explorations. The borings indicate subsurface conditions only at the specific locations and time, and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between such locations. Inferences are made between the conditions encountered in the borings and the validity of the recommendations is based in part on assumptions about the stratigraphy made by the geotechnical engineer. Such assumptions may be confirmed only during earthwork and foundation construction. If subsurface conditions different from those described are noted during construction, recommendations in this report must be re-evaluated.

It is advised that Anderson Engineering be retained to consult with design team members and to review portions of drawings that are applicable to this geotechnical investigation report to limit the possibility of recommendations in this report being misunderstood by other members of the design team. It is advised that Anderson Engineering, Inc., be retained to observe foundation installation and earthwork construction in order to help confirm that our assumptions and preliminary recommendations are valid or to modify them accordingly. Anderson Engineering, Inc.,



cannot assume responsibility or liability for the adequacy of recommendations if it does not observe construction.

The scope of this evaluation was limited to an evaluation of the load carrying capacity and stability of the subsoils. Oil, hazardous waste, radioactivity, irritants, pollutants, molds, or other dangerous substances and conditions in the soil, groundwater or surface water within or beyond the site studied were not the subject of this report. Their presence and/or absence are not implied or suggested by this report, and should not be inferred. Any statements in this report regarding odors, staining of soils, or other unusual conditions observed are strictly for the information of our client.

In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by Anderson Engineering, Inc. Anderson Engineering, Inc., is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analyses without the express written authorization of Anderson Engineering, Inc. An especially potent method for handling risks related to underground concerns, especially those that stem from unforeseen factors, is to retain the engineer who authored the report for inspections, observations, and or additional investigations. Before a client seeks to use a geotechnical report, they should always ask the geotechnical engineer to determine if the geotechnical report is still reliable in light of present site conditions.

Should you have questions, please call us at 417-782-7399.


Sincerely,

ANDERSON ENGINEERING, INC.

by

  
Cody R. White, P.E.  
Vice President



  
Jesse Thomas  
Lab Manager

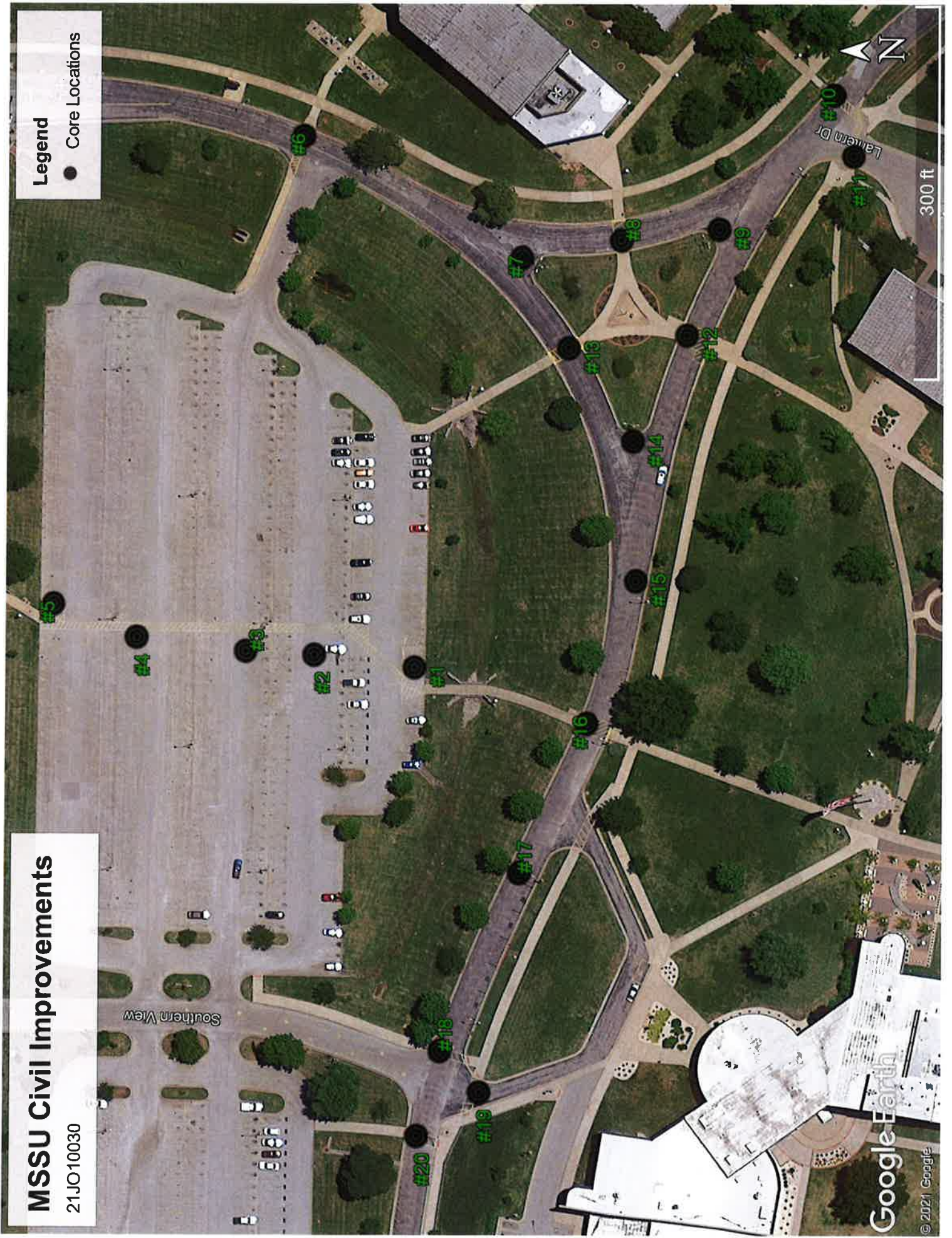


# MSSU Civil Improvements

21JO10030

## Legend

- Core Locations



**ANDERSON ENGINEERING, INC.**

**CORE SUMMARY**

CLIENT: Paragon Architecture  
 CLIENT No.: 21JO10030  
 BY: JLT  
 PROJECT: MSSU Expanded Civil Improvements  
 LOCATION: Joplin, MO  
 DATE: 5/21/2021

AREA CORED: Locations 1 to 20 (See Map)

Core Number	1	2	3	4	5	6
General Surface Condition						
Total Asphaltic pavement, in	3	3	5	4	6	2
Approximate Station	7/8	13/16	7/8			3/4
Layer 1	Thickness, in 1 3/4	Thickness, in 2 7/16	Thickness, in 2 1/8	Thickness, in 1 5/8	Thickness, in 2 1/4	Thickness, in 3/4
Layer 2	Condition Fair	Condition Poor-Fair	Condition Fair	Condition Fair	Condition Fair	Condition Fair
Layer 3	Thickness, in 2 1/8	Thickness, in 1 3/8	Thickness, in 1 5/8	Thickness, in 1 3/8	Thickness, in 1 3/8	Thickness, in 1
Layer 4	Condition Poor	Condition Poor	Condition Poor-Fair	Condition Poor	Condition Poor	Condition Poor
Granular base course			Thickness, in 2 1/8	Thickness, in 1	Thickness, in 2 3/8	Thickness, in 1
			Condition Poor	Condition Very Poor	Condition Poor	Condition Very Poor

Core Number	7	8	9	10	11	12
General Surface Condition						
Total Asphaltic pavement, in	3	2	2	6	5	3
Approximate Station	1/8	5/16	7/8	5/16	1/4	1/2
Layer 1	Thickness, in 1 5/8	Thickness, in 13/16	Thickness, in 15/16	Thickness, in 1 3/8	Thickness, in 2 3/16	Thickness, in 1
Layer 2	Condition Fair	Condition Fair	Condition Fair	Condition Fair-Poor	Condition Poor	Condition Poor
Layer 3	Thickness, in 1 1/2	Thickness, in 1 1/2	Thickness, in 11/16	Thickness, in 7/8	Thickness, in 3 1/16	Thickness, in 9/16
Layer 4	Condition Poor	Condition Poor	Condition Poor-Fair	Condition Fair	Condition Fair	Condition Fair
Granular base course			Thickness, in 1 1/4	Thickness, in 1 3/16	Thickness, in 2 7/8	Thickness, in 1 15/16
			Condition Poor	Condition Fair-Poor	Condition Fair	Condition Poor

**ANDERSON ENGINEERING, INC.**

**CORE SUMMARY**

CLIENT: Paragon Architecture  
 CLIENT No.: 21JO10030  
 BY: JLT  
 PROJECT: MSSU Expanded Civil Improvements  
 LOCATION: Joplin, MO.  
 DATE: 5/21/2021  
 AREA CORED: Locations 1 to 20 (See Map)

Core Number		13		14		15		16		17		18					
General Surface Condition																	
Total Asphaltic pavement, in		3		3		1/16		2		4		2 3/4					
Approximate Station																	
Layer 1	Thickness, in	1	Condition	Fair	Thickness, in	1	Condition	Poor	Thickness, in	2	Condition	1 1/2	Thickness, in	2	Condition	3/4	Fair
Layer 2	Thickness, in	1	Condition	Poor	Thickness, in	2	Condition	Fair	Thickness, in	1	Condition	1/2	Thickness, in	1	Condition		
Layer 3	Thickness, in	1	Condition	Poor	Thickness, in	1	Condition	Very Poor	Thickness, in	1	Condition		Thickness, in		Condition		
Layer 4	Thickness, in		Condition		Thickness, in		Condition		Thickness, in		Condition		Thickness, in		Condition		
Granular base course																	

Core Number		19		20								
General Surface Condition												
Total Asphaltic pavement, in		3		2								
Approximate Station												
Layer 1	Thickness, in	3	Condition	5/8	Thickness, in	1	Condition	3/8	Thickness, in	1	Condition	Poor
Layer 2	Thickness, in		Condition		Thickness, in	1	Condition	1/16	Thickness, in		Condition	Fair-Good
Layer 3	Thickness, in		Condition		Thickness, in		Condition		Thickness, in		Condition	
Layer 4	Thickness, in		Condition		Thickness, in		Condition		Thickness, in		Condition	
Granular base course												



**21J010030 MSSU Expanded Civil Improvements**



**21JO10030 MSSU Expanded Civil Improvements**



**21J010030 MSSU Expanded Civil Improvements**



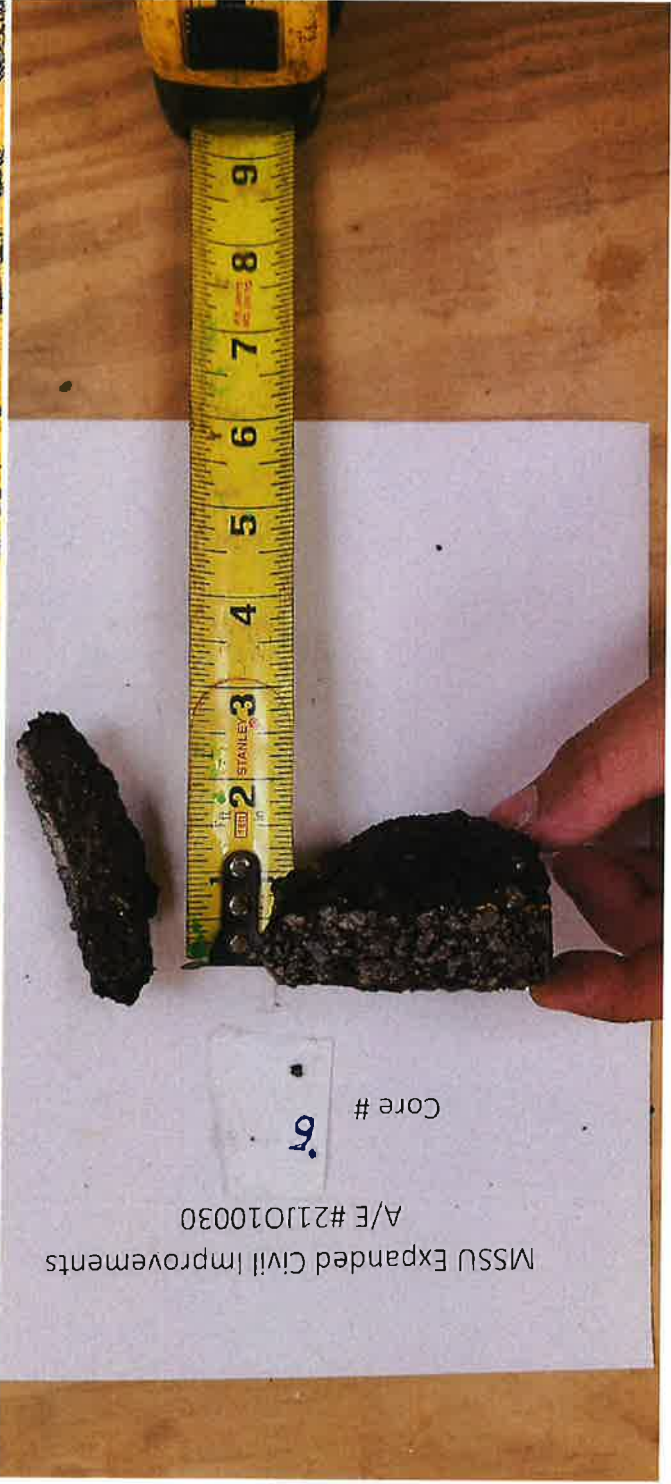


MSSU Expanded Civil Improvements  
A/E #21J010030  
Core # 4

## 21J010030 MSSU Expanded Civil Improvements



**211010030 MSSU Expanded Civil Improvements**



21J010030 MSSU Expanded Civil Improvements



**21JO10030 MSSU Expanded Civil Improvements**



**21J010030 MSSU Expanded Civil Improvements**



MSSU Expanded Civil Improvements  
A/E #21J010030  
Core # 9

## 21J010030 MSSU Expanded Civil Improvements



MSSU Expanded Civil Improvements  
A/E #21J010030  
Core # 10

# 21J010030 MSSU Expanded Civil Improvements



21J010030 MSSU Expanded Civil Improvements





MSSU Expanded Civil Improvements  
A/E #21J010030  
Core # 12

## 21J010030 MSSU Expanded Civil Improvements



MSSU Expanded Civil Improvements  
A/E #21JO10030  
Core # 13

## 21JO10030 MSSU Expanded Civil Improvements



## 21JO10030 MSSU Expanded Civil Improvements



21J010030 MSSU Expanded Civil Improvements



MSSU Expanded Civil Improvements  
A/E #21J010030  
Core # 16

**21J010030 MSSU Expanded Civil Improvements**



**21J010030 MSSU Expanded Civil Improvements**



## 21J010030 MSSU Expanded Civil Improvements



**21J010030 MSSU Expanded Civil Improvements**





**21J010030 MSSU Expanded Civil Improvements**



Above- Core 1 Looking North Below- Core 1 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 2 Looking North Below- Core 2 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 3 Looking North Below- Core 3 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 4 Looking North Below- Core 4 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



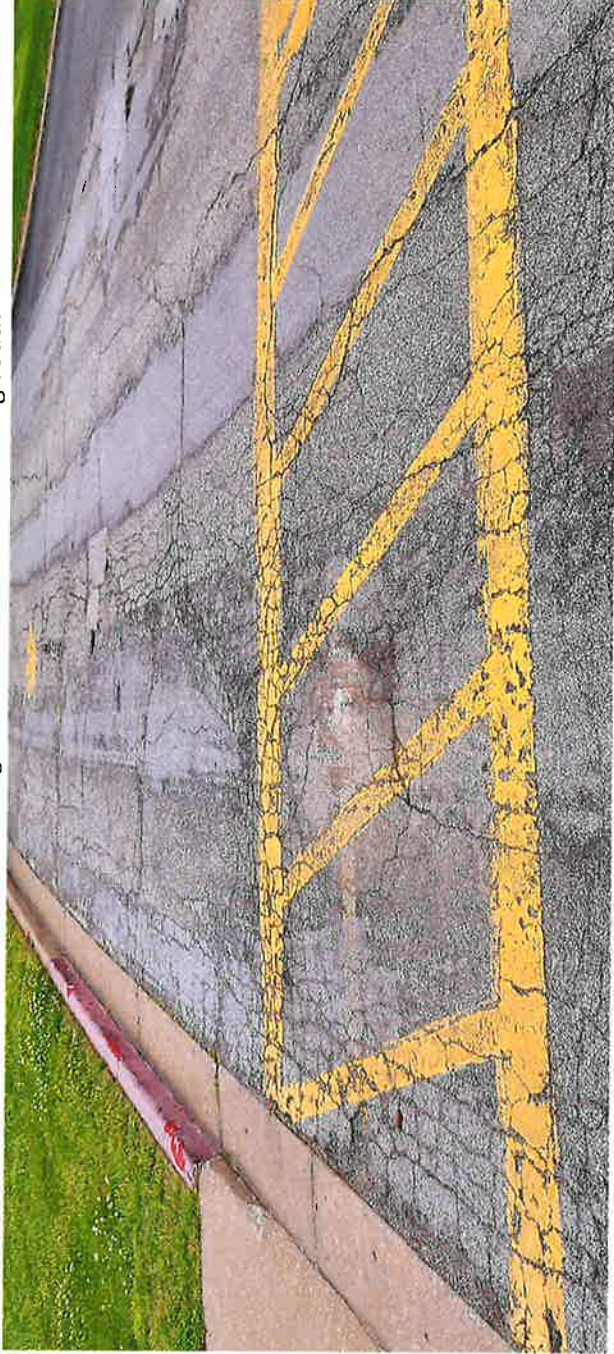
Above- Core 5 Looking North Below- Core 5 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 6 Looking North Below- Core 6 Looking South



## 21JO10030 MSSU Expanded Civil Improvements

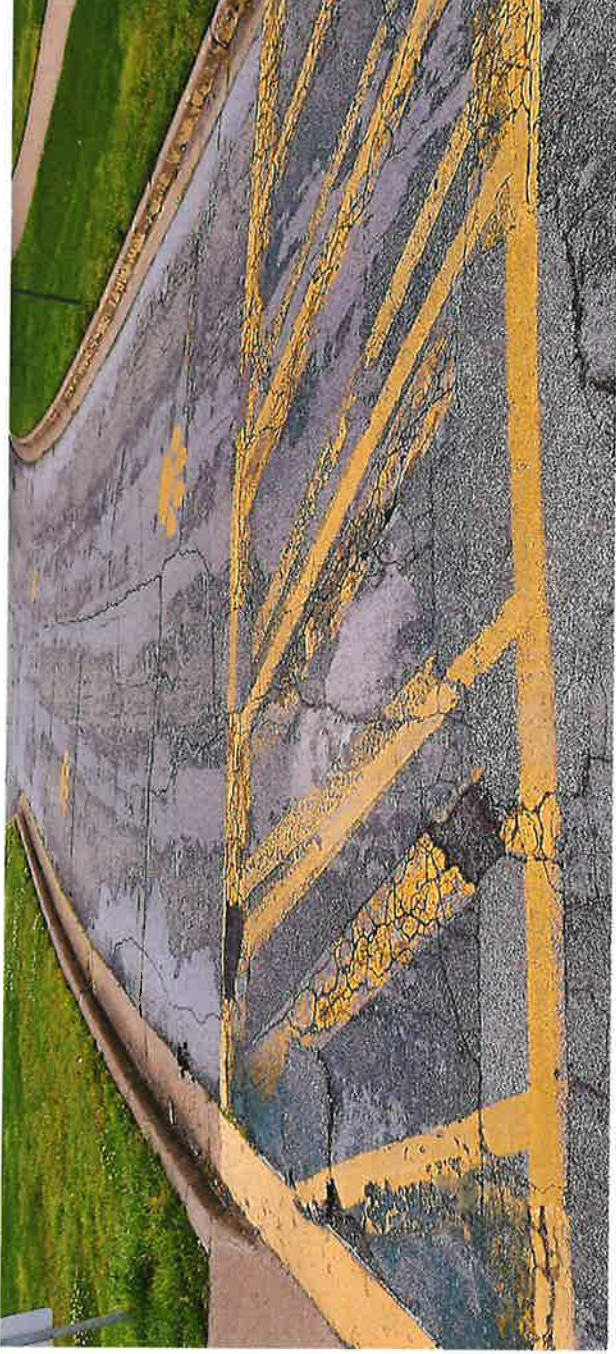


Above- Core 7 Looking North Below- Core 7 Looking South



## 21JO10030 MSSU Expanded Civil Improvements





Above- Core 8 Looking North Below- Core 8 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 9 Looking North Below- Core 9 Looking South



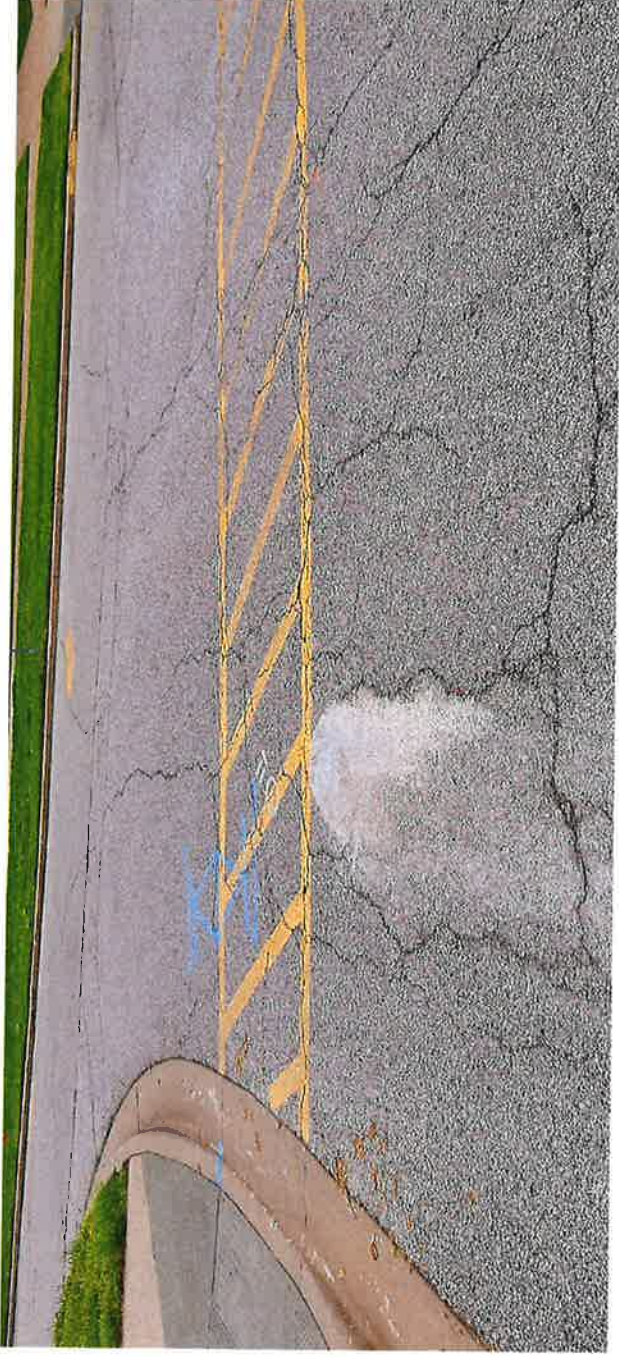
## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 10 Looking Northwest Below- Core 10 Looking Southeast



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 11 Looking North Below- Core 11 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



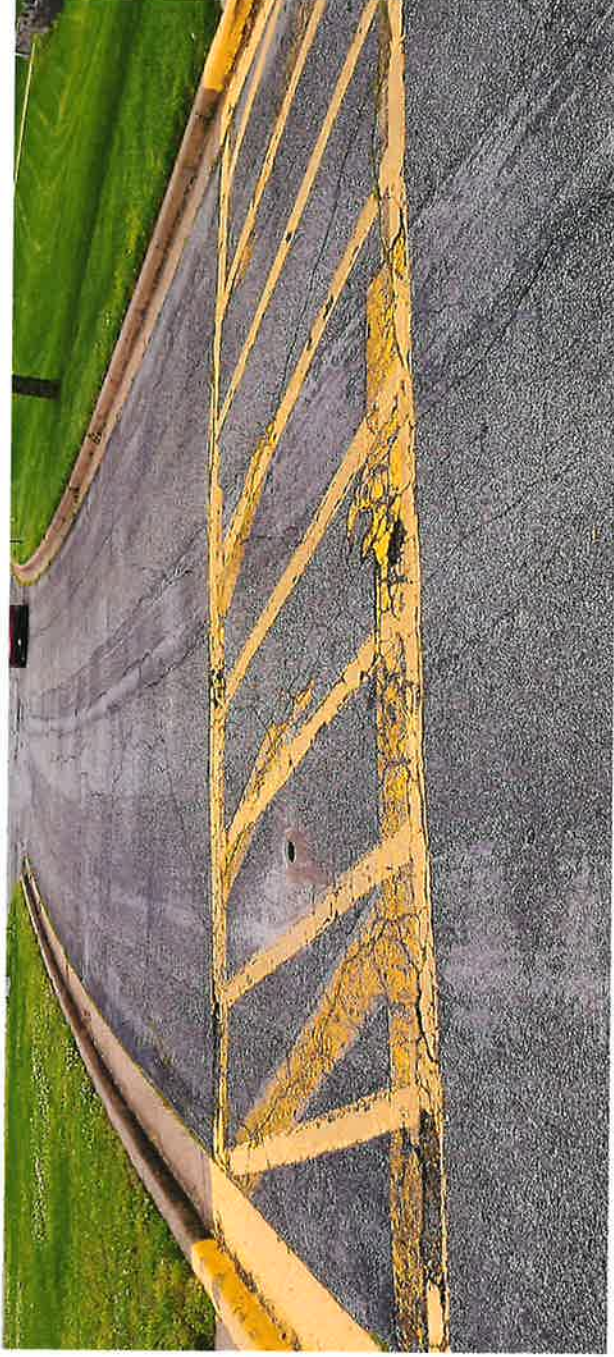
Above- Core 12 Looking East Below- Core 12 Looking West



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 13 Looking Northeast Below- Core 13 Looking Southwest



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 14 Looking North Below- Core 14 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 15 Looking East Below- Core 15 Looking West



## 21JO10030 MSSU Expanded Civil Improvements





Above- Core 16 Looking East Below- Core 16 Looking West



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 17 Looking East Below- Core 17 Looking West



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 18 Looking East Below- Core 18 Looking West



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 19 Looking North Below- Core 19 Looking South



## 21JO10030 MSSU Expanded Civil Improvements



Above- Core 20 Looking East Below- Core 20 Looking West



## 21JO10030 MSSU Expanded Civil Improvements























**DESIGN CRITERIA**

- Design Specification:  
AASHTO LFRD Bridge Design specifications, 8th Edition

**GENERAL**

- It is solely the contractor's responsibility to insure the safety of the construction personnel, public, building and its components, parts, and adjacent buildings and properties. This includes the addition of whatever temporary or permanent shoring, bracing, needling, underpinning, or sheet piling, etc. that may be necessary to brace new construction, adjacent buildings, so that the structure is braced for wind, seismic, gravity, construction loads, etc. And that no horizontal or vertical settlement or any damage occurs to the adjacent existing structure. Temporary supports shall be maintained in place until permanent supports and/or shoring and bracing are installed.
- Fall protection shall be provided in accordance with OSHA requirements as required. Such material shall remain the contractor's property after the completion of the project.
- It is the contractor's responsibility to enforce all applicable safety codes and regulations during all phases of construction.
- The contractor shall perform all construction for the project in a manner and sequence that are based on accepted industry standards that recognize the interaction of the components that comprise the structure, without causing distress, unanticipated movements or irregular load paths as a result of the construction means and methods employed.
- All contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work. Failure to visit the site and familiarize themselves with the existing conditions and limitations will in no way relieve the contractor from furnishing any materials or performing any work in accordance with drawings and specifications without additional cost to the owner.
- Details labeled "typical details" on drawings apply to situations occurring on the project that are the same or similar to those specifically details. Such details apply whether or not details are referenced at each location. Notify engineer of clarification regarding applicability of "typical details".
- Work these drawings with architectural, civil, mechanical, and electrical drawings.
- Do not scale drawings.
- Should any of the general notes conflict with any details or instructions on plans, the most strict provision shall govern.
- Shop drawings and submittals:
  - These drawings shall be checked and coordinated with other materials and contracts by the general contractor and shop drawings and submittals shall bear the contractor's review stamp with the checker's initials before being submitted to the architect for approval.

**CAST-IN-PLACE CONCRETE**

- All concrete construction shall conform to ACI 301, "specification for structural concrete" and ACI 302, "Guide for Concrete Floor and Slab Construction", ACI 305 "Specification for Hot Weather Concreting" and ACI 306, "standard specification for cold weather concreting", unless noted otherwise for the year referenced in the building code noted.
- All detailing, fabrication and placing of reinforcing bars, unless otherwise noted, shall conform to ACI 318, "Building Code Requirements for Structural Concrete", ACI 117, "Specification for Tolerances for Concrete Construction and Materials", and the latest ACI detailing manual.
- All pipe sleeve openings through concrete slabs shall be formed with standard steel pipe.
- No electrical conduit shall be placed above the welded wire fabric or top reinforcing of slab.
- All aluminum in contact with concrete or dissimilar metals shall be coated with two coats of coal tar epoxy, approved by the engineer, unless noted otherwise.
- Concrete shall be discharged at the site within 1 1/2 hours after water has been added to the cement and aggregates. Addition of water to the mix at the project site will not be permitted. All water must be added at the batch plant. Slump may be adjusted only through the use of additional water reducing admixtures or high range water reducing admixture.
- All concrete shall be placed without horizontal construction joints, except where specifically noted.
- All exposed edges of concrete members shall be chamfered 3/4" unless shown otherwise.
- See architectural drawings for concrete finishes, masonry anchors, and for miscellaneous embedded plates, bolts, anchors, angles, etc.
- The placement of sleeves, outlet boxes, box-outs not covered by typical details in the structural drawings shall be submitted for approval.
- Reinforcing bars shall conform to ASTM A615 Gr.60 ksi, no tack welding for reinforcing in the field will be permitted.
- Reinforcing bars for welded applications shall conform to ASTM A706 Gr.60 ksi yield strength
- Reinforcing shall be properly positioned prior to concrete placement and may not be repositioned once concrete operations have begun. Wire bar and other types of supports shall be in accordance with the concrete reinforcing steel institute manual of standard practice.
- Reinforcement shall be continuous through all construction joints unless noted otherwise.
- All hooks shown on drawings shall be standard hooks, unless otherwise noted.
- Where continuous bars are called for, they shall run continuously around corners and be lapped at necessary splices. Lap lengths shall be as given in the splice and development table.
- Provide additional reinforcing at the side and corners of all openings in concrete. Minimum additional requirements are as follows.
  - (2)-#5 top and bottom in slabs
  - (2)-#5 each face in walls
  - (2)-#5 x 4'-0" long diagonally each corner of opening
- Extend bars a minimum of 2'-0" beyond openings, hook where extension is not possible.
- In reinforced concrete walls, grade beams and trench footing provide corner dowels of same size and spacing as horizontal reinforcing. Dowels shall lap with horizontal reinforcing in each direction.
- The following minimum concrete cover shall be provide for reinforcement, unless otherwise noted:
  - Earth formed and cast directly against soil . . . . . 3"
  - Cast against forms but exposed to earth and weather
    - #6 and larger . . . . . 2"
    - #5 and smaller . . . . . 1 1/2"
  - Slabs and walls not exposed to earth or weather . . . . . 3/4"
  - Others . . . . . 2"
- All structural concrete shall have a 4000 psi minimum compressive strength at age 28 days
- Splice lengths:
 

Bar Size	Min. Lap
A. #3	1'-3"
B. #4	1'-7"
C. #5	2'-0"
D. #6	2'-6"
E. #7	3'-6"
F. #8	4'-0"
G. #9	4'-6"
H. #10	5'-0"

  - When lapping two different size bars, use the lap dimension of the smaller bar or the anchorage dimension of the larger bar, use whichever dimension is larger.

**STRUCTURAL STEEL**

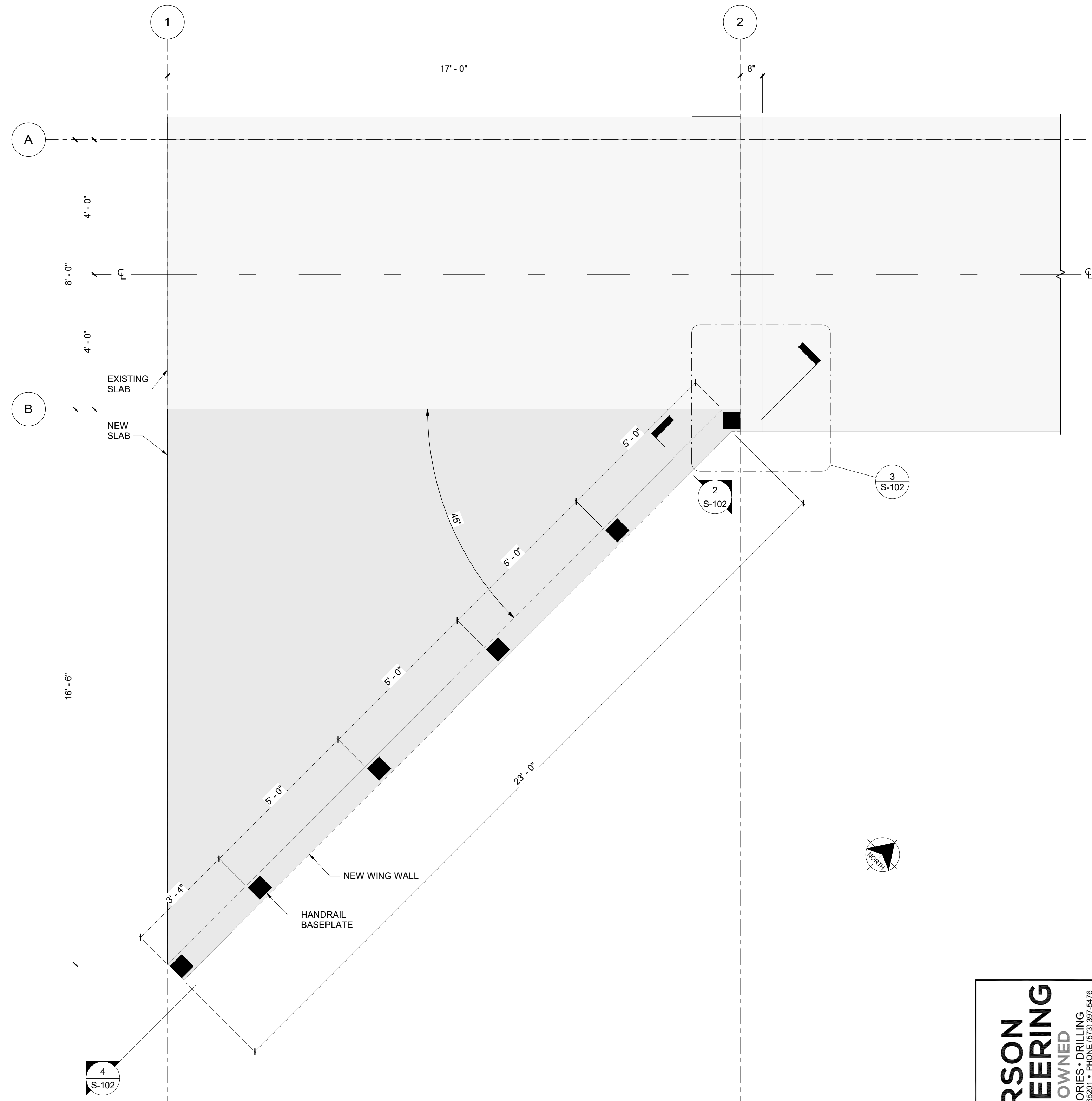
- Detailing, fabrication and erection shall conform to the AISC specifications and standard code of practice for the year referenced in the building code noted, except as modified by these notes and the project specifications.
- Steel shapes shall conform to the following grades unless noted otherwise:
  - Wide flange (W) shapes . . . . . ASTM A992 Gr. 50
  - Angles, channels, S & M shapes . . . . . ASTM A36
  - HP shapes . . . . . ASTM A572 Gr. 50
  - Structural HSS tubing . . . . . ASTM A500 Gr. C (Fy=50 ksi)
  - Structural HSS pipe . . . . . ASTM A500
  - Plates . . . . . ASTM A572 Gr. 50
  - Threaded rods . . . . . ASTM A36
- Steel material of fasteners and welds shall conform to the following unless noted otherwise:
  - Column/beam connection bolts . . . . . ASTM F3125 Gr. A325
  - Anchor rods . . . . . ASTM F1554
  - Nut . . . . .
  - Washer . . . . . ASTM F436
  - Heavy hex nut . . . . . ASTM A563 Gr. A563
  - Plate Washer . . . . . ASTM A572 Gr. 50
  - Welding electrodes . . . . . E70xx
- All bolts shall be type N unless noted otherwise.
- At long-slotted, short-slotted, or oversized holes washers shall be provided. Where A490 bolts have a diameter > 1" use extra thick washer.
- Where long slotted holes are required plate washers shall be provided. Plate washer thickness must be 5/16" at all A325 bolt diameters and A490 bolts with diameter <= 1". Where A490 bolts with a diameter >1" use 3/8" plate washer.
- All bolts in a slip critical connection shall use compressible-washer-type direct tension indicator meeting ASTM F959.
- Slip critical, bolts shall be considered bearing and tightened to a snug tight condition and inspected by a testing agency for conformance with rcs.
- All welding shall be conform to the latest AWS D1.1.
- Connections or splices of structural members not clearly indicated in the drawings are prohibited without prior written approval of the structural engineer.
- All anchor rods/bolts shall be set in concrete with a template and be furnished will double nuts.
- Fabricate all beams with the mill camber up
- All steels exposed to weather and not fully within a conditioned space are to be hot dipped galvanized per ASTM A123 unless other weather proofing methods have been specified per the architect.
- When welding painted or galvanized steel AWS methods must be followed. Do not field weld galvanized or painted steel unless indicated on drawings.
- Where galvanized surfaces have been damaged repair the surface according to ASTM A780.
- Where painted surfaces have been damaged paint is to be reapplied.

SHEET LIST	
Sheet Number	Sheet Name
S-101	STRUCTURAL PLAN VIEW
S-102	STRUCTURAL DETAILS



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NOTE:  
1. VERIFY ALL THE DIMENSION IN THE FIELD.  
2. NEW SLAB ELEVATION & SLOPE TO MATCH THE EXISTING SLAB.

2 STRUCTURAL PLAN VIEW  
1/2" = 1'-0"

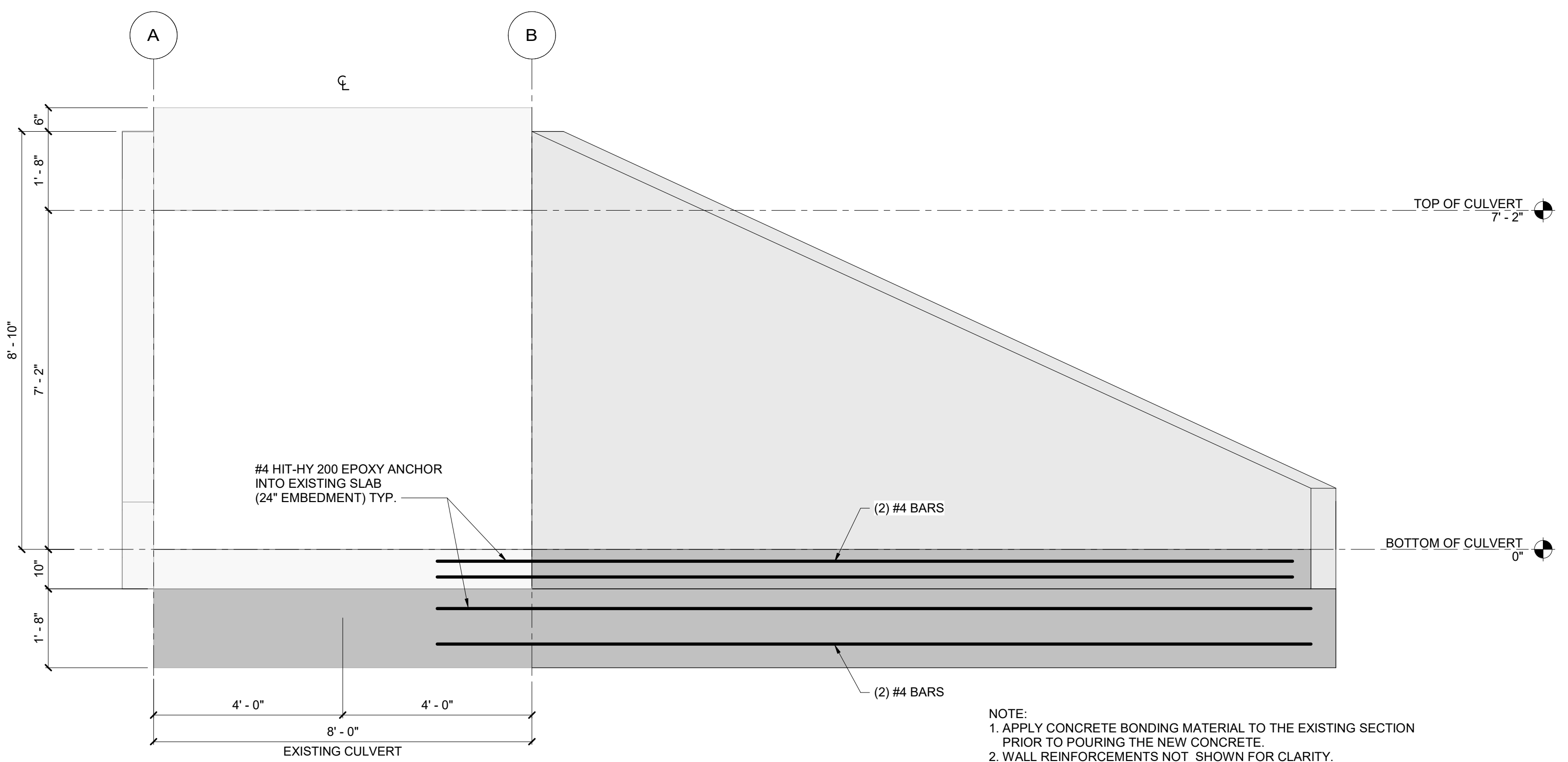
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JOB NO. 21-JO10020  
DRAWING NO. JOP-100-5929  
PROJECT DESCRIPTION: MSSU CAMPUS IMPROVEMENTS

SHEET NUMBER: S-101

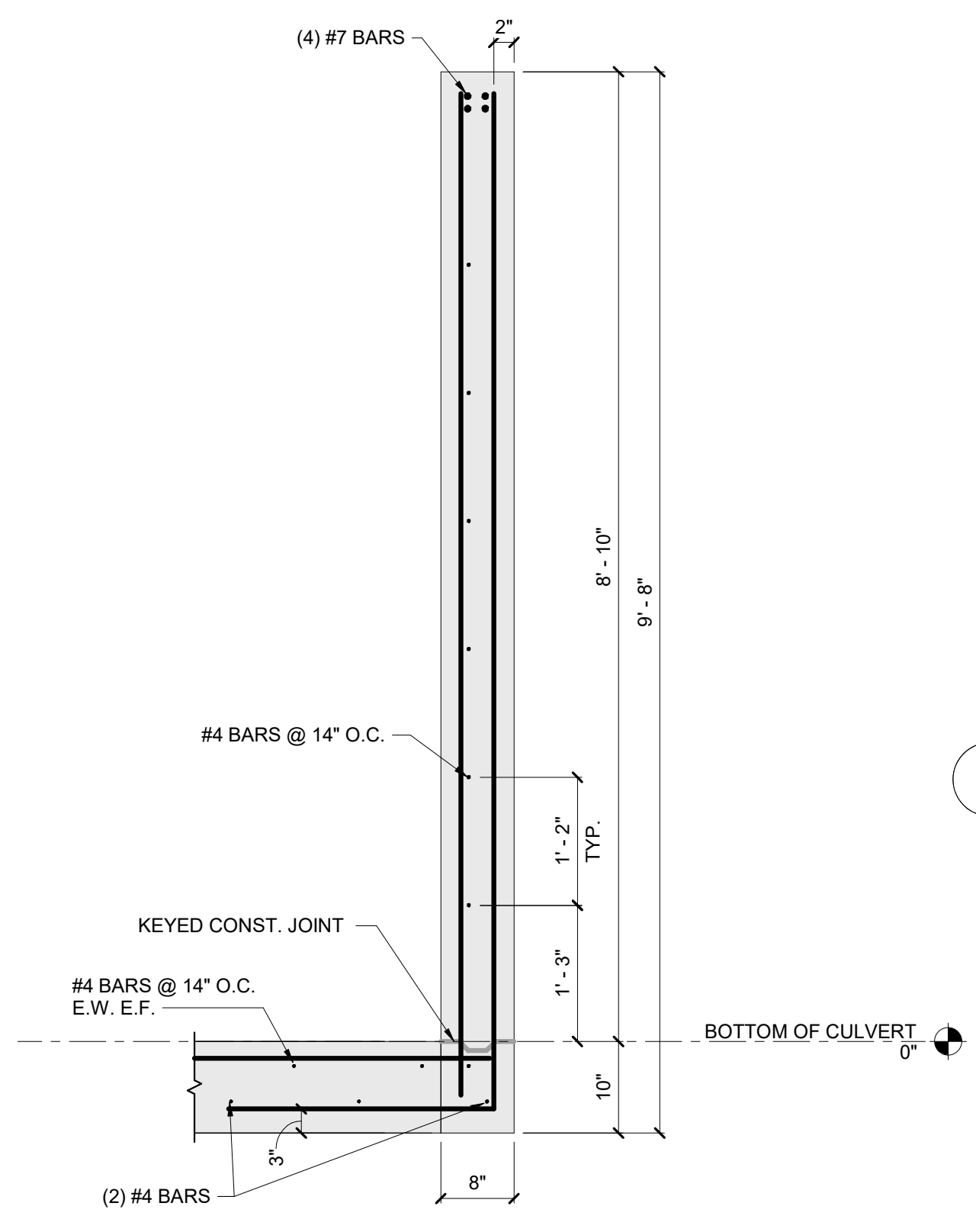
PROJECT NUMBER: 21-623  
DATE: 06/29/21  
PROJECT ARCHITECT: JS  
DRAWN BY: RCR  
CHECKED BY: CG



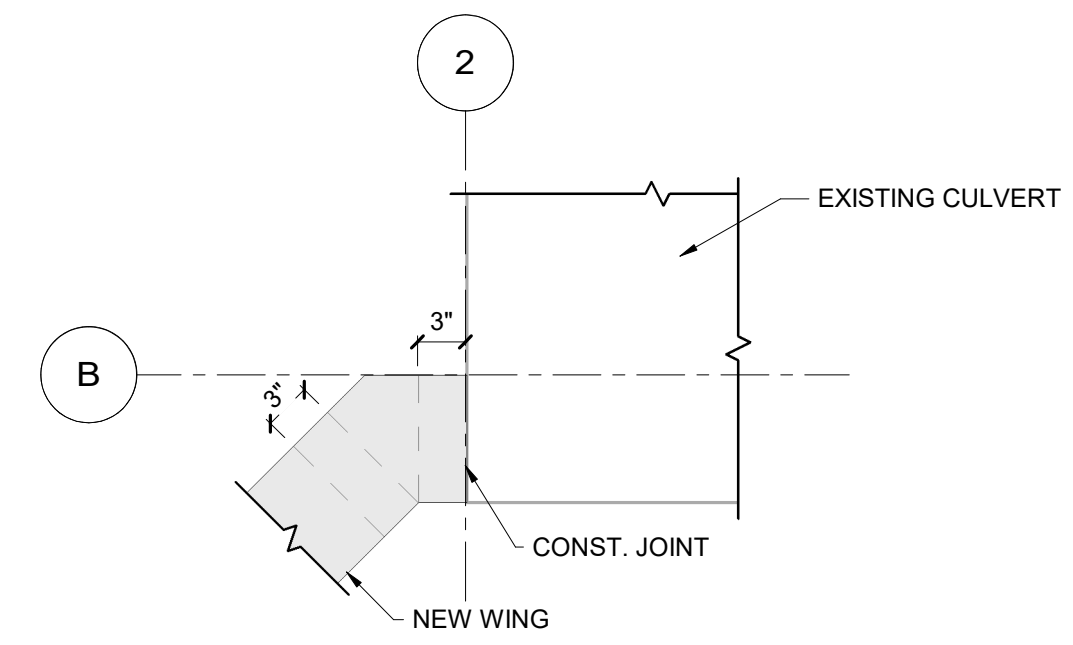


1 ENTRANCE ELEVATION  
1/2" = 1'-0"

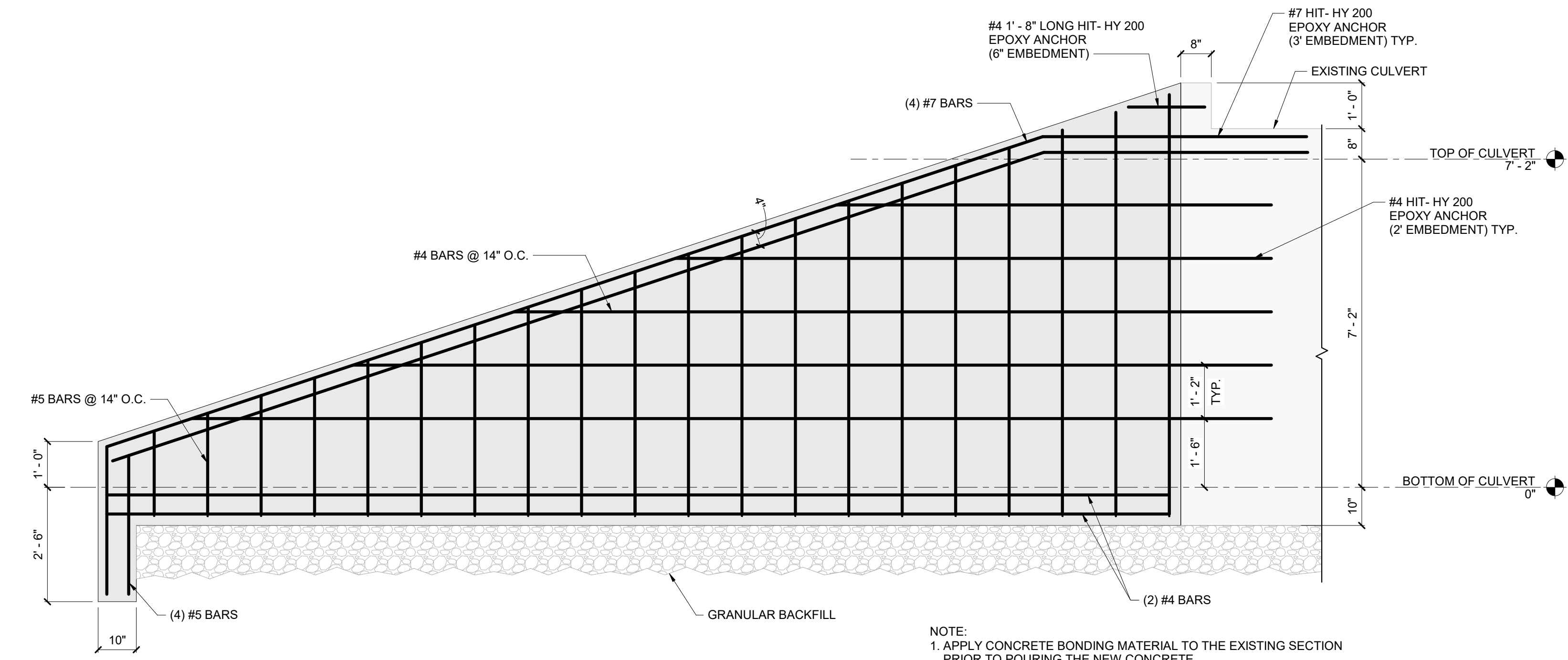
NOTE:  
1. APPLY CONCRETE BONDING MATERIAL TO THE EXISTING SECTION PRIOR TO POURING THE NEW CONCRETE.  
2. WALL REINFORCEMENTS NOT SHOWN FOR CLARITY.  
3. VERIFY ALL DIMENSIONS IN FIELD.  
4. REFER TO DETAIL 6/S-102 FOR HANDRAILS.



2 NEW WING & SLAB SECTION  
3/4" = 1'-0"

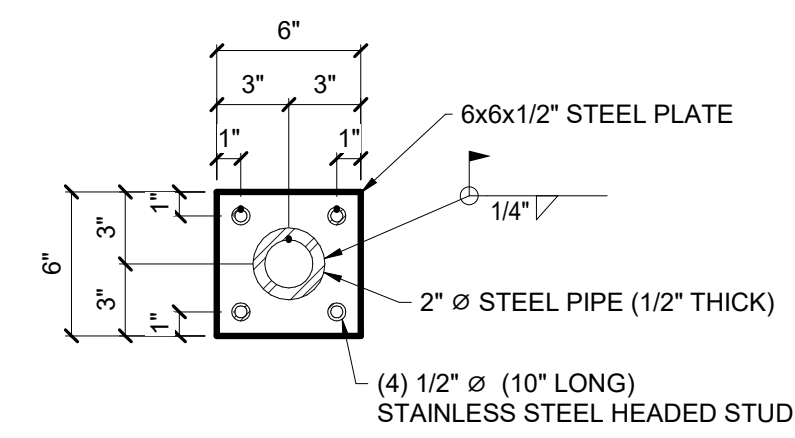


3 WING WALL CONST. JOINT DETAIL  
1" = 1'-0"

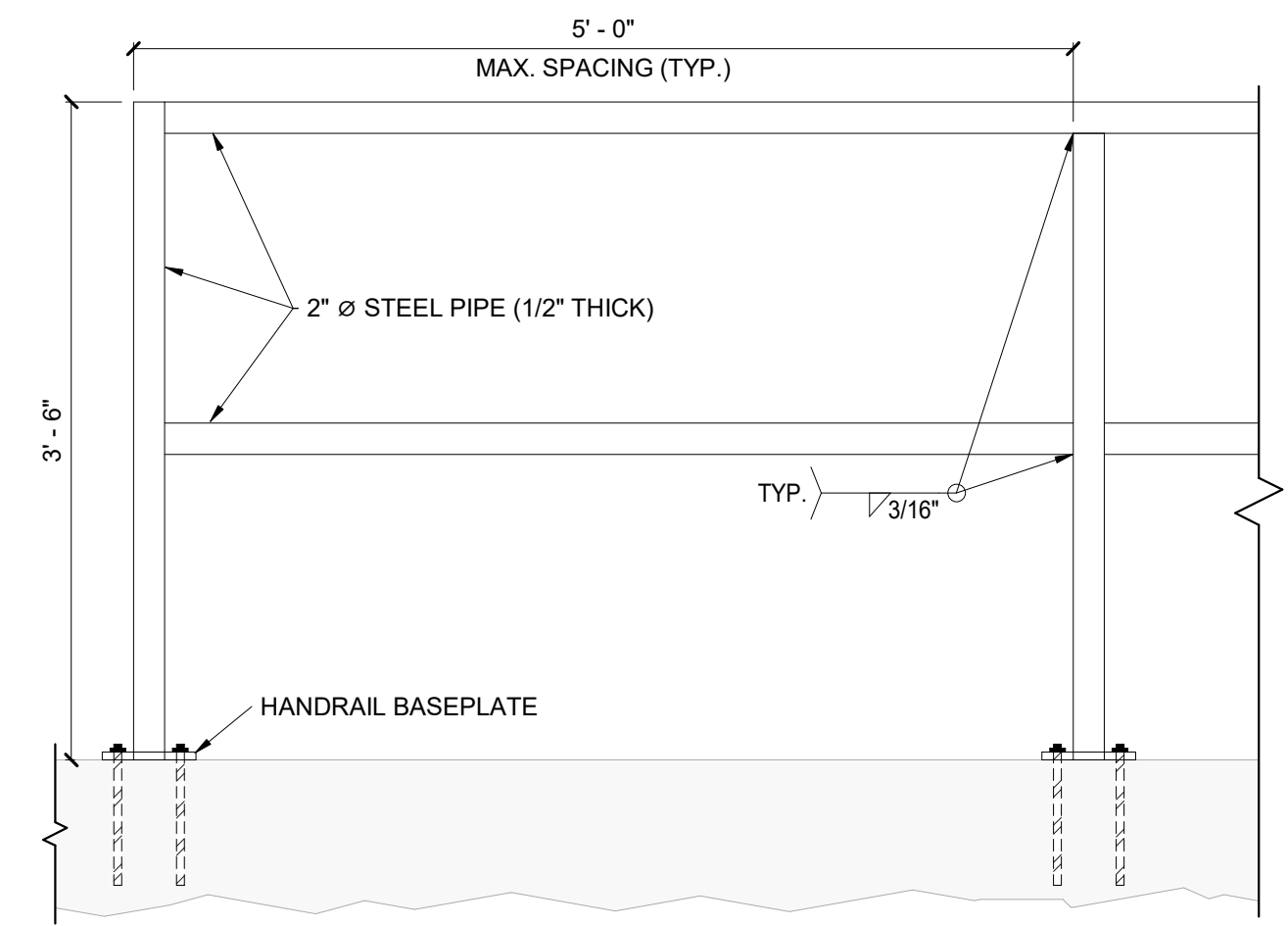


4 NEW WING DETAIL  
1/2" = 1'-0"

NOTE:  
1. APPLY CONCRETE BONDING MATERIAL TO THE EXISTING SECTION PRIOR TO POURING THE NEW CONCRETE.  
2. NEW SLAB ELEVATION & SLOPE TO MATCH THE EXISTING SLAB  
3. HANDRAILS NOT SHOWN FOR CLARITY. REFER TO 6/S-102 FOR DETAILS.



5 HANDRAIL BASEPLATE  
1 1/2" = 1'-0"



6 HANDRAIL DETAIL ABOVE NEW WALL  
1" = 1'-0"



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JOB NO. 21-JO-10020  
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**S-102** MSSU CAMPUS IMPROVEMENTS  
STRUCTURAL DETAILS  
PROJECT NUMBER: 21-623  
DATE: 06/29/21

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PROJECT ARCHITECT: JIS  
DRAWN BY: RCR  
CHECKED BY: CG