April 22, 2024

ADDENDUM NO. 4

RFQ # 9998,4

FOR

1269715: State/Lake Loop Elevated Station

CDOT PROJECT NO. D-1-209

For which Bids are due in the office of the Chief Procurement Officer, Department of Procurement Services, http://www.cityofchicago.org/eProcurementat **11:00 a.m., Central Time on May 7, 2024.**

The following additions, changes and revisions are incorporated into the above-referenced Specification (the "Contract Documents") as noted. All other provisions and requirements as originally set forth, except as amended by previous addenda, remain in full force and are binding. Any additional work required by this Addendum shall conform to the applicable provisions of the original Contract Documents.

BIDDER MUST ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE PROPOSAL EXECUTION PAGE

NOTICE OF REVISIONS/CHANGES/CLARIFICATIONS

REVISION	DESCRIPTION
1.	Plans, sheet C-111 has been revised and replaced with Attachment A, plan sheet C-111.
2.	Plans, sheet C-121 has been revised and replaced with Attachment B, plan sheet C-121.
3.	Plans, sheet C-131 has been revised and replaced with Attachment C, plan sheet C-131.
4.	Plans, sheet CX-100 has been revised and replaced with Attachment D, plan sheet CX-100.
5.	Plans, sheet L-101 has been revised and replaced with Attachment E, plan sheet L-101.
6.	Plans, sheet L-103 has been revised and replaced with Attachment F, plan sheet L-103.
7.	Plans, sheet L-103B has been revised and replaced with Attachment G, plan sheet L-103B.
8.	Plans, sheet L-106 has been revised and replaced with Attachment H, plan sheet L-106.
9.	Plans, sheet L-106A has been revised and replaced with Attachment I, plan sheet L-106A.
10.	Plans, sheet S-002 has been revised and replaced with Attachment J, plan sheet S-002.
11.	Plans, sheet S-102 has been revised and replaced with Attachment K, plan sheet S-102.
12.	Plans, sheet S-115 has been revised and replaced with Attachment L, plan sheet S-115.
13.	Plans, sheet S-501 has been revised and replaced with Attachment M, plan sheet S-501.
14.	Plans, sheet S-502 has been revised and replaced with Attachment N, plan sheet S-502.
15.	Plans, sheet S-503 has been revised and replaced with Attachment O, plan sheet S-503.
16.	Plans, sheet S-504 has been revised and replaced with Attachment P, plan sheet S-504.
17.	Plans, sheet S-505 has been revised and replaced with Attachment Q, plan sheet S-505.
18.	Plans, sheet S-510 has been revised and replaced with Attachment R, plan sheet S-510.

19.	**Plans, sheet S-610 has been revised and replaced with Attachment S, plan sheet S-610.**
20.	**Plans, sheet S-620 has been revised and replaced with Attachment T, plan sheet S-620.**
21.	**Plans, sheet SS-002 has been revised and replaced with Attachment U, plan sheet SS-002.**
22.	**Plans, sheet SS-012 has been revised and replaced with Attachment V, plan sheet SS-012.**
23.	**Plans, sheet SS-312 has been revised and replaced with Attachment W, plan sheet SS-312.**
24.	**Plans, sheet ADS-102 has been revised and replaced with Attachment X, plan sheet ADS-102.**
25.	**Plans, sheet ADS-103 has been revised and replaced with Attachment Y, plan sheet ADS-103.**
26.	**Plans, sheet ADS-104 has been revised and replaced with Attachment Z, plan sheet ADS-104.**
27.	**Plans, sheet ADS-105 has been revised and replaced with Attachment AA, plan sheet ADS-105.**
28.	**Plans, sheet E-002 has been revised and replaced with Attachment BB, plan sheet E-002.**
29.	**Plans, sheet P-000 has been revised and replaced with Attachment CC, plan sheet P-000.**
30.	**Book 3 Specifications Section 01 31 00 has been revised and replaced in its entirety. See Attachment DD, Book 3 Specifications Section 01 31 00.**
31.	**Book 3 Specifications Section 02 05 00 has been revised and replaced in its entirety. See Attachment EE, Book 3 Specifications Section 02 05 00.**
32.	**Book 3 Specifications Section 02 61 00.10 has been revised and replaced in its entirety. See Attachment FF, Book 3 Specifications Section 02 61 00.10.**
33.	**Book 3 Specifications Section 02 61 00.20 has been revised and replaced in its entirety. See Attachment GG, Book 3 Specifications Section 02 61 00.20.**
34.	**Book 3 Specifications Section 02 61 00.30 has been revised and replaced in its entirety. See Attachment HH, Book 3 Specifications Section 02 61 00.30.**
35.	**Book 3 Specifications Section 02 61 00.40 has been revised and replaced in its entirety. See Attachment II, Book 3 Specifications Section 02 61 00.40.**
36.	**Book 3 Specifications Section 03 30 00 has been revised and replaced in its entirety. See Attachment JJ, Book 3 Specifications Section 03 30 00.**
37.	**Book 3 Specifications Section 03 41 00 has been revised and replaced in its entirety. See Attachment KK, Book 3 Specifications Section 03 41 00.**
38.	**Book 3 Specifications Section 31 23 13 has been revised and replaced in its entirety. See Attachment LL, Book 3 Specifications Section 31 23 13.**
39.	**Book 3 Specifications Section 31 64 00 has been revised and replaced in its entirety. See Attachment MM, Book 3 Specifications Section 31 64 00.**
40.	**Book 3 Specifications Section 32 11 16 has been revised and replaced in its entirety. See Attachment NN, Book 3 Specifications Section 32 11 16.**
41.	**Book 3 Specifications Section 32 12 16 has been revised and replaced in its entirety. See Attachment OO, Book 3 Specifications Section 32 12 16.**
42.	**Book 3 Specifications Section 32 12 17 has been revised and replaced in its entirety. See Attachment PP, Book 3 Specifications Section 32 12 17.**
43.	**Book 3 Specifications Section 32 13 13 has been revised and replaced in its entirety. See Attachment QQ, Book 3 Specifications Section 32 13 13.**
44.	**Book 3 Specifications Section 32 16 21 has been revised and replaced in its entirety. See Attachment RR, Book 3 Specifications Section 32 16 21.**
45.	**Book 3 Specifications Section 32 16 23 has been revised and replaced in its entirety. See Attachment SS, Book 3 Specifications Section 32 16 23.**
46.	**Book 3 Specifications Section 32 17 26 has been revised and replaced in its entirety. See Attachment TT, Book 3 Specifications Section 32 17 26.**
47.	**Book 2, Document Submittal Checklist has been revised and replaced in its entirety. See Attachment UU, Book 2, Document Submittal Checklist.**

RESPONSES TO QUESTIONS/REQUESTS FOR CLARIFICATIONS

The following questions and requests for clarification were submitted in accordance with the instructions provided in the Contract Documents. The City's response (shown in **bold**) follows each question or request for clarification in the table below:

Question 1:	Please confirm that the Contractor will not have, and will not be required to sign as, claim, or maintain, "Generator" status for any pre-existing hazardous waste/special waste/non-special waste/contaminated materials encountered on this project.
Response:	**The City will be considered the generator of all existing hazardous material found at the project site. See Specification, Book 3, Section 02 61 00.10, 3.01C.**
Question 2:	Will the Owner or other project Stakeholders indemnify the Contractor in connection with such pre-existing hazardous waste/special waste/non-special waste/contaminated materials encountered on this project.
Response:	**The City will be considered the generator of all existing hazardous material found at the project site. See Specification, Book 3, Section 02 61 00.10, 3.01C.**
Question 3:	Based on the CTA – Red Line Extension (RLE) Project bidding on April 15th, 2024, we are requesting a 6 Week bid extension.
Response:	**The bid due date was extended until May 7, 2024, per Addendum No. 2.**
Question 4:	Reference Drawing L-103. For the Pedestrian Concrete Type 1, it is stated to match existing. However, the existing concrete type / color / aggregates / etc. is unknown. Please provide the concrete mix design for Pedestrian Concrete Type 1, or any required color, aggregates, etc. for bidding purposes.
Response:	**See Attachment F for revised plan sheet L-103.**
Question 5:	Reference Drawing L-103. For the Pedestrian Concrete Type 2, it is stated to match existing. It is unknown the existing concrete type / color / aggregates / etc. Please provide the concrete mix design for Pedestrian Concrete Type 2, or any required color, aggregates, etc. for bidding purposes.
Response:	**See Attachment F for revised plan sheet L-103.**
Question 6:	Reference Drawing L-103. In the remarks for Reinstall Existing Specialty Stone Pavers, it is noted to replace any damaged pavers in kind along lake street. This quantity cannot be determined at bid time. Please provide a quantity for bidding purposes.
Response:	**Per Sheet L-103, the contractor is to remove, store, and reinstall existing pavers. The quantity of replacement pavers will depend on the number that are damaged in this process by the contractor.**
Question 7:	Reference Drawing L-103. In the remarks for Reinstall Existing Specialty Stone Pavers, it is noted to replace any damaged pavers in kind along lake street. No information is provided on what the existing pavers are. Please an existing paver specification, or manufacturer to match, for bidding purposes.
Response:	**See Attachment F for revised plan sheet L-103.**
Question 8:	Reference Drawing L-103. For the Pedestrian Concrete Type 2, in the remarks it states: "Finish Rubbed/Smooth". A Rubbed smooth finish has not been specified like any other sidewalk completed in the past. In previous projects, a finish such as C-20 Limestone sandblast has been completed. Please confirm the type of finish required for the Pedestrian Concrete Type 2 sidewalk areas.
Response:	**See Attachment F for revised plan sheet L-103.**
Question 9:	Reference Drawing S-101. For the vaulted sidewalk filling plan locations 1, 2 and 3, please clarify if the newly proposed vault lids are to match the existing Concrete Paving Type? If so, please provide mix designs and type for that work, and/or any required color, aggregates, etc. for bidding purposes.

Response:	**Vaulted sidewalk concrete shall follow details on sheets S-701, S-702, and S-703 and associated specifications.**
Question 10:	Reference Drawing L-103. The existing Northeast Corner Sidewalk and Northwest Corner Sidewalk appear to have multiple different existing concrete types and colors. Please confirm these areas are all to be restored with a single mix design Concrete Paving Type I as shown on drawing L-103. If Contractor is to match the existing sidewalk, please provide specifications, and/or any required color, aggregates, etc. for bidding purposes.
Response:	**Yes, all Concrete Paving Type I.**
Question 11:	Reference Drawing L-103. The existing sidewalk concrete, on the Northside of Lake Street & West of State St, appears to be a black or charcoal colored concrete. Please confirm we are not to match this. Please confirm these areas are all to be restored with a single mix design Concrete Paving Type I as shown on drawing L-103. If Contractor is to match the existing sidewalk, please provide specifications and/or any required color, aggregates, etc. for bidding purposes.
Response:	**See Attachment F for revised plan sheet L-103.**
Question 12:	Reference Drawings ADS-102 to ADS-105. General Note 1 states: "Contractor shall repair pre-existing leaks or cracks in the existing concrete with an epoxy resin system that can be injected…". As the extent of this repair is unknown at bid time, this scope needs to be quantifiable to bid. Please provide a quantity of epoxy crack injection for bidding purposes.
Response:	**See Attachments W, X, Y, and Z for revised plan sheets ADS-102 to ADS-105.**
Question 13:	Reference Specification 03 74 00.S. This specification is for repairing spalling concrete. However, no spalling concrete is noted in the plan set. Please confirm no concrete spalling repairs are required. If concrete repair is required, please provide a quantity for bidding purposes.
Response:	**See Attachments X, Y, Z, and AA for revised plan sheets ADS-102 to ADS-105.**
Question 14:	Please confirm the following reinforcement bars are not epoxy coated: a. All Drilled Shaft reinforcement bars, as detailed on Drawing S-500. b. All Vaulted Sidewalk reinforcement bars, as shown on Drawings S-700, S-701 and S-702. c. All Elevator Tower Foundation Reinforcement Bars, as shown on Drawings S-503 and S-504. d. All Escalator Pit Foundation, as shown on Drawing S-505. e. Pile Cap Foundations PC-T1, PC-T2 and PC-T3 as shown on Drawings S-501 and S-502. f. Elevator Tower intermediate slab reinforcement bars, as shown on Drawing S-161. g. Flyover Bridge slab reinforcement bars, as shown on Drawing S-163. h. Plinth Stair reinforcement bars as shown on Drawing S-675. i. All the Subway reinforcement, as shown on all the SS-Series drawings.
Response:	**See Attachments J, M, N, O, P, Q, U, and V for revised plan pages S-002, S-501, S-502, S-503, S-504, S-505, SS-002, and SS-012 and refer to specifications, Book 3, Sections 03 20 10, 04 80 00, 04 80 00.S, and 31 64 00.**
Question 15:	Reference Drawing A-602. Please clarify if any reinforcement bars are required for the 6" high concrete curbs. If so, please provide details.
Response:	**See sheet S-540, detail 3 and specifications, Book 3, Sections 03 30 00 and 03 20 10.**
Question 16:	Reference Drawing L-103 Hardscape Schedule. For the pedestrian stone pavers type 1, it states to match existing color, material, and finish. Please provide the existing color, material, and finish information for bidding purposes.
Response:	**See Attachment F for revised plan sheet L-103.**
Question 17:	Reference Detail 1 on L-103B. It is noted that the new pavers are to be "Pedestrian Stone Pavers Type 1". Pedestrian Stone Pavers Type 1 is noted to match existing. However, since this is all new construction, there are no existing pavers to match. Please confirm the paver type shown on detail 1/L-103B.

Response:	**See Attachment G for revised plan sheet L-103B.**
Question 18:	Reference Detail 2 on L-106. It is stated that "ANNUALS TO BE COORDINATED WITH PLANTING SCHEUDLE OF CHICAGO LOOP ALLIANCE." Please provide a planting schedule for bidding purposes.
Response:	**See Attachment H, and I for revised plan sheets L-106 and L-106A.**
Question 19:	Reference Drawing CX-401. A detour is shown, however the allowable hours for his detour are not provided. Please confirm that the detour shown is allowable during day and nighttime hours. Or is the detour shown only to be in place nightly?
Response:	**See Attachment D plan sheet CX-100, notes 24 and 25.**
Question 20:	Reference Drawing CX-402. A detour is shown, however the allowable hours for his detour are not provided. Please confirm that the detour shown is allowable during day and nighttime hours. Or is the detour shown only to be in place nightly?
Response:	**See Attachment D plan sheet CX-100, notes 24 and 25.**
Question 21:	Reference Drawing CX-403. A detour is shown, however the allowable hours for this detour is not provided. Please confirm that the detour shown is allowable during day and nighttime hours. Or is the detour shown only to be in place nightly?
Response:	**See Attachment D plan sheet CX-100, notes 24 and 25.**
Question 22:	Reference Drawing S-115 and S-510. Drawing S-115 indicates 2 locations for the "EXIST. DRIP PAN TO BE REMOVED, STORED, AND REINSTALLED. SEE SHEET S-510". However, Sheet S-510 details 1 and 2 indicate a new drip pan. Please clarify if Contractor is to remove, store and re-install the existing drip pan as indicated on drawing S-115, or if Contractor is to provide a new drip pan per Details 1 and 2 on S-510.
Response:	**See Attachments K, L, and R for revised plan sheets S-102, S-115, and S-510.**
Question 23:	Reference Drawing Detail 1/S-640, 2/S-640 and 1/S-641. For the 4ea new Elevator Columns for the flyover bridge, it is only noted HSS8. Please provide a complete column size for each of the 4 elevator columns.
Response:	**See plan sheets S-160 through S-165 and refer to partial plans therein.**
Question 24:	Reference Drawing Detail 1/S-640, 2/S-640 and 1/S-641. For the new Elevator levels above EL +51'-4", the new steel is only noted "?". Please provide a complete size for all 8 horizontal supports.
Response:	**See plan sheets S-160 through S-165 and refer to partial plans therein.**
Question 25:	Reference Drawings S-111 through S-113, and Detail 1/S-500. New Drilled Shafts are indicated to be installed. Will an alternative deep foundation design, such as Micropiles, be accepted in lieu of Drilled Shafts? If so, please provide the loading requirements for an alternative deep foundation design.
Response:	**Bids must reflect the contract documents.**
Question 26:	The Buy America clause noted in Book 1 Terms and Conditions for Construction document will be difficult, if not impossible, to achieve for the glass canopy scope of work. A majority of the specified vendors will not be able to meet the Buy America requirements as currently prescribed. Several might be able to attempt to comply but will incur significant logistics and cost premiums. Will a waiver be issued for any of the components on the project, specifically for the glass canopy?
Response:	**The City is not pursuing a Buy America waiver.**
Question 27:	In Book 1, Article III.A., Item 14 indicates a self-perform requirement of 50% for the Contractor. On a project of this size and complexity with the variation of the trade work across all divisions of construction, it is physically impossible for any single general contractor to meet such criteria. No prior CDOT/CTA station bid has made this requirement. This seems to be an

	error or carryover from a different solicitation that should not apply to this project. Please confirm removal of this requirement.
Response:	**The self-performed requirement has been lowered to 25%.**
Question 28:	Is a Revit/CAD/similar model file available for the project? We are specifically looking for the structural steel and glass canopy.
Response:	**Models will be provided to the selected contractor, after contract award and subject to appropriate liability releases.**
Question 29:	Reference Drawings S-111 through S-113, S-500, specification 31 64 00 and specification 01 35 00. Numerous 121ft long drilled shafts are shown to be installed adjacent to the existing elevated track structure. In order to install the proposed drilled shafts, the drilling operation equipment will be adjacent to the existing elevated track structure at street level and will extend adjacent to and above the top of the elevated CTA rail. It is stated in specification 31 64 00 part 3.01.F. "Once the excavation has started for any drilled shaft, the work of that drilled shaft shall be carried on continuously, 24 hours a day, including Saturdays, Sundays and Holidays, until the drilled shaft has been completed all at no additional cost to the Authority. If at any time, work on any drilled shaft is not continuous for any reason not approved by the Authority, any and all casings which have been installed in the drilled shaft for any reason shall be left in place and back grouted immediately at the Contractor's expense." It is not possible for the drilling operation to only occur within the allowable hours of construction as noted in specification 01 35 00, part 1.08B. Please confirm the drilling operation can occur during and outside the allowable hours of construction as noted in specification 01 35 00, part 1.08.
Response:	**Specifications, Book 3, Section 31 64 00, 3.01F regarding 24-hour continuous drilling operations can be waived, provided the Contractor's geotechnical engineering can demonstrate to CDOT and CTA that the drill hole will remain stable outside the permanent casing, based on the soil condition. The drilling operation can only occur within the allowable hours of construction as noted in specification, Book 3, Section 01 35 00.**
Question 30:	Book 1 Part XXVII Special Conditions Regarding DBE Commitment Part 1.6.5 States that DBE Firms shall submit a Letter of Certification from the IL UCP with the bid or proposal if currently certified; however, the Schedule C Letter of Intent from DBE included in the bid documents states that the Bidder shall attach a letter of certification from the City of Chicago or IDOT. What certification agencies are acceptable for the certification of DBE Contractors? Is it only City of Chicago and IDOT as the Schedule states, or will firms certified and listed in the IL UCP directory by agencies other than IDOT or City of Chicago also be acceptable as stated in Book 1 of the Contract Documents?
Response:	**Certifications from any of the five agencies for IL UCP which are Metra, Pace, CTA, City of Chicago, and IDOT are acceptable.**
Question 31:	What are the perceived limits of the sloped glazing assembly? What AESS steel must be provided by the Specialty Sloped Glazing Contractors to be specification compliant?
Response:	**The work included in "Canopy Sloped Glazing Assembly" is diagrammatically indicated Detail 1 on plan sheet S-603 "Canopy AESS Diagram".**
Question 32:	Since there are only 4 acceptable sloped glazing assembly contractors specified none of which are DBE certified, and the specification is very clear that they may not subcontract out any portion of their work, could the sloped glazing assembly be excluded when figuring the project DBE goals?
Response:	**No.**
Question 33:	Considering the Complexity of the scope and the specialty contractors that were specified in the bid documents (some of which have operations outside of the United States), has the City

	considered chasing a waiver of the Build America Buy America requirements as most of the specialty contractors produce components outside of the United States.
Response:	**The City is not pursuing a Buy America waiver.**
Question 34:	Can the 3D model that is represented on the project documents be shared with the bidding contractors in digital form to assist in assembling our budget?
Response:	**Models will be provided to the selected contractor, after contract award and subject to appropriate liability releases.**
Question 35:	Can the Sloped Glazing Contractors specified sub-contract portions of their work to domestic fabricators in order to be compliant with the Build America Buy America Requirements?
Response:	**The specifications do not prohibit subcontracting portions of the Specialty Contractor's work. The Specialty Contractor shall remain the single source of responsibility as stated in the specifications.**
Question 36:	Fall Arrest System Anchor: Where are they located and what is the quantity required?
Response:	**The drawings include a preliminary minimum layout of the lifeline positions and typical support details. Refer to specifications, Book 3, section 11 81 29.**
Question 37:	Drawings Number S-620 refers to S-004 "…ERECTION IS SUBJECT TO THE TRACK ACCESS PERIOD (SEE S-004)…". (Notes 1.) Please provide drawing number S-004.
Response:	**See Attachment T for revised plan sheet S-620.**
Question 38:	Spec 05 12 50 refers to spec 09 90 00. However, within spec 09 90 00 page 1 there is an exception in section 1.02 A. 2. "…painting requirements…are defined in specification Section 05 12 50". Please clarify
Response:	**Specifications, Book 3, Sections 05 12 50 and 09 90 00 are to be used in conjunction with each other as it pertains to requirements for painting of AESS steel.**
Question 39:	As the due date for bid was extended, please extend the deadline for RFI's appropriately.
Response:	**The deadline for questions was extended until March 7, 2024.**
Question 40:	The Bidder Certification for Build America, Buy America is included in Book 2 but is not listed in Document Submittal Checklist. Please confirm if the BABA form is required at the time of bid submittal.
Response:	**BABA form is required at the time of bid submittal. See Attachment UU for revised Document Submittal Checklist.**
Question 41:	Reference specification 14 24 00, 14 24 00.S, and 14 30 00. Multiple elevators and escalators are to be installed for this project. a. These Elevators and escalators have specific manufacturers as listed per Specification 14 24 00 Part 2.02, 14 24 00.S Part 2.02 and 14 30 00 Part 2.01. b. Per Specification Part XXII.J. "Construction materials used in the Project are subject to the domestic preference requirement of the Build America, Buy America Act, Pub. L. 117-58, div. G, tit. IX, §§ 70911– 70927 (2021)" c. According to the attached White House Memo "Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure", specifically referencing Pages 15-17, Appendix I, it states that the Build America Buy America standard will be met as long as 55% of the total cost of the manufactured product is mined, produced, or manufactured in the United States. If a manufactured product aligns with the standards detailed in the attached Appendix I, please confirm that the Contractor will be in compliance with this project's specification Part XXII.J.
Response:	**The contractor is responsible for ensuring that materials sourced are compliant with Buy America, BABA, and any other federal requirements as detailed in the specifications. The materials referenced are intra-governmental recommendations and may not fully represent**

	final requirements as issued by FTA. As this applies to this specific question, the statement made may be true but there are also overarching limitations on percent and total dollar values that apply to the project as a whole. These overarching requirements may limit flexibility in sourcing of materials for individual project components. How the project-level requirements affect project sub-parts is the contractor's responsibility to determine.
Question 42:	Reference specification 14 24 00, 14 24 00.S, and 14 30 00. Multiple elevators and escalators are to be installed for this project. a. These Elevators and escalators have specific manufacturers as listed per Specification 14 24 00 Part 2.02, 14 24 00.S Part 2.02 and 14 30 00 Part 2.01. b. Per Specification Part XXII.J. "Construction materials used in the Project are subject to the domestic preference requirement of the Build America, Buy America Act, Pub. L. 117-58, div. G, tit. IX, §§ 70911– 70927 (2021)" c. According to the attached White House Memo "Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure", specifically referencing Pages 15-17, Appendix I, it states that the Build America Buy America standard will be met as long as 55% of the total cost of the manufactured product is mined, produced, or manufactured in the United States. In the event that the 55% minimum requirement is met, could you confirm if a waiver will be required?
Response:	**The City is not pursuing a Buy America waiver. The contractor is responsible for meeting the requirements of Buy America and BABA. See also the response to Question 41.**
Question 43:	Reference specification 14 24 00, 14 24 00.S, and 14 30 00. Multiple elevators and escalators are to be installed for this project. a. These Elevators and escalators have specific manufacturers as listed per Specification 14 24 00 Part 2.02, 14 24 00.S Part 2.02 and 14 30 00 Part 2.01. b. Per Specification Part XXII.J. "Construction materials used in the Project are subject to the domestic preference requirement of the Build America, Buy America Act, Pub. L. 117-58, div. G, tit. IX, §§ 70911– 70927 (2021)" c. According to the attached White House Memo "Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure", specifically referencing Pages 15-17, Appendix I, it states that the Build America Buy America standard will be met as long as 55% of the total cost of the manufactured product is mined, produced, or manufactured in the United States. If a product must be validated to be compliant with Build America Buy America, please clarify if any additional documentation is required at bid time is needed.
Response:	**The contractor is responsible for meeting the requirements of Buy America and BABA. The contractor's bid must include applicable forms and any information required therein. Evidence and certifications of material origin will not be required at the time of bid, but the contractor will need to supply this documentation during construction to evidence Buy America and BABA compliance. See also the response to Question 41.**
Question 44:	Reference specification 14 24 00, 14 24 00.S, and 14 30 00. Multiple elevators and escalators are to be installed for this project. a. These Elevators and escalators have specific manufacturers as listed per Specification 14 24 00 Part 2.02, 14 24 00.S Part 2.02 and 14 30 00 Part 2.01. b. Per Specification Part XXII.J. "Construction materials used in the Project are subject to the domestic preference requirement of the Build America, Buy America Act, Pub. L. 117-58, div. G, tit. IX, §§ 70911– 70927 (2021)" c. According to the attached White House Memo "Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure", specifically referencing Pages 15-17, Appendix I, it states that the Build America Buy America standard will be met as long as 55% of the total cost of the manufactured product is mined, produced, or manufactured in the United States. If no specified elevator and/or escalator manufacturer can meet the Build America Buy America standard (55%) for a

	manufactured product as described in Appendix 1, please confirm if a type 2 waiver would be required.
Response:	**The City is not pursuing a Buy America waiver. The contractor is responsible for meeting the requirements of Buy America and BABA. See also the response to Question 41.**
Question 45:	Reference Drawing CX-120. Drawing CX-120 indicates 4 locations where overhead sidewalk protection is required. Please confirm if all 4 locations need to be protected concurrently for the duration of the project, or if the overhead sidewalk protection can be erected/dismantled as needed.
Response:	**Canopy protection is required to provide safe passage for pedestrians. If there is overhead work in the vicinity and if sidewalk is usable by pedestrians - including not only east-west travel but also business access - protection is required. If there is not overhead work, canopies are not required for that period. If a section of sidewalk is not usable due to active vaulted sidewalk construction, protection on that section of sidewalk is not needed, except if access to a building or entry is maintained within that area, protection of that route is necessary. If an alternate sidewalk route is designated during the vaulted sidewalk construction and there is work overhead, that alternate route must have canopy protection.**
Question 46:	Reference Drawing G-110. Drawing G-110 note 19.A. indicates one two-track re-route (54 hour), two two-track re-routes (50 hour), four weekend two-track re-routes (12 hour), one Sunday two-track reroutes (12 hour), one Sunday one-track re-route (12 hour) and Note 19B. indicates two weekend two-track re-routes (50 hour) and one Sunday two-track re-routes (12 hour). Please confirm all the track access occurrences will be paid under Item No. 2 on the bid form "Track Access Occurrences".
Response:	**Yes, plan-identified allowable track access occurrences will be paid under the identified bid item. Note that this question did not transcribe the note on plan sheet G-110 correctly and that the note as written on plan sheet G-110 is still valid.**
Question 47:	Reference Drawing G-110. Drawing G-110 note 19.A. indicates one two-track re-route (54 hour), two two-track re-routes (50 hour), four weekend two-track re-routes (12 hour), one Sunday two-track reroutes (12 hour), one Sunday one-track re-route (12 hour) and Note 19B. indicates two weekend two-track re-routes (50 hours) and one Sunday two-track re-routes (12 hour). Please confirm no additional track access occurrences will be allowed.
Response:	**Correct. Note that this question did not transcribe the note on plan sheet G-110 correctly and that the note as written on plan sheet G-110 is still valid.**
Question 48:	Reference Specification 01 35 00 Part 1.12.E. which states "In addition, The Contractor is responsible to reimburse the CTA for all flagger costs (costs will be deducted from the Contract) associated with the use of flaggers in excess of the **8,100** flagger shifts throughout the duration of the contract. The cost for the each flagger shift is $900.00 per flagger shift." Due to the size and complexity of this project, flagger shifts above 8,100 shifts may be required. Please confirm if Contractor needs to include any additional flagger shift costs with the bid, if Contractor is anticipated to exceed 8,100 flagger shifts, or if all flagger shift costs will be paid under Item No. 1 Track Flagging Operations Allowance.
Response:	**The text of specifications, Book 3, Section 01 35 00, 1.12E will remain as is. Flagger shift costs in excess of 8,100 will not be reimbursed to the contractor.**
Question 49:	Reference Drawings S-300 through S-310. There are numerous occasions throughout the project where new structural steel is to connect to existing steel structure. Since many of the existing steel connections appear to be riveted, it is very difficult to precisely survey existing

	bolt holes for the new steel to match up with. Please confirm field drilling and/or field reaming in new steel will be allowed, in locations where new steel is to match existing steel bolt holes.
Response:	**See specifications, Book 3, Section 05 10 30, Part 3 "EXECUTION" and see sheet S-001, "CONTRACTOR RESPONSIBILITIES AND COORDINATION", items 5, 6, 7, and 8.**
Question 50:	For the new station construction, cranes & other hoisting equipment will be used that is adjacent and/or over the CTA tracks. Please clarify if hoisting equipment, with the potential to foul tracks, must satisfy a 150% factor of safety requirement for lifting capacities.
Response:	**Hoisting equipment used adjacent to and/or over CTA tracks shall follow the requirements of the CTA Adjacent Construction Manual (specifications, Book 3, Appendix D) and any other requirements noted on the contract documents.**
Question 51:	Reference Specification 01 40 00 and 01 43 41. Numerous mockups are required per the specifications and drawings for this project. Please confirm if the City will provide property at no cost to install the mockups, or if Contractor is to provide an area where mock-ups are to be built.
Response:	**The City will not provide property to install mockups, except in areas specifically indicated in the plans for in-place mockups.**
Question 52:	As this is a CDOT Project with major CTA impacts, coordination with the CTA will be required. Please confirm if the Contractor is responsible for the CTA coordination, or if CDOT is responsible for the CTA coordination.
Response:	**The contractor will be responsible for coordination with CTA, in conjunction with CDOT and CDOT's construction management team.**
Question 53:	Reference Specification 01 35 00 Part 1.04. Please confirm all Contractors and Sub-Contractors, including contractors that will not be at track levels, will be required to be rail safety trained.
Response:	**Refer to specifications, Book 3, Appendix D, CTA's Adjacent Construction Manual, Section 3.4. CTA, on a case by case basis and at their discretion, may waive the requirement for contractors working under the structure.**
Question 54:	Reference Specification 08 44 33. This Specification states "The complete system shall be purchased from one approved Specialty Contractor as a single source as listed in this specification and the splitting of any components (including but not limited to the Canopy Sloped Glazing Assembly and AESS steel) is not allowed under this contract." However, the drawings are unclear as to which components are considered the responsibility from one of the specified 08 44 33 approved Specialty Contractors, and which components are not. Please clarify the following: a. Reference Drawing S-601. Please confirm if the "PLATE FRAME BRIDGE ROOF STRUCTURE" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). b. Reference Drawing S-601. Please confirm if the "TIED ARCH FLYOVER BRIDGE" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). c. Reference Drawing S-601. Please confirm if the "FLYOVER BRIDGE ACCESS STAIR & ELEVATOR STRUCTURE" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). d. Reference Drawing S-601. Please confirm if the "STRUCTURAL STEEL FRAMES AT DOME CANOPY ABUTMENT 'TOWERS'" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). e. Reference Drawing S-601. Please confirm if the "STRUCTRAL STEEL – TIE OF MAIN SPANNING ARCHES AT PLATFORM LEVEL (4 THUS). FRACTURE CRITICAL MEMBERS (FCM)" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s).

	f. Reference Drawing S-601. Please confirm if the "STAIR STRUCTURE AND CANOPY" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). g. Reference Drawing S-603. Please confirm if the "TYPICAL ACCESS / EGRESS STAIRS + LANDING FRAMING ALONG PLATFORM: AESS 2 (4 THUS)" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). h. Reference Drawing S-603. Please confirm if the "SEE DETAIL 2 FOR ELEVATOR, STAIR, AND FLYOVER BRIDGE FRAMING AND ENCLOSURE" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). i. Reference Drawing S-603. Please confirm if the "CENTRAL 'FEATURE' STAIRS (NORTH SIDE & SOUTH SIDE): SEE DETAIL 3" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s). j. Reference Drawing S-603. Please confirm if the "ESCALATOR TOWERS (NORTH AND SOUTH): SEE DETAIL 4" is to be in compliance with specification 08 44 33, or if Contractor is able to perform this work with separate contractor(s).
Response:	**The Specialty Contractor is responsible for providing steel components indicated as AESS on S-603.**
Question 55:	Reference Specification 08 44 33. Specification Part 2.01.A. Notes only 4 acceptable sloped glazing specialty contractors. In addition, Specification Part 1.02.B. notes "The complete system shall be purchased from one approved Specialty Contractor as a single source as listed in this specification and the splitting of any components (including but not limited to the Canopy Sloped Glazing Assembly and AESS steel) is not allowed under this contract". The Canopy Sloped Glazing assembly has an enormous cost impact to this project. Of the four Specialty Contractors specified, none are DBE certified. As a result, no DBE participation can be provided for this scope of work. Similar to the IDOT bidding process, Contractor suggests CDOT consider the Canopy Sloped Glazing Assembly costs as a specialty item and exclude this cost when calculating the required DBE goals. Please confirm if CDOT can consider the Canopy Sloped Glazing Assembly costs as a specialty item and exclude this cost when calculating the required DBE goals.
Response:	**The City will not exclude this work from DBE participation requirements.**
Question 56:	Considering the complexity of the scope and specialty contractors that were specified in the bid documents, certain contractors and suppliers may not be able to meet Specification Part XXII.J. Such scopes include but are not limited to Canopy Sloped Glazing Assembly, Structural Steel, Elevators, Escalators and Facility Fall Protection. a. Per Specification Part XXII.J. "Construction materials used in the Project are subject to the domestic preference requirement of the Build America, Buy America Act, Pub. L. 117-58, div. G, tit. IX, §§ 70911– 70927 (2021)" b. Most of the specialty contractors, both specified and qualified for this project, produce components outside of the United States. Therefore they may not comply with Specification Part XXII.J. c. Please confirm if a waiver of the Build America Buy America requirements can be issued for any scope that cannot be in compliance with Specification Part XXII.J. d. If so, please provide any documentation required at bid time for any required waivers.
Response:	**The City is not pursuing a Buy America waiver.**
Question 57:	Reference Drawing S-601. It is clear that a digital model exists for the project. For bidding purposes only, can the 3D model that is represented on the project documents be shared with the bidding contractors, in digital form, to assist in assembling the bid?

Response:	**Models will be provided to the selected contractor, after contract award and subject to appropriate liability releases.**
Question 58:	Drawings Number S-620 refers to S-004 "…ERECTION IS SUBJECT TO THE TRACK ACCESS PERIOD (SEE S-004) …". (Notes 1.) Please provide drawing number S-004 as it is missing from the plan set.
Response:	**See Attachment T for revised plan sheet S-620.**
Question 59:	Spec 05 12 50 refers to spec 09 90 00 for the painting requirements; however, within spec 09 90 00 page 1 there is an exception in section 1.02 A. 2. "…painting requirements…are defined in specification Section 05 12 50". Please clarify what the painting requirements are as the reference seems to be circular
Response:	**Specifications, Book 3, Sections 05 12 50 and 09 90 00 are to be used in conjunction with each other.**
Question 60:	Drawing S-615 Detail 6 & S-628 make reference to fall arrest anchors. Please provide locations and quantities of required fall arrest anchors.
Response:	**The drawings include a preliminary minimum layout of the lifeline positions and typical support details. Refer to specifications, Book 3, Section 11 81 29.**
Question 61:	Reference Drawing S-101 and S-500. It is Contractor's opinion that the proposed caissons cannot be constructed per the current plans, specifications, and site constraints. Please consider the following potential issues with development of the caissons: a) Drilled Shafts are shown to be 118' long and 3' rock socketed. The drill equipment needed to install such shafts is extremely large and heavy. b) The site constraints, such as the proximity of the proposed drilled shaft to the temporary shoring locations, existing bent locations, existing vaulted sidewalk locations, maintenance of traffic limitations, existing sidewalks, existing buildings, pedestrian traffic and live elevated CTA track, make for an extremely small work area that will require large equipment based on current design. In addition, the permanent material, such as the permanent casings and rebar cages, further decreasing the available work area, thus making the construction sequence unconducive of the current site constraints. c) The existing sidewalk vaults and existing utility vaults adjacent to the proposed caissons may require immense temporary shoring and/or modification in order to take the drilling equipment loads. d) Since the drilled shafts are shown to be rock socketed, and water is expected in the rock, the drilled shaft concrete must be poured via a tremie method to displace the water. Therefore +/- 121' long tremie pipes, slurry tanks, and concrete pumps would be needed to properly install the drilled shafts, which even further constrains the site and adds equipment in addition to what is noted above. e) The length of the permanent casing and rebar cages, along with the crane equipment needed to hoist, physically does not fit within the allowable work area and underneath the existing track structure that remains in service. f) Construction of a drilled shaft requires continuous progress for quality control, and to meet specification 31 64 00 Part 3.01.F. g) The spoils from the caisson auger, loaded and removed from constrained location. For the reasons mentioned above, please confirm it is acceptable to provide an alternative deep foundation design. If acceptable, please provide the loading requirements for the proposed deep foundations.
Response:	**The City recognizes the potential challenges mentioned. Bids must reflect the contract documents.**
Question 62:	Reference Drawing S-500. The proposed drilled shafts are shown to have rebar. Please confirm the rebar shown for the drilled shafts is not epoxy coated.

Response:	**See Attachments J, M, N, O, P, Q, U, and V for revised plan sheets S-002, S-501, S-502, S-503, S-504, S-505, SS-002, and SS-012 and refer to specifications, Book 3, Sections 03 20 10, 04 80 00, 04 80 00.S, and 31 64 00.**
Question 63:	For bidding purposes, please confirm if the deep foundation spoil is classified as contaminated soil and must be disposed of at the proper facilities.
Response:	**Spoils must be disposed based on the characteristics of the specific soil material, and therefore we cannot issue a blanket statement as to whether these - or any - spoils are CCDD, non-special, etc. This will need to be determined at the time of excavation based on the characteristics of the specific materials excavated.**
Question 64:	Reference Specification 31 64 00. Please confirm the drilled shafts do not require any Crosshole Sonic Logging (CSL) testing, or TIP testing.
Response:	**See Attachment MM for revised specification, Book 3, Section 31 64 00.**
Question 65:	Reference Drawings C-101 to C-103. Various locations of existing sidewalk vaults are shown. As the construction site is extremely constrained, heavy equipment may need to be placed on top of the existing vaulted sidewalks. Please provide the acceptable loading the existing vaulted sidewalks can withstand.
Response:	**The City does not possess information regarding the load capacities of existing vaulted sidewalks. See specifications, Book 3, Appendix F for Vaulted Sidewalk Photo Logs, which may be helpful in assessing feasibility of shoring and conditions of existing vaults. Also see plan sheets SX-001 and G-110.**
Question 66:	Reference Drawing SX-101, SX-202, SX-203, CX-201 and CX-401. The SX-Drawings indicate temporary shoring for the new bents. The temporary shoring shown on Drawings SX-202 and SX-203 are installed along the center of Lake Street. Maintenance of Traffic Drawing CX-201 indicates that Lake St is to have one lane of live traffic. It is not possible to install the temporary shoring while maintaining one lane of live traffic on Lake St. A long term permanent detour, as shown on Drawing CX-401 will be required. In Addition, for the deep foundation construction, as noted in previous RFI's will require a long term permanent detour of Lake St. Please confirm a long term detour of Lake St will be available during necessary construction activities.
Response:	**The contractor will need to work with CDOT-PCO to permit specific lane closures and detours. That review will be based on the characteristics of the work underway at the time. Detours will be needed when shoring blocks both lanes of Lake St traffic as shown on SX-202 and SX-203. See also Question and Response 29 in this addendum.**
Question 67:	Reference Drawing S-101 and S-500. The new deep foundations are shown to connect to the new track structure bents. Since the existing track structure may not be exactly where the proposed bents will be located, Contractor suggests adding a design provision to allow for tolerance, in the event the existing track structure moves due to existing internal stresses. One suggestion would be adding a drilled shaft cap, and/or allowing the new drilled shaft to be poured lower than its final elevation temporarily. Once the new bent is installed in its final position, to the existing track structure, then the remaining drilled shaft and/or drilled shaft cap can be poured to its final elevation. This suggestion would allow for a feasible constructable design. Please confirm this is acceptable.
Response:	**See plan sheet S-001, "CONTRACTOR RESPONSIBILITIES AND COORDINATION", items 5 through 10.**
Question 68:	Reference Drawing SD-101, Note 1. Note 1 states "ALL FOUNDATIONS WILL BE REMOVED 3' BELOW GROUND AND BURIED, EVEN IF NOT MARKED FOR REMOVAL ON THIS SHEET. EXISTING FOUNDATIONS IN CONFILICT WITH PROPSOED STORM SEWER AND WATER MAIN INSTALLATION OR ANY OTHER PROPOSED ELEMENT SHALL BE PARTIALLY OR FULLY REMOVED

	AS NECESSARY TO ALLOW FOR NEW CONSTRUCTION". Please confirm the existing foundations can be cored, and not fully removed, to make room for the proposed deep foundations.
Response:	**See specifications, Book 3, Section 02 05 00, as well as plan sheets SD-001 and SX-001.**
Question 69:	Reference Drawing SD-101. The existing foundations must be removed as indicated. In many locations, temporary soil retention may be required in order to remove the existing foundation, due to its proximity to temporary shoring towers and existing structures. Please provide the length, width and depth of the existing foundations to be removed for bidding purposes.
Response:	**Dimensions of the existing foundations are uncertain. See specifications, Book 3, Appendix F for Vaulted Sidewalk Photo Logs. Some vaults intersect existing foundations in these photos and may be helpful in estimating approximate sizes for bidding purposes.**
Question 70:	Reference Drawing S-501 and S-502. The proposed bent pile caps have a minimum concrete dimension of 5ft. Please confirm if mass concrete specifications, such as the IDOT Standard Specification for Road and Bridge Construction (IDOT SSRBC) Article 1020.15 Heat of Hydration Control for Concrete Structures, applies to concrete with a least dimension of 5ft for the entire project.
Response:	**Confirmed. See specifications, Book 3, Section 03 30 00, 1.03A.**
Question 71:	Reference Drawings C-606 through C-623. There are numerous existing utilities that need to be field verified prior to construction. Please confirm the distance from existing utilities that hand excavation and/or vacuum excavation will be required.
Response:	**Instructions and requirements received from utility companies per OUC EFP-122855 are listed on plan sheet C-104.**
Question 72:	The existing elevated track structure supports the Brown Line, Green Line, Orange Line, Purple Line and Pink Line CTA trains. During the flagger hours listed in the allowable hours of construction as noted in specification 01 35 00, part 1.08, and the current CTA train schedule, trains from all 5 lines pass by approximately 2-3 minutes apart. This allows almost no time for construction activities to be performed. In addition, Drawing G-110 only notes 14 track access occurrences for the entire project. It is Contractor's opinion that additional track access occurrences will be required to safely and successfully complete this project. Please confirm additional track access occurrences will be allowed. If so, please confirm the cost of each additional track access occurrence, and how the additional track access occurrences will be paid for, either by the Contractor or under allowance.
Response:	**Bids must reflect the contract documents.**
Question 73:	Reference the SX- Series Drawings. Temporary shoring must be installed for the new bent construction. Please confirm the working hours that the temporary shoring jacking to the existing track steel structure can be completed. For example, can the temporary shoring jacking occur during the allowable working hours as noted in specification 01 35 00, part 1.08 while the CTA tracks remain active and trains pass by.
Response:	**See plan sheet SX-001, "TYPICAL CONSTRUCTION & SHORING SEQUENCE". See also plan sheet G-110 and specifications, Book 3, 01 35 00, 1.06.**
Question 74:	Reference the SX-Series Drawings. Once the existing track structure is supported by the temporary shoring towers, the existing bent must be removed, and the new bent must be installed. Please confirm the removal of the existing bent and construction of the new steel bent can be done during the allowable working hours as noted in specification 01 35 00, part 1.08, while the existing track structure is supported on temporary shoring towers and as trains pass by.
Response:	**Work shall comply with specifications, Book 3, Section 01 35 00. Also, see plan sheet SX-001.**

Question 75:	Along Lake St, existing “Pay to Park” area is located within the construction limits for this project. The existing “Pay to Park” locations will not be available during construction in the allowable work zones. Please confirm that Contractor does not need to include any costs associated with the out of service “Pay to Park” area during construction.
Response:	**The contractor does not need to account for costs for out of service "Pay to Park" areas.**
Question 76:	Reference Drawing S-104. Construction equipment and materials may be needed to be placed on top of the new Precast platform and new Cast-in-Place platforms. Please provide the allowable loading that construction equipment and materials can impose on the new precast and cast-in-place platforms.
Response:	**See plan sheet S-003, "DESIGN LOADING (TRACK AND PLATFORM SUPPORT STRUCTURE)." Also, see plan sheet S-001, "CONTRACTOR RESPONSIBILITIES AND COORDINATION", items 19, 20, 22, and 23.**
Question 77:	Reference Specification 31 64 00, Part 1.05C. Part 1.05C states “In constructing the drilled shafts, the Contractor may encounter boulders, fill, wooden pilings, foundations, abandoned utilities, and other obstructions. No separate payment will be made for removal of any such obstructions and the cost for removing any such obstructions encountered shall be included in the Contract Price if the delay is within 2 hours. Any additional delay over 2 hours will be considered as an extra to the Contract.” Since the contractor must include 2 hours of delay for each obstruction, additional costs need to be accounted for in the bid. It is unknown how many obstructions will be encountered. For Bidding purposes, please provide a quantity of obstructions Contractor is to include with their bid.
Response:	**It is unknown how many obstructions will be encountered. See specifications, Book 3, Appendix A, as well as plan sheets B-001 through B-012 for information regarding existing soils.**
Question 78:	Reference Specification 01 35 00. Part 1.14.C. states “The Contractor is responsible for maintaining access to and use of any adjacent residential and business properties, including telephone lines, electric power lines, street traffic controls and other utilities serving those properties.” Due to the immense construction activities and schedule, Contractor needs to be provided the frequency and locations of access the adjacent properties will require during construction. Please provide specific times that adjacent properties will require access.
Response:	**It is not practical to specify specific access needs for the many adjacent properties which may be affected at various times by the contractor's work over this multi-year project. The contractor may observe the buildings, businesses, and facilities in the area to estimate access needs. Specific staging, access restrictions, and work timing for work affecting adjacent properties will need to be coordinated during construction between the contractor, the City, and the adjacent property. When work will affect adjacent property access, and following agreement with the City of the allowable impact, the Contractor must notify that adjacent property.**
Question 79:	Reference Drawing SS-312. Detail 1/SS-312 indicates a new transfer girder to be installed. The new transfer girder is to attach to the existing S20x75 beams per detail 6/SS-312. Per Detail 6/SS-312, it is noted to cope the top and bottom flanges of the existing S20x75 beams in order to install the new Transfer Girder. It does not appear physically possible to install the transfer girder to its final position, while leaving the webs of the existing S20x75 beams in place. Per detail, there will be interference between the existing S20x75s webs and the new transfer girder connection plates during installation. Furthermore, there may not be enough physical space or work windows, to slide the new transfer girder between the existing S20x75 beams. Contractor suggests a different connection design, that would allow the existing S20 flanges and web to be cut, in order to lift the new transfer girder from below into place, then attach via

	connection plates and web connection plates. Please confirm an alternate connection design will be acceptable.
Response:	**See Attachment W for revised plan sheet SS-312.**
Question 80:	Reference Drawing SS-117. Drawing SS-117 indicates that the existing CTA Red Line Subway is directly beneath the centerline of State Street. Given the numerous construction activities occurring on State St, above the subway tunnel, please clarify if there are any loading limitations that Contractor must meet for the existing Subway tunnel.
Response:	**See plan sheets S-001, "CONTRACTOR RESPONSIBILITIES AND COORDINATION" and S-003, "CRANE PLACEMENT AND LOADING", as well as Chapter 11 of the CTA Adjacent Construction Manual (specifications, Book 3, Appendix D).**
Question 81:	Reference Drawing CX-120. Drawing CX-120 indicates Pedestrian Canopies to be installed on the existing sidewalks. However, work is indicated in the same areas, such as the Vaulted Sidewalk Locations 1,2 and 3 on Drawings S-700 through S-702. Please confirm that the Pedestrian Canopies can be temporarily moved, during daytime hours in order to complete the contract work. Or please clarify if the Pedestrian Canopies can only be removed at night.
Response:	**Canopy protection is required to provide safe passage for pedestrians. If there is overhead work in the vicinity and if sidewalk is usable by pedestrians - including not only east-west travel but also business access - protection is required. If there is not overhead work, canopies are not required for that period. If a section of sidewalk is not usable due to active vaulted sidewalk construction, protection on that section of sidewalk is not needed, except if access to a building or entry is maintained within that area, protection of that route is necessary. If an alternate sidewalk route is designated during the vaulted sidewalk construction, that alternate route must have canopy protection.**
Question 82:	Reference Drawings S-308, S-309 and S-113. Bents 451 and Bent 452 are shown to be removed and replaced. Both Bent 451 and Bent 452 appear to have existing duct bank risers directly next to the bents. Drawing S-113 indicates at Bent 452 “EXIST CONCRETE TRACTION POWER RISER SHAFTS TO REMAIN.” No note is provided at Bent 451. In order to perform the bent removal & replacement, the power must be shut down through these existing duct bank risers during bent construction. Please confirm the allowable hours the shutdown of the existing duct bank risers will take place.
Response:	**See plan sheet SD-101; the power riser at Bent 451 is to be relocated. Traction power shut-offs are anticipated during the track access occurrences as noted on plan sheet G-110, item 19.**
Question 83:	In Book 2, Requirements for Bidding and Instructions for Bidders, Part 5, both 60 day and 90-day periods of acceptance are listed depending on the approving agency. Please clarify which duration applies to this project.
Response:	**The 90-day period applies to this procurement.**
Question 84:	In light of the bid extension to May 7th we request an extension of the deadline for questions to no earlier than April 8th.
Response:	**The deadline for question was extended until March 7, 2024.**
Question 85:	Reference Drawings A-516, A-523, A-571, A-713 and AG-511. Details 3/A-516, 3/A-523, 3/A-571, 9/A-713, 7/A-713, 2/AG-511 indicate “CONTINUOUS METAL BIRD CONTROL FLASHING, PT-2, ATTACH W/ CONTINUOUS VHB TAPE”. Please provide a material type and thickness required for the bird control flashing.
Response:	**Bird Control Flashing must comply with performance requirements provided within specifications Book 3, Sections 05 50 00 and 05 50 00, 2.11.**
Question 86:	Please confirm what the allowable work hours are as some of the documents conflict as it relates to work times. For example, Book 2 Page 14 states allowable work hours are from 8AM to 9PM but Spec 013500 Section 1.08B lists multiple work windows with overnight hours.

Response:	**The referenced section in Book 2 permits exceptions when approved by the City.**
Question 87:	As the bid date is 2 months away, there will be multiple subcontractor RFIs throughout the coming weeks. Please extend the RFI deadline to at least 1 month before the bid due date.
Response:	**The deadline for question was extended until March 7, 2024.**
Question 88:	Are there duration limits on the full closure and detours of State and Lake Streets per the MOT plans?
Response:	**See plan sheet CX-100, notes 23, 25, and other notes about specific and general access maintenance requirements. With this said, it is understood that certain specific construction activities in addition to those discussed in note 25 will require detours. Permits for all lane closures and detours will need to be obtained from the CDOT Project Coordination Office. The City will only permit roadway closures and detours when there is no reasonable alternative which would maintain traffic. The City's willingness to approve closures may vary from time to time and year to year based on other construction work in the vicinity.**
Question 89:	We assume the following geometry of the ribs (S6-11, S-612). - Main rib: top of steel profile curved bottom of steel profile curved. - Secondary rib: top of steel profile curved bottom of steel profile facetted. - End rib: top of steel profile curved bottom of steel profile curved. Please confirm
Response:	**Confirmed.**
Question 90:	According to section 3.10 B.4. Glass Type GL-1B requires "Two layers of sacrificial film…". However section 1.02 C. is excepting sacrificial film for skylight & roof glazing. Please clarify and provide location for sacrificial film if required.
Response:	**GL-1B is part of the canopy glazing, but is not skylight or roof glazing. GL-1B is to receive sacrificial film on the interior of all panels. Refer to the Glazing Notes on plan sheet A-002.**
Question 91:	Regarding the finish for the Station Clock, please advise whether the clock must be made of stainless steel with a #7 polished finish, or whether alternate substrates with a painted finish are acceptable.
Response:	**Alternates are not acceptable.**
Question 92:	Please advise whether visible fasteners are acceptable.
Response:	**Refer to specifications Book 3, Section 10 74 13, 2.03.**
Question 93:	Please confirm that access to the inside of the clock for servicing is to be by removing the clear lens and dials (clock faces)
Response:	**Confirmed.**
Question 94:	Please confirm the only lighting on the clock is to be on the bar markers (acrylic push through backlit markers)
Response:	**Confirmed.**
Question 95:	It is our understanding, that the glazing units shown at drawing no. A-501 are plane and not curved. Please confirm.
Response:	**Confirmed.**
Question 96:	It is our understanding, that there is an offset between the different rows of the glass panels (e.g. PNL(1,XX) and (PNL(2,XX)) as shown at detail 2/A-501 or 1/A-511. Please confirm.
Response:	**Confirmed.**
Question 97:	According to our understanding, the node axis vectors at the dome, given at drawing no. S-623 are not parallel (except at the axis of symmetry), which results in the fact, that nearly all webs and flanges are hyperbolically twisted. Anyway, drawing no. S-624 and S-625 give the impression, that the material is plane. Please confirm, that our understanding regarding the hyperbolically twisted flanges is correct.

Response:	**Confirmed.**
Question 98:	According to drawing no. S-626 and S-627 nodes custom milled cap plates will be used. Please provide more details regarding the geometry, that the amount of milling can be estimated. We need information regarding the overall geometry and whether the routed channels e.g. shown at detail 3/S-626 will be straight.
Response:	**The cap plate, and the degree to which they will require milling, will be a function of the geometry of the node, and the flange plates adjoining at that node. Prior to the development of a complete geometric model, it can be generally estimated that the amount of milling may vary from approximately 1/4" in the more typical conditions, and potentially up to 1" in some localized zones on the dome. These are very approximate estimates. The routed channels (4 thus per cap plate) will be straight up to the central node axis rod.**
Question 99:	According to drawing no. S-626 node axis rods will be used at the nodal points. We did not identify any information regarding the dimensions (length, section, orientation of the four surfaces, where the purlins and rafters will be welded to. Please provide more detailed drawings.
Response:	**Per the 'Node Axis Rod' detail as part of detail 3/S-626, the node axis is sized to be 1" larger than the dimension of the web of the Tee section coming into the node axis rod. Per detail 4/S-626, the length of the node axis rod is to match the depth of the deeper Tee web coming into the node.**
Question 100:	Section 4/A-511 show different distances between the glass edge and the steel plate above the rafters. Please explain why there will be no constant distance.
Response:	**This detailing as shown permits a consistent glazing module, as opposed to many differing glazing geometries.**
Question 101:	According to drawing no. A-506 and A-511, aluminum sections will be fixed to the purlin and the rafter plates. Are these plates twisted like the webs of the t-sections and can the aluminum sections remain straight?
Response:	**The plates are not twisted within one segment. Note that the plates are segmented at geometrically defined lines and points. Also refer to the geometry charts included on sheets A-506, A-507, A-508 and A-509.**
Question 102:	Detail 4/A-512 and 4/A-515 show snow guards for the dome and the vaults. Please provide more information regarding the fixing to the rafters and regarding the location at the vault, which allows us to estimate the quantities.
Response:	**Locations are indicated on sheets A-141, A-142, A143 and A-322. Regarding the fixing to structure, per specification Book 3, Section 08 44 33, 1.04D the Canopy Sloped Glazing Assembly is a Delegated Design item & per specification Book 3, Section 08 44 33, 1.02A the work includes the custom snow guards.**
Question 103:	Drawing No. A-004 and A-005 show the component and Cladding wind pressures for each surface. Are those values already including internal pressure and can be taken as net pressures for the glazing
Response:	**Confirmed.**
Question 104:	Drawing No. A-004 and A-005 show the component and Cladding wind pressures for each surface are those values according to ASCE 7-16 (1.0W for LFRD and 0.6W for ASD design) as mentioned on S-001?
Response:	**The wind loads shown have been factored (to allowable stress design level) per the notes indicated on A-004 and A-005.**
Question 105:	The connections with the compensating extrusions shown at Section 4/A-511 seem to be kinematic. According to our understanding, the structural silicone joints cannot transfer the connection forces.
Response:	**Refer to specifications Book 3, Section 08 44 33 for delegated design and performance requirements. With respect to this question, the frame assembly shall be engineered to limit component deflections at structural silicone joints, such that the joint is only subjected to forces imposed by deflections within the glazing. Refer to specification 08 80 00 for glazing design criteria and performance requirements.**

Question 106:	Details 6/A515 and 7/A515 show sliding joints, which are not able to transfer uplift forced. Please confirm that this is not necessary.
Response:	**The bent plates in detail 2/S-616 are designed for the uplift forces at the joint.**
Question 107:	Acc. to detail 5/A-512 the GL-1A Typ Frit Pattern runs in the East-West direction on the dome, Barrel Vault, Flyover Bride Roof and Windbreaks. This means that every single glass panel needs individual orientation for the pattern, as shown in the attached sketch. Detail 6+7/A-515 gives the impression, that the frit pattern is parallel to one glass edge. Please explain.
Response:	**The frit pattern orientation in question is generally east-west. The pattern is to be parallel with the glass edge as shown on 6 and 7/A-515.**
Question 108:	We assume that at the bottom of the dome edge beam, an icicle formation hazard occurs. Please confirm that no activity against icicle hazard is required from our side.
Response:	**The design includes considerations for a heat traced gutter and upstand along top of the dome edge beam.**
Question 109:	According to our understanding, the flanges of the dome edge beam are parallel as shown in the attached section. This means that the welded edge beam cross-section consists of developable curved/bent parts. Please confirm.
Response:	**Confirmed.**
Question 110:	We realized that the T-flange at the architectural drawings are fixed to the side of the dome edge beam (See detail 1+3/A-512). This is also shown at detail 2/S-627. While structural details as detail 1+2+3/S-617 fix it at the top of the edge beam. Please advise.
Response:	**The dome edge beam detail can be found in 4/S-627.**
Question 111:	Please provide the following documents that are referenced in the bid docs: • CTA Safety Manual (Reference Exhibit D, page 19) • Transit Operations Standard Operating Procedure (Reference Exhibit D, Section 3.9.2) • CTA Infrastructure Design Criteria Manual (IDCM Chapter 7 (Reference Exhibit D, Section 11.4))
Response:	**These materials are Security Sensitive Information (SSI) and will be provided to the selected contractor following establishment of SSI procedures and completion if SSI training, as required.**
Question 112:	Included in the bid documents is Appendix D, Chicago Transit Authority Adjacent Construction Manual (CTA ACM), Rev01, March 2022. Case 1 shows the elevated track structure and indicates that the area above the trains is governed by: • CTA Safety Manual Section 3.7, 3.8, and 3.9 • Adjacent Construction Manual Note 1, Section 11.3, Section 11-3 Please confirm it is acceptable for the contractor to construct a working platform above the CTA tracks to allow steel detailing, panting, and glazing work to occur above the operational train lines. The temporary working platform will be constructed (and removed) during a permitted shutdown and the temporary platform and associated structure will be outside and above the CTA Standard Train Envelope as shown in Appendix B of the CTA ACM.
Response:	**CDOT and CTA do not object in concept to the use of a working platform. The specific design, installation sequence, calculations, and other info for the contractor's proposal will need to be submitted for CTA and CDOT review before such an installation will be permitted.**
Question 113:	During construction, will the CTA designate all affected areas of the Contract as Slow Zones, per 3.9.2 of Appendix D, Chicago Transit Authority Adjacent Construction Manual?
Response:	**Yes, within the limits of construction.**
Question 114:	Please confirm per CTA ACM 11.4 that CTA has permitted in writing that the temporary shoring structures will carry the Rapid Transit live load.
Response:	**CTA has approved the designs and calculations shown in the plans. See also plan sheet SX-001.**
Question 115:	Please clarify the extent of maintenance. a. General Note #17 on G004 states the Contractor will be responsible for Steet Cleaning, Litter Removal/Public Trash Collection, and snow removal within the limits of the work zone (i.e. Contractor's secured construction area).

	b. Civil General Note #33 on C-001 states" Beginning on the date when the Contractor begins work on this project they must assume responsibility for the normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance will include all repair work deemed necessary by the Commissioner, but will not include snow removal operations. i. Please confirm that the Contractor does not owe snow removal for areas outside of Contractor's secured construction area. ii. Please confirm that maintenance of the existing roadways begins when the Contractor mobilizes to site and begins construction (month 7 as shown on G-110).
Response:	**Snow removal will be required within the Contractor's secured construction area as well as sidewalks and driveways within the outermost limits (east-west or north-south) of that area. Maintenance responsibilities will start when the contractor mobilizes to the site, with mobilization considered to have taken place at installation of traffic control or delivery of materials or equipment, even if work has not yet started.**
Question 116:	01 35 00 – 1.12E states that that the Contractor is responsible to reimburse CTA for all flagger costs (costs will be deducted from the Contract) associated with the use of flaggers in excess of 8100 flagger shifts throughout the duration of the Contract. The cost for the flagger shift is $900. 8100 flagger shifts * $900 = $7,290,000 Book 2 includes a Schedule of Prices that includes a $3,500,000 Allowance for Track Flagging Operations. The term Allowance is not defined in the Bid Documents. a. Please confirm what Contractor costs are permitted to be included and billed within the allowance. b. Please confirm the number and costs of flagger shifts that are included in the allowance. c. Please confirm that any underrun in the allowance will result in a credit from the Contractor to CDOT. Please also confirm that any overrun in the allowance will result in a additive change order to increase the Contract Price.
Response:	**The allowance for Track Flagging Operations is defined in specifications, Book 3, Section 01 35 00, 4.02C. Contractors must bid $3,500,000 as shown in the schedule of prices for Track Flagging Operations. As stated in specifications, Book 3, Section 01 35 00, 1.12A5, up to 8,100 flagging shifts will be reimbursed through the Track Flagging Operations allowance, which will be adjusted if needed to account for these 8,100 flagger shifts. Flagger shift costs in excess of 8,100 will not be reimbursed to the contractor.**
Question 117:	Drawing G-110 Note 19 indicates that the Track Access Occurrences are as stated in the Table Below. Book 2 includes a Schedule of Prices that includes a $3,500,000 Allowance for Track Access Occurrences. The term Allowance is not defined in the Bid Documents. a. Please confirm what Contractor costs are permitted to be included in the allowance. b. Please confirm the $3,500,000 Track Access Occurrence is sufficient to complete all track reroutes/station closures listed on G-110. c. Please confirm that any underrun in the allowance will result in a credit from the Contractor to CDOT. Please also confirm that any overrun in the allowance will result in an additive change order to increase the Contract Price.
Response:	**The allowance for Track Access Occurrences is defined in specifications, Book 3, Section 01 35 00, 4.02D. Contractors must bid $3,500,000 as shown in the schedule of prices for Track Access Occurrences. This allowance will reimburse direct charges from CTA related to the track access occurrences permitted on plan sheet G-110 and will be adjusted if needed to fund CTA's charges. CTA charges for track access occurrences in excess of those periods defined on plan sheet G-110 will not be reimbursed to the contractor.**
Question 118:	Book 2 includes a Schedule of Prices that includes a $250,000 Allowance for Disposal of Regulated Substances. This Allowance is not defined in the Bid Documents. a. Please confirm this allowance is for all costs associated with removal and disposal of regulated substances, including, but not limited to lead paint, asbestos, and any material required to be removed to a Subtitle D landfill.
Response:	**The allowance for Disposal of Regulated Substances is defined in Attachments FF, GG, HH, and II, specifications, Book 3, Sections 02 61 00.10, 02 61 00.20, 02 61 00.30, and 02 61 00.40.**

	Contractors must bid $250,000 as shown in the schedule of prices for Disposal of Regulated Substances. This allowance will reimburse work described in specifications, Book 3, Sections 02 61 00.10, 02 61 00.20, 02 61 00.30, and 02 61 00.40, and will be adjusted if needed to fund this work. **Specifications, Book 3, Section 02 05 00 is updated in Attachment EE and will not be paid under the allowance for Disposal of Regulated Substances. Additionally, work under specifications, Book 3, Sections 02 71 00.S, 02 72 00, and 02 73 00.S is paid as indicated in those specification sections and not under the allowance for Disposal of Regulated Substances.**
Question 119:	Book 2 includes a Schedule of Prices that includes a $250,000 Allowance for Utility Service Work. The term Allowance is not defined in the Bid Documents. a. Please confirm this allowance is for all costs associated with all utilities, including but not limited to utility locates, all work required or referenced under Division 33, and work.
Response:	**The allowance for Utility Service Work is defined in specifications, Book 3, Section 26 21 16, 4.02. Contractors must bid $250,000 as shown in the schedule of prices for Utility Service Work. Only the work described in specifications, Book 3, Section 26 21 16 will be paid under the allowance for Utility Service Work.**
Question 120:	Addendum #2 included the presentation from the meeting on 2/1/2024. There is a slide labeled "Traffic Staging – Elevated Station Construction" that shows Lake Street is closed to through traffic between Dearborn and State, and also between State and Wabash". The slide also indicates that the applicable Phases of Construction are 0-10. There is also a slide titled "Traffic Staging – Through Traffic Route and Detour – Lake St Closure" that shows traffic rerouted from Lake St, North on Dearborn to Wacker, east on Wacker to Wabash, and then south on Wabash to return to Lake Street. a. Please confirm the phases referenced in the slides are the same phases identified on G-110. b. Please confirm the Lake Street Closure described above will permitted to remain in place for Demolition (Ph1), Foundations (Ph2), State Street Span Replacement (Ph3), Track Structure and Bent Mods (Ph4), Platform Structure & Platforms (Ph5), Canopy & Transfer Bridge (Ph6), Platform – Mezz Elevator, Platform Columns, and Corridor (Ph7), Mezz – Sidewalk Elevator and Corridor (Ph8), Vertical Conveyance (Ph9), and Elevated Station MEPs (Ph10).
Response:	**The slides presented at the pre-bid meeting do not modify the plans and specifications, which are the governing documents for the bid and contract. Plan sheet CX-100 discusses detour requirements in notes 24 and 25. The contractor will need to work with CDOT-PCO to permit specific lane closures and detours. That review will be based on the characteristics of the work underway at the time. While detours will be necessary for certain time periods, the need for a detour for a portion of a particular phase will not necessarily permit or require the use of a detour for the full phase, and the City will expect roadways to be open to traffic when active work does not necessitate a detour. See the response to Question 66 as one example case.**
Question 121:	Appendix F of the bid documents includes Vaulted Sidewalk Photos. The scope of the vaulted sidewalk demolition is shown on SD-111 and SD-112. Please confirm that all furniture/materials/MEPs/services/etc. will be removed/relocated prior to construction.
Response:	**Vaulted sidewalk spaces will be considered "as-is" spaces, and it will be the contractor's responsibility to coordinate or perform the removal or relocation of any materials requiring removal or relocation. The specifications, Book 3, Appendix F photos are provided so as to convey the approximate condition and contents of these spaces.**
Question 122:	Note 1 on A-152 states that painting includes all exposed bare and covered pipes, including insulation of exposed pipes. Specification Section 09 99 00-1.02D states Painting includes field painting exposed bare and covered pipes and ducts. Please confirm only the outmost layer must be painting. In other words, please confirm that a pipe does not need to be painted if the pipe is to be insulated.
Response:	**If a pipe is fully enveloped within insulation, the portion of inner pipe that is enveloped does not need to be painted. The outermost insulation layer and any exposed pipe portions must be painted or be a material that is designated as not to be painted.**

Question 123:	Please provide a 3-D model for the project.
Response:	**Models will be provided to the selected contractor, after contract award and subject to appropriate liability releases.**
Question 124:	Due to the complex technical requirements and logistical challenges of this project we respectfully request an extension of the bid date to 6/4/2024.
Response:	**The bid due date was extended until May 7, 2024.**
Question 125:	Please extend the RFI period though 5/7/2024.
Response:	**The question submittal date was extended until March 7, 2024.**
Question 126:	Weld sizes relating to the steel substructure for the canopy are not defined. Please provide these sizes.
Response:	**Weld sizes are typically identified in the details. When not specifically defined, consider the minimum weld sizes indicated on plan sheet S-600, "MINIMUM WELDS".**
Question 127:	It is understood that the structural integrity of the canopy is created by the geometry of the steel substructure, thus the canopy is not structurally sound until all components of the steel substructure are installed. A "leave out" for material loading and distribution throughout the elevated platform will be necessary. a. Please confirm the location for the leave out. b. Please confirm if any supplementary or temporary shoring or bracing will be required to allow for the "leave out" condition.
Response:	**This suggested "leave out" relates to contractor means and methods, as it is one of many potential ways to transport materials vertically. The engineer did not specifically assess the structure for stability in such conditions. If such a "leave out" is desired, the contractor will need to demonstrate viability in its submittals to the City.**
Question 128:	Specification Section 02 50 00-G&H states re-routing of underground utility lines may be required to avoid and clear the new construction. Please confirm the utility scope is limited to the work shown on the drawings.
Response:	**(This requirement appears in specifications, Book 3, Section 02 05 00, 1.02G and 1.02H; the reference in the question is incorrect.) The exact means, methods, and timing of demolition is contractor-determined. Therefore, the City cannot say that the plans address all impacts as the impact of demolition activities will vary based on the contractor's means, methods, and timing.**
Question 129:	Specification Section 02 16 10 requires a 3rd party agent to Monitor adjacent structures and ground movements. Section 1.02C states monitoring system include slope inclinometers, surface monuments, title meters, string potentiometer, measure pore water pressures, and topographic survey. (See also Note 4 on C-111 through C-114, and Note 11 on C-001). Will CTA provide the quantity and/or location of the devices that are to be included in the monitoring system?
Response:	**Among other requirements, this specification details that the contractor must develop the proposed program. Per specifications, Book 3, Section 02 16 00, 1.05C, the contractor's program must satisfy CDOT's deep foundations review process.**
Question 130:	There is a note on AD-101 that states, "Existing Fare Arrays and Fare Vending Machines to be removed and transported to CTA Shops at Contractor's Expense". Please provide an address of the CTA Shop.
Response:	**The note on plan sheet AD-101 is incorrect. Salvageable fare arrays and fare vending machines will be collected by CTA's vendor, and the contractor does not need to include this work in their bid. However, the contractor will be responsible for scheduling and coordination with CDOT, CTA, and the vendor for this work. The contractor must also remove and dispose of any portions of fare equipment designated for disposal by CTA's vendor.**
Question 131:	General Plumbing Note 7 on P-000 states, "Construction - All changes shall be made without additional cost to the Owner or delay in the completion of the project. Please confirm that changes the Contract Documents will be addressed via the Change Order Process outlined in the Contract.
Response:	**Note 7 on plan sheet P-000 relates only to changes associated with under-platform areas as described in Attachment DD, specifications, Book 3, Section 01 31 00, 1.08B8.**

Question 132:	Drawing C-611 shows a combined sewer running East-West in the center of Lake Street. This line also appears on Existing Condition drawing C-101. Please confirm that the combined sewer is existing and should be used for all tie ins.
Response:	**Project sewer work is shown on plan sheets C-611 to C-613. There are both existing and proposed mainline combined sewers on Lake St, and tie-ins are as shown on these sheets.**
Question 133:	Note 4 on C-611 indicates that all brick catch basins and gutter boxes are to be replaced. Please confirm which catch basins and gutter boxes are brick and need to be replaced.
Response:	**Work necessitated by this note is already included in the work shown on plan sheets C-611, C-612, and C-613.**
Question 134:	Note 25 on C-621 indicates that CDWM is connecting and installing the additional water main. 1. Please confirm that CDWM will complete all demolition, excavation, and backfill associated with the new water main. 2. Please confirm that CDWM will also brace the existing 16" water main (also reference Note 34 on C-622) 3. Please confirm the existing 16" water main will abandoned in place, and/or removed by CDWM to avoid conflicts with new construction.
Response:	**Per note 25 on plan sheet C-621, CDWM will make the connection. CDWM will not do any of the other work listed in this question.**
Question 135:	Book 2, Page 14 states that no work will be permitted between the hours of 9pm and 8am. Please confirm that night work will be permitted for closures identified on G-110 and as required to maintain schedule.
Response:	**The referenced portion of Book 2 also states, "Any variation from these restricted working hours to include extended shift hours and daytime work, if any, can only be permitted with the written approval of the Commissioner." This provision will be followed for this contract, and the City understands that night work will be necessary at times to complete the project. Although an exempt project per Section 11-4-2835(b) of the Municipal Code of Chicago, the City desires, to the greatest extent possible, to adhere to the limitations of the Chicago Environmental Noise Ordinance due to adjacent land uses. As such, the City may require special procedures to limit noise generation as a condition of issuance of the above noted approval.**
Question 136:	Book 2, Page 17 addresses unit prices. Please confirm there are no unit prices to be submitted with the bid.
Response:	**Confirmed.**
Question 137:	Book 2 page 3 indicated the Funding Source is the Federal Transit Administration. Please confirm the project is fully funded.
Response:	**Yes.**
Question 138:	Book 1, General Provision F identifies the order of precedence. Please confirm the order of precedence identified in Book 1, General Provision F governs over Book 3 - Additional Special Conditions Item 42.
Response:	**Specifications, Book 3, Additional Special Conditions, Item 42 will be interpreted within the context of specifications, Book 1, General Provisions, Item F.**
Question 139:	Book 1, XI, I addresses Liquidated Damages. Book 2 page 16 provides the value of Liquidated Damages for eleven different milestones identified in Book 2, pages 14 and 15. Sheet G-110 identifies ten milestones. It appears that Book 2 includes a milestone for "Reopening of Lake/Randolph entrance and mezzanine to Lake Red Line Station - Within 30 calendar days of the date that the Lake/Randolph entrance and mezzanine closes", that does not appear as a milestone on G-110. Please confirm the number of milestones and if G110 and Book 2 will be adjusted to match.
Response:	**The 11 milestones and associated liquidated damages identified in Book 2 are correct. "Reopening of Lake/Randolph entrance and mezzanine to Lake Red Line Station - Within 30 calendar days of the date that the Lake/Randolph entrance and mezzanine closes," is an included project milestone.**

Question 140:	Sheet S-620 includes Note 6, regarding offsite assembly. The sheet indicates that the dome canopy structure must be fabricated and fully assembled/erected offsite. The notes indicate that the members are to be fully connected (welded connections). The requirement to fully assemble the entire dome canopy is both cost and schedule prohibitive. Please confirm this offsite assembly can be removed from the requirements.
Response:	**The fabrication and erection of the Dome Canopy structure requires careful attention to geometric tolerances and careful consideration to the means of erection, including alignment, shoring, and adjustability. The purpose of the off-site assembly is to iron out these issues, and the methods developed to do so, at a place not constrained by track closure scheduling nor positioned above active rails in order to facilitate the on-site erection. The off-site erection is considered to be a fundamentally important component to the construction of the Dome Canopy.** **The notes on plan sheet S-620 indicate the full connection of the larger subassemblies together with the 'infill members' at the off-site location and then subsequently cutting the infill members to bring larger subassemblies to the site for final erection. The contractor may consider minimizing the required cutting of the members if larger, multiple subassemblies can be transported to the site. The contractor may also propose an alternative off-site assembly procedure in which the subassemblies are aligned and temporarily secured to adjacent subassemblies (temporary brackets or other means) in such a way to avoid fully connecting then subsequently cutting these pieces. Such a proposed alternative off-site assembly method must be the same method intended for use on-site and shall be submitted for City review.**
Question 141:	Attachment 240314 Lindner Facades-Project CTA approval.
Response:	**The City finds Lindner Facades to be an "Acceptable Specialty Contractor" per specifications, Book 3, Section 08 44 33, 1.05B4, 1.05B5, and 2.01A5.**
Question 142:	Book 1, XI, I addresses Liquidated Damages. Book 2 page 16 provides the value of Liquidated Damages for eleven different milestones identified in Book 2, pages 14 and 15. Please confirm that language will be added that Liquidated Damages will be capped at an aggregate amount of $1,000,000.
Response:	**Liquidated damages will be assessed according to the terms of Books 1 and 2. The requested additional language will not be added.**
Question 143:	Book 1, III, C 14 states, "Except as specified below, Contractor must perform with its own organization and forces not less than 50% of the total amount of Work that is performed at the Project site, computed on the basis of cost. Contractor must require each Subcontractor to become familiar with all provisions of the Contract documents that may affect Subcontractor's work." The following paragraph addresses subcontractors and states that Subcontractors are subject to approval by the Chief Procurement Officer. Please confirm that as long as Subcontractors are approved by the Chief Procurement Officer, the Contractor does not need to self-perform 50% of the work at the Project Site.
Response:	**This issue is addressed in Question 24 in this Addendum.**
Question 144:	The bid documents, including but not limited to Book 1-page 2, identifies certain hazardous material. Please confirm that CDOT will be considered the generator of all existing hazardous material found at the project site. Per Book 1, Item D (Page 11), the Contractor will only assume the liability of off-site disposal for Hazardous Materials brought to the site by the Contractor during construction activities.
Response:	**This issue is addressed in Questions 1 and 2 in this Addendum.**
Question 145:	027100 S-7 INTERIOR ASBESTOS requires Contractor shall supply: a "Written 1 year or 5 year warranty as specified in the contract documents. The abatement contractor shall warranty all replacement materials, any additional asbestos abatement and environmental monitoring encountered due to the performance failure of the replacement materials during the warranty period." Please confirm the warranty period is 1 year.
Response:	**Confirmed.**

Question 146:	Book 1, III, A. Contractor -5f states (in part), "Except as otherwise expressly provided in the Contract, the Contract Price includes all costs and expenses for which Contractor will be compensated in connection with the Contract, including: f. the costs of complying with the directives of the Chief Procurement Officer and/or the Commissioner" Please confirm that item (f) the costs of complying with directives of the Chief Procurement Officer and/or Commissioner issued after the Bid Submission, will be addressed via the change order process or alternatively remove this language as it is vague and inconsistent with the change terms of the contract documents.
Response:	**Book 1, Article III, A will remain as is. Refer to Book 1, Article XIV for how changes in the work will be processed.**
Question 147:	Book 1, VII, E. Warranties -2a states, "Any equipment or material that is so repaired or replaced will have the Warranty Period extended for a period of one year from the date of the last repair or replacement." The current language can be interpreted to establish an Evergreen warranty, revise the language to include a reasonable cap of two years. Please revise as follows: "Any equipment or material that is so repaired or replaced will have the Warranty Period extended for a period of one year from the date of the last repair or replacement, provided however any and all Warranty Periods shall expire within two (2) years following Substantial Completion.
Response:	**Book 1, Article VII, E will remain as is.**
Question 148:	The indemnity clause is causing concern in the market and potentially could place burden on the Contractor to defend the City for its own negligence absence a final judicial determination. Therefore, we request a the language amended as shown: Book 1, XIX, A. Indemnity -1 states, "1. You must protect, defend, indemnify, and hold the City, its officers, officials, representatives, and employees (collectively the "Indemnitees"), harmless from and against any and all claims, damages, demands, injury or death, in consequence of granting this Contract or arising out of or being in any way connected with your performance under this Contract to the extent except for matters shown by final judgment to have been caused by or attributable to the negligence of Indemnitees. This indemnification obligation is effective to the maximum extent permitted by applicable law. This indemnity extends to all legal costs, including attorney fees, costs, liens, judgments, settlements, penalties, professional fees, and other expenses incurred by the City, including fines and penalties imposed by public bodies, and the reasonable settlement of such claims. This indemnification obligation is not limited by any amount of insurance required under this Contract. Further, the indemnification obligation contained in this section will survive the expiration or termination of this Contract."
Response:	**Book 1, Article XIX, A will remain as is.**
Question 149:	Book 1, VII, E. Warranties -2a states (in part). 3. Manufacturer's Warranties a. You must: (1) ensure that all required Manufacturer's Warranties pass through to the City and the Department; (2) submit all applicable manufacturers' warranties to the Commissioner and ensure that all warranty forms have been completed in the Department's name and registered with the appropriate manufacturers. It is standard industry practice for the General Contractor to provide a one-year warranty and to pass through any extended warranties such that the manufacturer or specialty subcontractor provides the extended warranty directly to the Owner. The technical specifications list a number of extended warranties for which the General Contractor must either sign or otherwise be responsible for the extended warranty. These include, but are not limited to: 1) 055030-5 RAILINGS AND GUARD RAILS - 1.10 WARRANTY

	A. General Warranty: Submit a five (5) year written warranty, beginning from date of substantial completion, and executed by the Contractor, manufacturer and the installer agreeing to repair or replace metal fabrication components that develop defects in materials or workmanship within the specified warranty period. Defects include, structural failures, deterioration of metals, metal finishes, improper installation, and other conditions beyond normal weathering and use. 2) 055110-5 METAL STAIRS WITH STAINLESS STEEL TREADS - 1.12 WARRANTY A. Special Warranty for Stair System and Abrasive Stair Treads: Submit a five (5) year warranty from the date of substantial completion and executed by the Contractor, manufacturer and the installer agreeing to repair or replace at the direction of the Authority and at no cost to the Authority components of the stair system, including the abrasive stair tread materials that develop defects in materials or workmanship within the specified warranty period 3) 074100-4 - METAL ROOF PANELS -1.08 WARRANTY A. Warranty: Furnish 10 year written warranty from date of final acceptance, signed by the Contractor and Installer, agreeing to repair or replace Work which has leaked or otherwise failed as a result of defects in materials or workmanship. Upon notification of such defects, within the warranty period, make necessary repairs of replacement at the convenience of the Authority. 4) 074100-S-3 METAL ROOF PANELS - 1.08 WARRANTY A. Warranty: Furnish 10 year written warranty from date of final acceptance, signed by the Contractor and Installer, agreeing to repair or replace Work which has leaked or otherwise failed as a result of defects in materials or workmanship. Upon notification of such defects, within the warranty period, make necessary repairs of replacement at the convenience of the Authority. 5) 078100-5 APPLIED FIRE PROTECTION 1.14 WARRANTY A. Fireproofing Warranty: Furnish five (5) year written warranty, signed by the Contractor and Installer, agreeing to repair or replace fireproofing which has cracked, flaked or peeled from the substrate, or otherwise failed as a result of defects in materials or workmanship. Upon notification of such defects, within the warranty period, make necessary repairs or replacement at the convenience of the Authority. 6) 079000-4 JOINT SEALERS 1.09 WARRANTY A. Furnish a written warranty in form stipulated by the Authority, signed by the Contractor and Installer, agreeing to repair or replace work which has failed to provide airtight or watertight joints, failed in adhesion or cohesion, failed in resistance to abrasion, weather, extrusion, migration, staining or otherwise failed as a result in materials or workmanship. Upon notice of such defects, within the warranty period, make necessary repairs or replacement as approved by the Authority and at no cost to the Authority. B. Warranty: 1. For Silicone Building Sealants: Twenty (20) years from date of Substantial Completion. 2. For all other sealants: Five (5) years from date of Substantial Completion. 7) 084433-4 CANOPY SLOPED GLAZING ASSEMBLY 1.07 WARRANTY A. General Warranty by both General Contractor and Specialty Contractor: Manufacturer agrees to repair or replace components of sloped glazing assembly that do not comply with requirements or that fail in materials or workmanship within specified warranty period. 1. Failures include, but are not limited to, the following: a. Structural failures including, but not limited to, excessive deflection. b. Noise or vibration created by wind and thermal and structural movements. c. Deterioration of metals, metal finishes, and other materials beyond normal weathering. d. Sealant failures. e. Water penetration through fixed glazing and framing areas.

f. Glass cracking or breakage.
e. Loosening or weakening of fasteners, attachments and other components.
2. Warranty Period: Ten years from the date of substantial completion.
3. Provide contact information for Specialty Contractor.
B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.
1. Deterioration includes, but is not limited to, the following:
a. Color fading more than 5 Hunter units when tested according to ASTM D2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Warranty Period: Twenty years from date of Substantial Completion.
3. Provide contact information for Specialty Contractor.

8) SECTION 14 24 00 HYDRAULIC ELEVATORS 1.11 WARRANTY
A. Warranties: Provide warranty, signed by the Contractor, elevator installer, and elevator manufacturer; guaranteeing to correct failures in the elevator system; replace, repair, or restore defective components, materials and workmanship of elevator work or equipment which occur during the warranty period.
1. Warranty period shall be for twenty four (24) months starting on the date of Beneficial Use for the project.

9) 26 04 03 ORNAMENTAL POST - 1.07 WARRANTY
A. Ornamental Traffic Signal Pole Warranty: Furnish written warranties in form stipulated by Commissioner, signed by the Contractor and Manufacturer, agreeing to repair or replace Work which has failed as a result of defects in materials or workmanship. Upon notification of such defects, within the warranty period, make necessary repairs or replacement at the convenience of the Commissioner.

10) 26 33 53 UNINTERRUPTIBLE POWER SUPPLY 1.08 WARRANTY
A. Special Warranties: 1. Furnish 3 year written warranty in form stipulated by Commissioner, signed by the Contractor and Installer, agreeing to repair or replace Work which has failed as a result of defects in materials or workmanship. Upon notification of such defects, within the warranty period, make necessary repairs or replacement at the convenience of the Commissioner.
2. Batteries to also have a 3 year full unconditional and a 7 year pro-rata limited warranty by the manufacturer that the batteries to operate at full rated capacity without maintenance or service under otherwise normal operating conditions. Warranty is to make such guarantee(s) to the effect that if any battery or cell fails to hold the full rated charge or requires maintenance or service; replace batteries to the satisfaction of the Commissioner.

11) SECTION 26 55 60 LIGHT EMITTING DIODE (LED) SIGN BOX FOR INFORMATIONAL SIGNAGE 1.09 WARRANTY
A. Submit a written warranty for the materials and work of this section. All materials and work, including installation, to be in exact accordance with these specifications and is to be guaranteed for the minimum period of two (2) years from date of acceptance by the Commissioner, unless noted otherwise. Upon notification of defects or malfunction of the sign within the warranty period, the Contractor to make necessary repairs or replacement at the convenience of the Commissioner and at no cost to the Contract.

B. Submit a five (5) year written warranty, signed by the Fabricator, Contractor and Installer, warranting that the signage finishes will not develop excessive fading or excessive nonuniformity of color or shade; and will not chip, crack, peel, pit, or be subject to pin holes, scratching, or

	otherwise fail as a result of defective materials or workmanship. Upon notification of such details, within the warranty period, make necessary repairs or replacement at the convenience of the Commissioner and at no cost to the Commissioner. Warranty to cover the finishes of all components of the sign assembly: sign face, sign box, sign frame, and all accessories. We request, consistent with Book 1, VII, E. Warranties, that the warranty language be revised to limit the General Contractor's warranty obligations to 1 year from the date of Substantial Completion and that all extended warranties are passed through from the manufacturer/installers/specialty contractors.
Response:	**The warranty language in the specifications listed from specifications, Book 3 will remain as is.**
Question 150:	Book 1, XI, I addresses Liquidated Damages. Paragraph 2 states, "In addition to liquidated damages for failure to meet any milestones, you are liable to the City for any other damages sustained as the result of your refusal or failure to perform the Work." The combination of both liquidated and actual damages represents a significant risk to the bidders. We request that language is added to this Liquidated Damages paragraph that states that the liquidated damages represent the sole and exclusive remedy for Contractor caused delays. Further please confirm language will be added to reflect a mutual waiver of consequential damages between the parties.
Response:	**Liquidated damages will be assessed according to the terms of Books 1 and 2. The City will not add the requested mutual waiver of consequential damages.**
Question 151:	071600-4 CRYSTALLINE CEMENTITIOUS WATERPROOFING COATING 1.10 WARRANTY B states (in Part) 1. Warranty: The applicator warrants that, upon completion of the work, surfaces treated with cementitious crystalline waterproofing will be and will remain free from water leakage resulting from defective workmanship or materials for a period of [specify term] years from Date of Final Acceptance. In the event that water leakage occurs within the warranty period from such causes, the applicator shall, at his sole expense, repair, replace or otherwise correct such defective workmanship or materials to the Authority's satisfaction and at no cost to the Authority. Please confirm that the [specify term] language for the applicable warranty period is 1 year.
Response:	**The 1-year warranty period per Book 1, is Confirmed.**
Question 152:	071700- S-2 BENTONITE WATERPROOFING 1.06 WARRANTY states (in part) A. In addition to the one year general warranty, bentonite waterproofing system shall be warranted against leakage, defective materials and defective installation of the completed waterproofing system. Any such defects or leakage occurring during the period of the warranty shall be promptly and completely corrected, including all affected work, at no additional cost to the Authority B. Said guaranty shall be in effect for a period of five years from the date of the Certificate of Final Acceptance issued by the Authority. The warranty shall be signed by the bentonite waterproofing applicator or installer and countersigned by the Contractor and shall be submitted to the Authority as specified in Section 01 77 00, Closeout Procedures. 071000-2 MEMBRANE WATERPROOFING 1.08 WARRANTY states (in part) A. The waterproofing membrane system shall be warrantied for a period of ten years. The manufacturer and installer shall warranty all products and installation against defects in materials or workmanship for the specified period and the installation shall be protected from moisture infiltration for the specified period; failures in the system shall be rectified at no cost to the Authority and to the satisfaction of the Authority throughout the warranty period. Requiring correction of "all affected work" and "and to the satisfaction of the Authority" is vague and creates a significant risk to bidders. We request, consistent with Book 1, VII, E. Warranties, that the General Contractor's warranty be limited to 1 year from the date of Substantial

	Completion and all extended warranties are limited to the specific work being warrantied and are passed through from the manufacturer/installers/specialty contractors. Further we request that the "to the satisfaction of the authority" language be revised to as required by the Contract Documents"
Response:	**Other language in the specification will not be changed.**

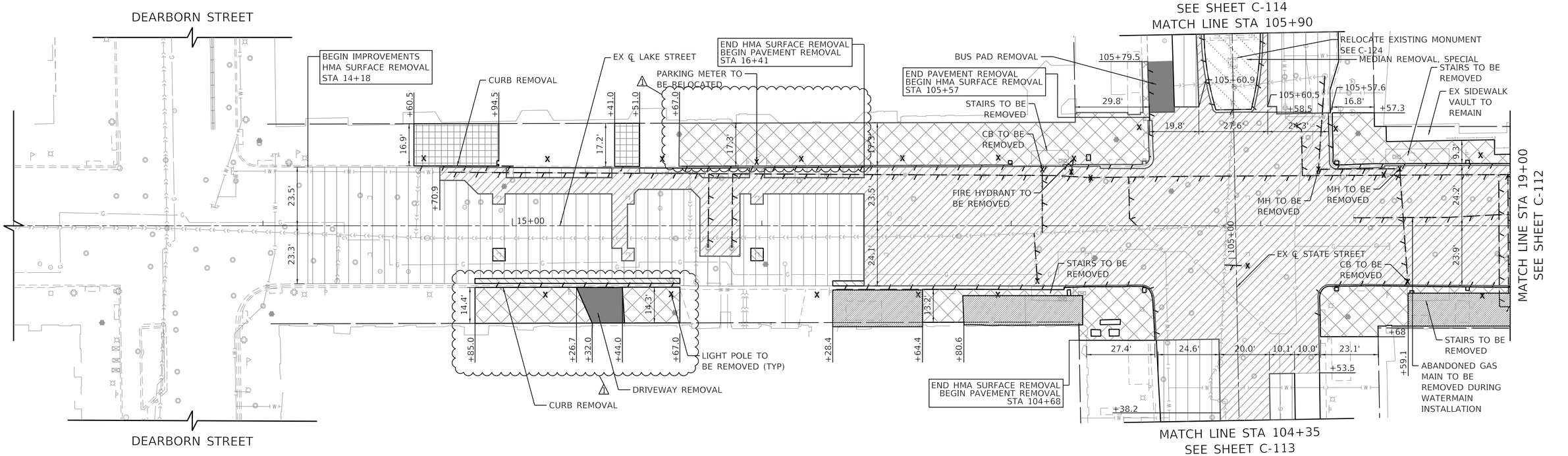
END OF ADDENDUM NO. 4

ALL REVISIONS INSCRIBED HEREIN WILL BE INCORPORATED INTO THE BID SPECIFICATION PER ADDENDUM NO. 4

CITY OF CHICAGO
DEPARTMENT OF PROCUREMENT SERVICES

AILEEN VELAZQUEZ
CHIEF PROCUREMENT OFFICER

ATTACHMENT A



LEGEND

- PAVEMENT MILLING
- FULL-DEPTH PAVEMENT REMOVAL
- SIDEWALK REMOVAL
- REMOVE AND REINSTALL PAVERS SEE LANDSCAPING SHEETS
- SIDEWALK VAULT REMOVAL (SEE STRUCTURAL SHEETS)
- WATER MAIN REMOVAL OR TO BE ABANDONED
- STORM SEWER REMOVAL OR TO BE FILLED
- LINEAR REMOVAL
- X — ITEM TO BE REMOVED
- X — LIGHT POLE TO BE REMOVED SEE E-182 FOR DETAILS

NOTES

1. SEE SHEETS C-101 TO C-103 FOR EXISTING CONDITIONS.
2. CONTRACTOR TO PROTECT ADJACENT PAVEMENTS AND STRUCTURES NOT BEING REMOVED. ANY DAMAGE TO BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR MUST PROTECT ALL EXISTING UTILITIES TO REMAIN AND EXISTING UTILITIES TO BE DEMOLISHED UNTIL THEY ARE SCHEDULED TO BE DEMOLISHED TO THE APPROVAL OF THE COMMISSIONER.
4. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING ADJACENT BUILDINGS AND THE CTA STRUCTURE FOR DAMAGE AND MOVEMENT THROUGHOUT CONSTRUCTION.

N

0 20 40 60
SCALE IN FEET

NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
5	2/12/2024	BID ADDENDUM 1	EAD	EAD	MJL		
4	7/3/2023	ISSUED FOR BID					

DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
CDOT/APPROVED BY:

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

MICHAEL J. LEVI
062-055367
LICENSED PROFESSIONAL ENGINEER
ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

DEMOLITION PLAN
LAKE STREET

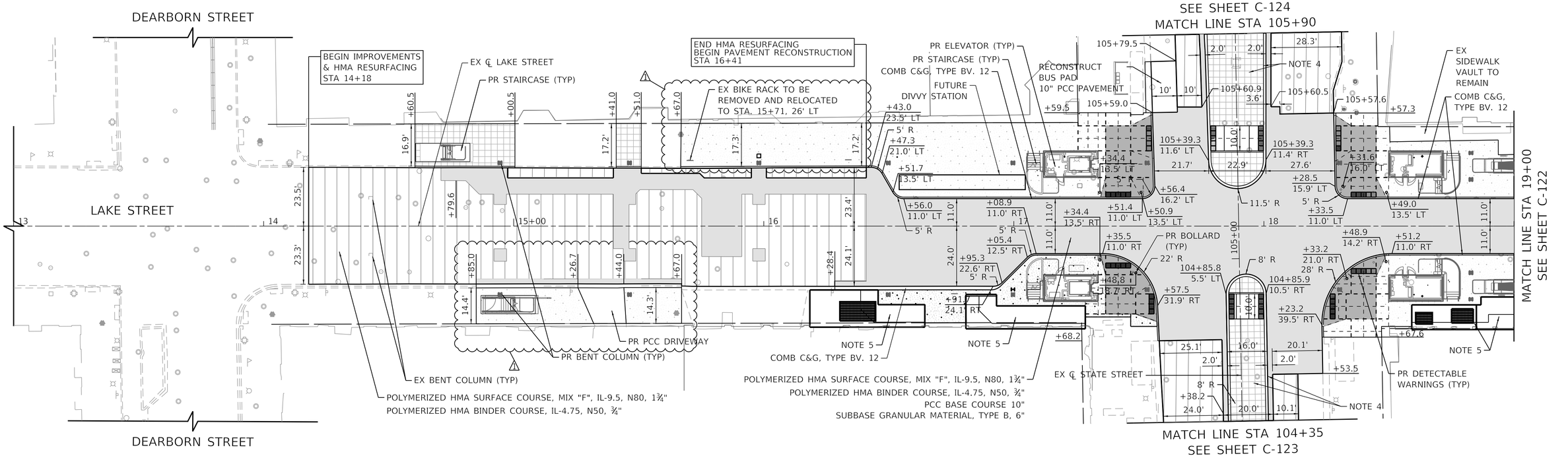
DRAWING NO.
C-111

CDOT PROJECT D-1-209

DATE: 7/3/2023

REVISION NO.

ATTACHMENT B



LEGEND

- OVERLAY
- FULL-DEPTH PAVEMENT
- PAVERS (SEE LANDSCAPE SHEETS)
- 5" PCC SIDEWALK
- 8" PCC SIDEWALK

NOTES

1. FOR EXISTING CONDITIONS, SEE SHEETS C-101 TO C-103.
2. FOR DEMOLITION PLAN, SEE SHEETS C-111 TO C-114.
3. FOR ADA DETAILS, SEE SHEETS C-501 TO C-504.
4. FOR PAVER INFORMATION AND MEDIAN DETAILS, SEE LANDSCAPE SHEETS.
5. FOR VAULTED SIDEWALK FILLING DETAILS, SEE STRUCTURAL SHEETS
6. ADJUST ALL EXISTING STRUCTURES WITHIN THE FULL DEPTH PAVING LIMITS TO GRADE
7. SEE SHEETS A-111 TO A-113 FOR LOCATIONS OF SIDEWALK INSET COMPASS ROSES.

N

0 20 40 60
SCALE IN FEET

DESIGN BY:										
DRAWN BY:										
CHECKED BY:		5	2/12/2024	BID ADDENDUM 1						
APPROVED BY:		4	7/3/2023	ISSUED FOR BID	AMK	AMK	ZMZ			
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT	

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

MICHAEL J. LEV
062-055367
LICENSED PROFESSIONAL ENGINEER
OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

PROPOSED IMPROVEMENTS
LAKE STREET

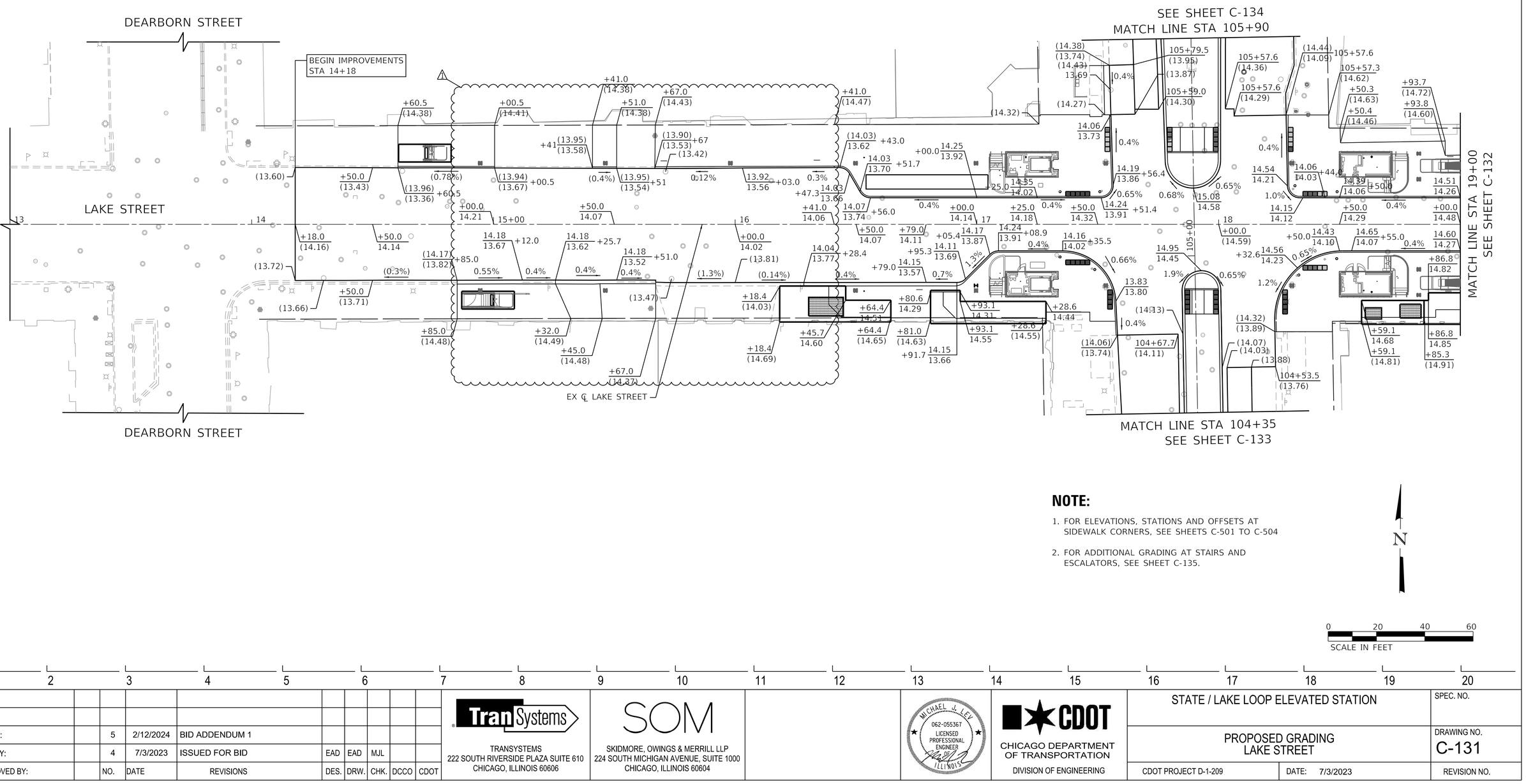
DRAWING NO.
C-121

CDOT PROJECT D-1-209

DATE: 7/3/2023

REVISION NO.

ATTACHMENT C



NOTE:

1. FOR ELEVATIONS, STATIONS AND OFFSETS AT SIDEWALK CORNERS, SEE SHEETS C-501 TO C-504
2. FOR ADDITIONAL GRADING AT STAIRS AND ESCALATORS, SEE SHEET C-135.

N

0 20 40 60
SCALE IN FEET

DESIGN BY:									
DRAWN BY:									
CHECKED BY:		5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:		4	7/3/2023	ISSUED FOR BID	EAD	EAD	MJL		
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

MICHAEL J. LEV 062-055367 LICENSED PROFESSIONAL ENGINEER ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

PROPOSED GRADING
LAKE STREET

DRAWING NO.
C-131

CDOT PROJECT D-1-209

DATE: 7/3/2023

REVISION NO.

MAINTENANCE OF TRAFFIC AND DETOUR NOTES

1. TEMPORARY TRAFFIC CONTROL SIGNS MUST BE INSTALLED AT THE DIRECTION AND UNDER THE SUPERVISION OF THE COMMISSIONER. SEVEN (7) DAYS NOTICE MUST BE GIVEN TO THE COMMISSIONER FOR DIRECTION OF SIGNING. THE CONTRACTOR MUST COORDINATE THE MAINTENANCE OF TRAFFIC WITH LANE CLOSURES OF CONCURRENT PROJECTS.
2. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ADJACENT TRAFFIC LANES OPEN TO TRAFFIC FROM DEBRIS BEING BLOWN OR OTHERWISE REMOVED FROM THE CONSTRUCTION AREAS. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR KEEPING DEBRIS OFF THE ADJACENT TRAVELED LANE SURFACE.
3. THE CONTRACTOR MUST REMOVE ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE DESIGNATED TRAFFIC CONTROL PLAN. THE CONTRACTOR MUST RESTORE ALL PAVEMENT MARKINGS DESTROYED DURING CONSTRUCTION.
4. ALL CONSTRUCTION SIGNS, BARRICADES, BARRIER WALL, LIGHTS, FLAGGERS (EXCLUDING ALL CTA TRACK LEVEL FLAGGERS), ETC. MUST BE PROVIDED BY THE CONTRACTOR.
5. ALL SIGNS MUST MEET CITY AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES STANDARDS AND MUST MEET WITH THE APPROVAL OF THE DIVISION OF INFRASTRUCTURE MANAGEMENT AND/OR OEMC REGARDING LOCATION, TYPE, SIZE, NUMBER, AND DURATION OF PLACEMENT.
6. ALL SIDEWALK CLOSURES MUST FOLLOW CDOT STANDARDS FOR CROSSWALK AND SIDEWALK CLOSURE. THE SIDEWALK MUST REMAIN OPEN AT ALL TIMES. THE CONTRACTOR MUST MAINTAIN PEDESTRIAN ACCESS TO ADJACENT PROPERTIES AND FOR ANY TEMPORARY ADA CURB RAMPS BY INSTALLING DISABLED-ACCESSIBLE PLYWOOD WALKWAYS WITH HANDRAILS AS DIRECTED BY THE COMMISSIONER. PEDESTRIAN ACCESS TO PROPERTIES WITHIN THE WORK ZONE MUST BE MAINTAINED AT ALL TIMES. IF TEMPORARY CROSSWALK RELOCATIONS ARE NECESSARY, THE CONTRACTOR MUST INSTALL TEMPORARY PAVEMENT MARKINGS.
7. ALL EXISTING SIGNAGE IN CONFLICT WITH TRAFFIC CONTROL SIGNAGE MUST BE TEMPORARILY COVERED.
8. THE CONTRACTOR MUST PROVIDE AND INSTALL TWO (2) SANDBAGS ON EACH TYPE I OR TYPE II BARRICADE USED - ONE (1) SANDBAG ACROSS EACH BOTTOM RAIL. FOUR (4) SANDBAGS MUST BE USED ON TYPE III BARRICADES.
9. NOTIFY BUSINESSES AND PUBLIC ON CONSTRUCTION ACTIVITIES TWO (2) WEEKS PRIOR TO START OF CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE 30 DAY NOTICE TO THE COMMISSIONER AND ANY BUSINESS WITH STATE STREET ACCESS PRIOR TO ANY STATE STREET CLOSURE OR LANE REDUCTIONS.
11. DETAILS OF ANY LANE OR ROADWAY CLOSURES INCLUDING DETOUR PLANS MUST BE REVIEWED AND APPROVED BY THE COMMISSIONER.
12. THE CONTRACTOR MUST CONTACT THE COMMISSIONER BEFORE ANY PAVEMENT MARKINGS ARE PLACED. REMOVAL OF CONFLICTING AND PLACEMENT OF NEW OR TEMPORARY PAVEMENT MARKINGS ASSOCIATED WITH CONSTRUCTION STAGE CHANGES IS THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE COMMISSIONER WILL DETERMINE THE LOCATIONS OF ALL SIGNS THAT ARE DIRECTLY OR INDIRECTLY INVOLVED WITH THE PROJECT.
14. ALL TEMPORARY REGULATORY, WARNING, AND GUIDE SIGNS WITHIN THE PROPOSED IMPROVEMENT SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE COMMISSIONER.
15. ALL TEMPORARY BARRIER WALLS MUST BE PINNED INTO THE EXISTING PAVEMENT IF NECESSARY PER IDOT HIGHWAY STANDARD 704001 AND SAFETY ENGINEERING POLICY MEMORANDUM 4-15.
16. ALL PEDESTRIAN WALKWAYS ADJACENT TO CONSTRUCTION SHALL MAINTAIN A MINIMUM WIDTH OF 6', MAINTAIN A MINIMUM CLEARANCE OF 7', AND SHALL BE COVERED WITH STRUCTURAL PROTECTION DURING ALL PHASES OF OVERHEAD STRUCTURAL CONSTRUCTION. REFER TO BARRICADE DETAIL SHEETS.
17. CONTRACTOR IS REQUIRED TO PROVIDE AND COORDINATE FIRE LANE ACCESS AT ALL TIMES, WITH THE COMMISSIONER AND THE FIRE DEPARTMENT BUREAU OF FIRE PREVENTION.
18. CROSS STREETS (DEARBORN, WABASH, WACKER, RANDOLPH) MUST REMAIN FULLY OPEN, UNLESS OTHERWISE GRANTED BY THE COMMISSIONER. PARTIAL LANE CLOSURES MAY BE PROVIDED AT THE DISCRETION OF THE COMMISSIONER.
19. CONTRACTOR VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST OR ACROSS THE FLOW OF TRAFFIC. CONTRACTOR VEHICLES SHALL ENTER OR LEAVE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS OR INTERFERE WITH NORMAL TRAFFIC AND SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS.
20. CONTRACTOR SHALL FOLLOW THE CONSTRUCTION TRAFFIC ROUTES AS DETERMINED BY THE COMMISSIONER TO REDUCE IMPACTS TO THE EXISTING NEIGHBORHOOD.
21. CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY RELOCATING TRAFFIC SIGNALS AS REQUIRED DURING CONSTRUCTION. NO TRAFFIC SIGNALS MAY BE MODIFIED IN ANY WAY WITHOUT THE PERMISSION OF THE COMMISSIONER.
22. THE CONTRACTOR MUST PROVIDE AND INSTALL ALTERNATE TRAFFIC SIGNAL TIMINGS FOR TRAFFIC SIGNAL CONTROLLERS WITHIN THE WORK ZONE, AT TEMPORARY TRAFFIC SIGNAL LOCATIONS, AND ALONG THE DETOUR ROUTES WHEN REQUESTED BY CDOT. SIGNAL TIMINGS MAY ONLY BE INSTALLED AFTER APPROVAL FROM CDOT.
23. THE CONTRACTOR MUST MAINTAIN AT LEAST ONE (1) NORTHBOUND AND ONE (1) SOUTHBOUND LANE ON STATE ST AND ONE (1) EASTBOUND LANE ON LAKE ST AT ALL TIMES EXCEPT AS PERMITTED BY THE CONTRACT DOCUMENTS.
24. THROUGH THE CONSTRUCTION ZONE, LAKE ST MUST BE SIGNED FOR USE BY LOCAL TRAFFIC ONLY. DETOURS FOR LAKE ST MUST BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF LANE CLOSURES.
25. THE CONTRACTOR WILL BE PERMITTED TO FULLY CLOSE THE INTERSECTION OF STATE ST AND LAKE ST FOR UP TO FIVE (5) WEEKEND PERIODS, CONCURRENT WITH THE PERMISSIBLE WEEKEND (50 OR 54 HOUR) TWO-TRACK CTA REROUTES. STREET CLOSURES WILL BE LIMITED TO 7:00PM FRIDAY TO 4:00AM MONDAY. LAKE ST MAY BE CLOSED BETWEEN DEARBORN ST AND WABASH ST AND STATE ST MAY BE CLOSED BETWEEN RANDOLPH ST AND WACKER DR, EXCEPT THAT LOCAL VEHICULAR AND PEDESTRIAN ACCESS TO BUSINESSES, RESIDENCES, AND DRIVEWAYS MUST BE MAINTAINED. DETOURS MUST BE ERECTED AND MAINTAINED DURING THIS TIME. ADVANCE COMMISSIONER APPROVAL WILL BE REQUIRED, AND THE CLOSURES MUST BE COORDINATED WITH THE COMMISSIONER TO AVOID SPECIAL EVENTS OR OTHER DATES OF SIGNIFCANT TRAFFIC.
26. ACCESS TO EXISTING CROSS ROADS AND DRIVES MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
27. TRAFFIC MUST BE MAINTAINED ON ALL STREETS AND PARKING WILL BE PROHIBITED WITHIN 50' OF THE CONSTRUCTION AREA AT ALL TIMES EXCEPT IN THE DESIGNATED LOADING ZONES. THE CONTRACTOR MUST NOTIFY THE BUREAU OF TRAFFIC ENGINEERING AND OPERATIONS 48 HOURS BEFORE COMMENCING CONSTRUCTION.
28. ALL TEMPORARY REGULATORY, WARNING AND GUIDE SIGNS WITHIN THE PROPOSED IMPROVEMENT MUST BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE COMMISSIONER.
29. ALL TRAFFIC SIGNS WITHIN THE LIMITS OF CONSTRUCTION WHICH INTERFERE WITH CONSTRUCTION OPERATIONS OR WHICH ARE OBSCURED BY OR OTHERWISE INTERFERED WITH BY THE CONSTRUCTION OPERATIONS TO THE EXTENT THAT THEY NO LONGER HAVE THE DESIRED EFFECT ON TRAFFIC, MUST BE REMOVED BY THE CONTRACTOR WHEN DIRECTED BY THE COMMISSIONER. ANY SUCH SIGNS THE COMMISSIONER DETERMINES ARE ESSENTIAL TO THE SAFE AND ORDERLY FLOW OF TRAFFIC MUST BE RE-ERECTED IMMEDIATELY BY THE CONTRACTOR AT TEMPORARY LOCATIONS IN A MANNER ACCEPTABLE TO THE COMMISSIONER. THE CONTRACTOR MUST MAINTAIN THE SIGNS IN A STRAIGHT AND NEAT CONDITION FOR THE DURATION OF THE TEMPORARY MOUNTING. SIGNS WHICH ARE NOT TO BE ERECTED IMMEDIATELY MUST BE STORED OFF THE GROUND IN A COVERED AREA. AS SOON AS CONSTRUCTION OPERATIONS PERMIT, THE SIGNS MUST BE REPLACED AT THEIR PERMANENT LOCATIONS TO THE SATISFACTION OF THE COMMISSIONER. ANY SIGN OR POST WHICH THE COMMISSIONER DETERMINES HAS BEEN DAMAGED DUE TO THE CONSTRUCTION OPERATION OR WHILE IN STORAGE MUST BE REPLACED BY THE CONTRACTOR. THE CONTRACTOR. THE COSTS OF ALL MATERIALS REQUIRED AND ALL LABOR NECESSARY TO COMPLY WITH THIS WORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.
30. WORK, STORAGE, AND STAGING AREAS MUST BE SURROUNDED BY 6' HIGH TEMPORARY CHAIN LINK FENCE. OPAQUE FABRIC MESHING MUST BE AFFIXED TO TO ALL FENCE FACES, INCLUDING GATES. ADVERTISEMENTS MAY NOT BE AFFIXED TO THE FENCE OR MESHING, EXCEPT AS AUTHORIZED BY THE COMMISSIONER. THE FENCE MUST RESIST 30 PSF WIND LOADS WITH A MAXIMUM 3" DEFLECTION, AND BASES MAY NOT IMPEDE VEHICULAR OR PEDESTRIAN TRAFFIC.
31. DURING ANY TRAFFIC STAGE WHERE ACCESS TO THE WLS-TV PARKING GARAGE (LOCATED ON THE SOUTH SIDE OF LAKE ST BETWEEN DEARBORN ST AND STATE ST) IS BLOCKED, THE CONTRACTOR SHALL CREATE A SPACE WITHIN THE LAKE ST ROW FOR WLS-TV TO PARK UP TO 10 NEWS VANS. COORDINATE THIS EFFORT WITH BRAD PLANT, WLS-TV, (312) 750-7747, BRAD.PLANT@ABC.COM.
32. THE CONTRACTOR MUST COORDINATE WITH THE CHICAGO OFFICE OF EMERGENCY MANAGEMENT TO REQUEST AND SCHEDULE TRAFFIC MANAGEMENT AIDES (TMAS) FOR THE WORK AREA AS NEEDED TO FACILITATE THE FLOW OF VEHICULAR AND PEDESTRIAN TRAFFIC. REIMBURSEMENT OF OEMC'S COSTS FOR THE TMAS WILL BE PAID THROUGH A CONTRACT ALLOWANCE OR SEPARATELY BY THE CITY, BUT COORDINATION EFFORTS WILL BE CONSIDERED INCLUDED IN THE LUMP SUM BID PRICE FOR MOBILIZATION.
33. THE SCHOOL OF THE ART INSTITUTE DORM, 162 N STATE ST, CONDUCTS STUDENT MOVE-IN AND MOVE-OUT 2 WEEKENDS IN AUGUST AND 1 WEEKEND IN MAY. THE TRAFFIC PATTERN CIRCLES NORTH ON DEARBORN ST, EAST ON COUCH PL, SOUTH ON STATE ST AND EAST ON RANDOLPH ST VEHICULAR ACCESS WICH PERMITS THIS CIRCULATION PATTERN MUST BE MAINTAINED ON THESE WEEKENDS.
34. DURING PERIODS WHEN STATE ST TRAFFIC ACCESS TO theWIT HOTEL'S FRONT ENTRANCE, 201 N STATE ST, IS BLOCKED, THE HOTEL WILL USE AN ALTERNATE ACCESS PATTERN OF SOUTH ON WABASH AVE, WEST ON HADDOCK PL, AND NORTH ON STATE ST. VEHICULAR ACCESS TO THESE STREETS TO PERMIT THIS PATTERN MUST BE MAINTAINED DURING THESE TIMES.
35. FACILITIES FOR BICYCLISTS, INCLUDING WITHIN THE WORK ZONE, MUST BE MAINTAINED BY THE CONTRACTOR IN THE SAME LEVEL OF PROTECTION (BARRIER-SEPARATED, PAINTED LANE, ETC.) AS THE EXISTING CONDITIONS.
35. ACCESS BETWEEN STATE ST, COUCH PL, AND BENTON PL FOR MULTI-UNIT (SEMI) TRUCKS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION TO ENABLE DELIVERIES TO BUSINESSES WITH DOORS AND DOCKS ON THESE ALLEYS. THE NEDERLANDER THEATER (24 W RANDOLPH ST) USES COUCH PL FOR SHOW LOAD-IN AND LOAD-OUT BEFORE AND AFTER SHOW RUNS. CURRENTLY KNOWN DAYS OF NEEDED COUCH PL LARGE TRUCK ACCESS ARE 6/10/23-7/30/23, 9/2/23-9/3/23, 9/11/23-9/13/23, AND 1/28/24. ADDITIONAL DATES WILL BE ADDED AS ADDITIONAL SHOWS ARE SCHEDULED. THE CHICAGO THEATER (175 N STATE ST) LOADS-IN AND LOADS-OUT SHOWS ON BENTON PL MULTIPLE TIMES PER MONTH. 180 N WABASH AVE TRASH COLLECTION OCCURS DAILY. THESE AND ADDITIONAL BUSINESSES WITH ALLEY ACCESS RECEIVE TRUCK DELIVERIES, AND ALL BUISNESSES RECEIVE REGULAR, SMALLER DELIVIERIES DAILY.
36. THE CONTRACTOR MUST FURNISH, OPERATE, AND REPOSITION AS DIRECTED THREE (3) CHANGEABLE MESSAGE SIGNS MEETING THE REQUIREMENTS OF ARTICLE 1106.02(I) OF THE IDOT SSRBC AS WELL AS ASSOCIATED BARRELS, BARRICADES, CONES, OR BARRIER WALL FOR PROTECTION. THESE SIGNS AND PROTECTION SHALL BE PROVIDED AND MAINTAINED STARTING TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION AND FOR THE DURATION OF ALL WORK. MESSAGES AND LOCATIONS WILL CHANGE BASED ON CONSTRUCTION STAGE AND WORK ACTIVITIES AND WILL BE DIRECTED BY THE COMMISSIONER.

1

ATTACHMENT D

DESIGN BY:										
DRAWN BY:										
CHECKED BY:		5	2/12/2024	BID ADDENDUM 1						
APPROVED BY:		4	7/3/2023	ISSUED FOR BID	MRT	MRT	CJD			
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT	

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

ARDMORE RODERICK
1500 W CARROLL AVE SUITE 300
CHICAGO, ILLINOIS 60607

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

MAINTENANCE OF TRAFFIC AND DETOUR NOTES

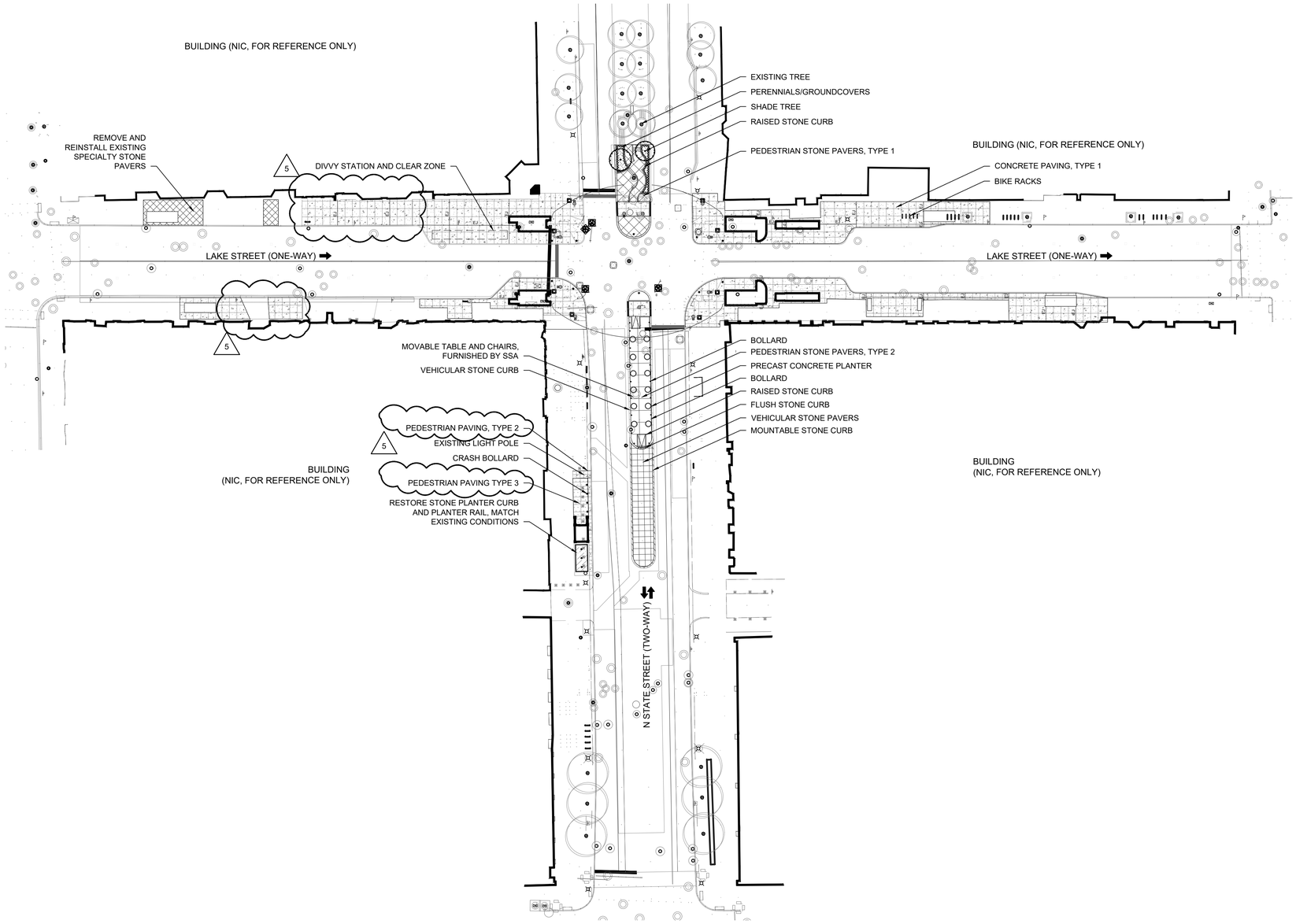
DRAWING NO. CX-100

CDOT PROJECT D-1-209

DATE: 7/3/2023

REVISION NO.

ATTACHMENT E



LEGEND

- PEDESTRIAN PAVING, TYPE 1
- PEDESTRIAN PAVING, TYPE 2 AND 3, SEE SCHEDULE AND ENLARGEMENT PLANS FOR FINISH (5)
- PEDESTRIAN STONE PAVERS, TYPE 1
- PEDESTRIAN STONE PAVERS, TYPE 2
- VEHICULAR STONE PAVERS
- REINSTALL EXISTING SPECIALTY STONE PAVERS
- RAISED STONE CURB AND WALLS
- VEHICULAR STONE CURB
- MOUNTABLE STONE CURB
- FLUSH STONE CURB
- SURFACE MOUNT PLANTERS
- CRASH BOLLARD
- LIGHT BOLLARD
- MOVABLE TABLE AND CHAIRS - FURNISHED BY SSA
- BIKE RACKS
- DIVVY STATION AND CLEAR ZONE - 30' LONG
- EXISTING TREE
- SHADE TREE
- PERENNIALS/ GROUND COVER
- EXPANSION JOINT (EJ)
- CONTROL JOINT

NOTES:
1. COORDINATE LIMITS OF SIDEWALK WITH CIVIL DRAWINGS. WHEREVER POSSIBLE, ALIGN CONCRETE JOINTING WITH EXISTING JOINTING.

1 OVERALL SITE PLAN
1" = 40'-0"

0 20 40 60 80'

DESIGN BY:									
DRAWN BY:		5	2/12/2024	ADDENDA 1	BK	JT	BK		
CHECKED BY:		4	7/3/2023	ISSUED FOR BID	BK	SG	BK		
APPROVED BY:		0	9/9/2022	ISSUED FOR PERMIT	CR	JT	BK		
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SITE DESIGN GROUP, LTD
888 SOUTH MICHIGAN AVENUE, SUITE P1
CHICAGO, ILLINOIS 60605

LICENSED LANDSCAPE ARCHITECT
BRADLEY C. McCAULEY
157001466
STATE OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

LANDSCAPE SITE PLAN

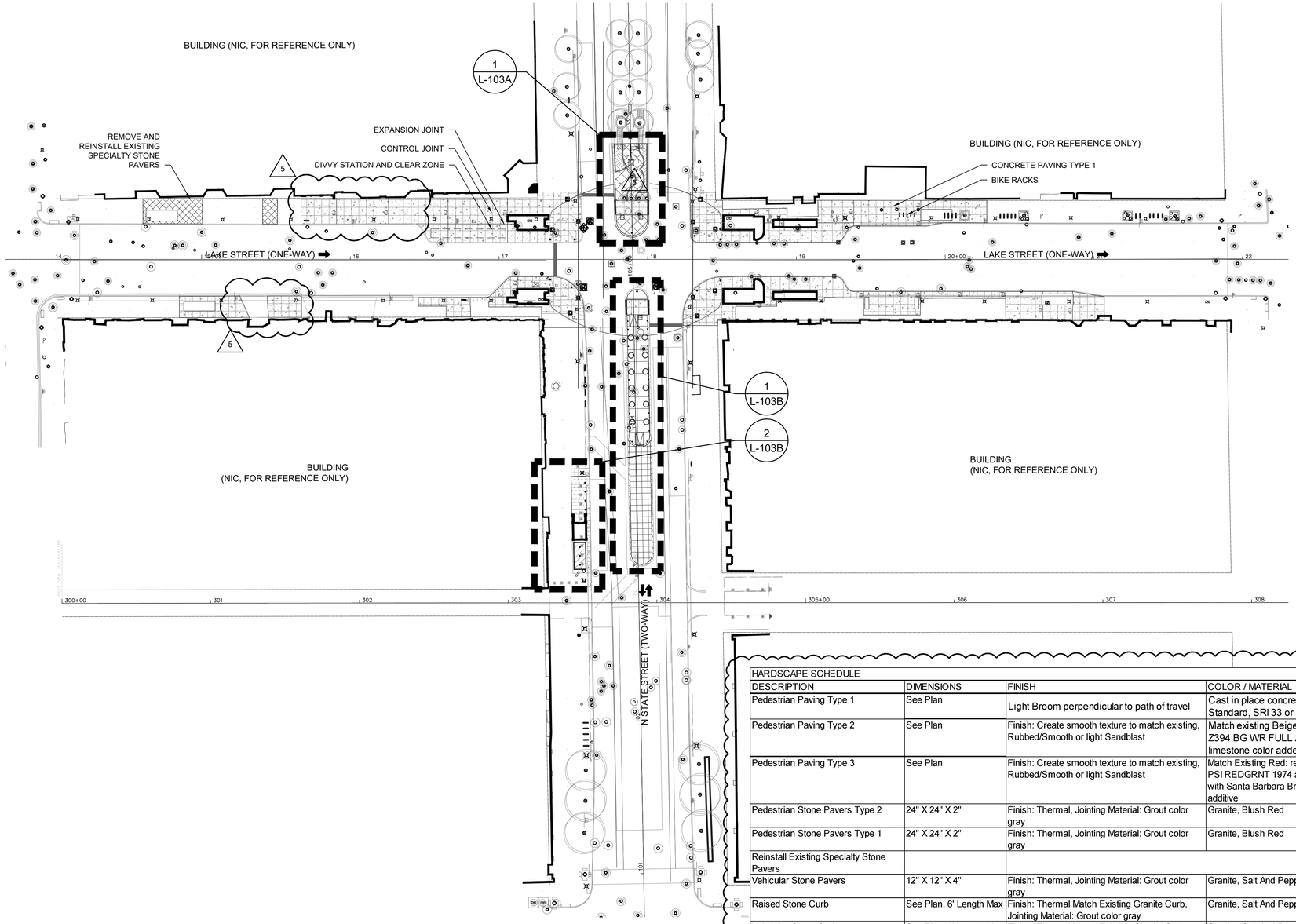
CDOT PROJECT D-1-209 | DATE: 9/9/2022

SPEC. NO.

DRAWING NO. **L-101**

REVISION NO.

ATTACHMENT F



LEGEND

- PEDESTRIAN PAVING, TYPE 1
- CRASH BOLLARD
- BIKE RACKS
- DIVVY STATION AND CLEAR ZONE - 30' LONG
- EXPANSION JOINT
- CONTROL JOINT

NOTE:
1. IF SALVAGED PAVERS ARE INSUFFICIENT TO FILL THE SIDEWALK AREA, THE CONTRACTOR MUST SUPPLY REPLACEMENT GRANITE PAVERS MATCHING THE TYPE, SIZE, FINISH, AND COLOR OF THE EXISTING PAVERS.

HARDSCAPE SCHEDULE

DESCRIPTION	DIMENSIONS	FINISH	COLOR / MATERIAL	MANUFACTURER	LOCATION	REMARKS
Pedestrian Paving Type 1	See Plan	Light Broom perpendicular to path of travel	Cast in place concrete Standard, SRI 33 or higher		Lake Street	MasterSeal SL1 Expansion Joints w/ Saw-cut Control Joints
Pedestrian Paving Type 2	See Plan	Finish: Create smooth texture to match existing, Rubbed/Smooth or light Sandblast	Match existing Beige: 71-PCC-Z394 BG WR FULL AE with limestone color added		State Street West Side	MasterSeal SL1 Expansion Joints w/ Saw-cut Control Joints
Pedestrian Paving Type 3	See Plan	Finish: Create smooth texture to match existing, Rubbed/Smooth or light Sandblast	Match Existing Red: red - 4000 PSI REDGRNT 1974 aggregate with Santa Barbara Brown additive		State Street West Side	MasterSeal SL1 Expansion Joints w/ Saw-cut Control Joints
Pedestrian Stone Pavers Type 2	24" X 24" X 2"	Finish: Thermal, Jointing Material: Grout color gray	Granite, Blush Red	Coldspring	State Street South Median	Match Existing granite used on existing northern median
Pedestrian Stone Pavers Type 1	24" X 24" X 2"	Finish: Thermal, Jointing Material: Grout color gray	Granite, Blush Red	Coldspring	State Street North Median	Match Existing granite used on existing northern median
Reinstall Existing Specialty Stone Pavers				Coldspring	Lake Street	Remove And Reinstall, Replace Any Damage Pavers In Kind To Existing Along Lake Street
Vehicular Stone Pavers	12" X 12" X 4"	Finish: Thermal, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street South Median	Match Existing granite used on existing northern median
Raised Stone Curb	See Plan, 6' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street Medians	Match Existing granite used on existing northern median
Vehicular Stone Curb	See Plan, 5' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street Medians	Match Existing granite used on existing northern median
Mountable Stone Curb	See Plan, 5' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street South Median	Match Existing granite used on existing northern median
Flush Stone Curb	See Plan, 6' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street Medians	Match Existing granite used on existing northern median
Stone Stair	See Plan, 5' Length Max	Finish: Thermal, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street North Median	Match Existing granite used on existing northern median
Restore Stone Planter Curb	See Plan	Polished				

1 OVERALL SITE PLAN
1" = 40'-0"

0 20 40 60 80'

DESIGN BY:										
DRAWN BY:		5	2/12/2024	ADDENDA 1	BK	JT	BK			
CHECKED BY:		4	7/3/2023	ISSUED FOR BID	BK	SG	BK			
APPROVED BY:		0	9/9/2022	ISSUED FOR PERMIT	CR	JT	BK			
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT	

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SITE DESIGN GROUP, LTD
888 SOUTH MICHIGAN AVENUE, SUITE P1
CHICAGO, ILLINOIS 60605

LICENSED LANDSCAPE ARCHITECT
BRADLEY C. McCAULEY
157001466
STATE OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

HARDSCAPE PLAN

CDOT PROJECT D-1-209

DATE: 9/9/2022

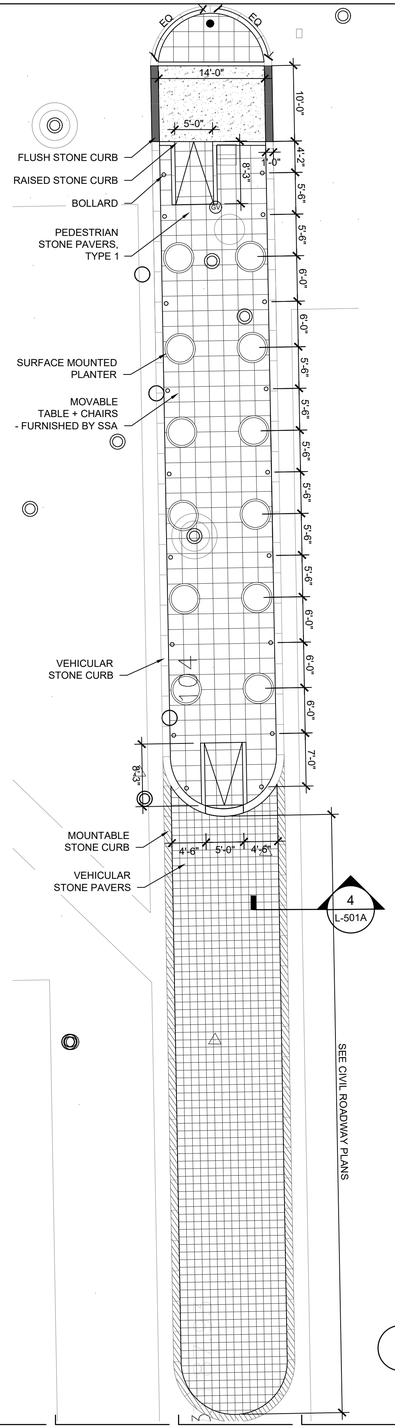
SPEC. NO.

DRAWING NO. **L-103**

REVISION NO.

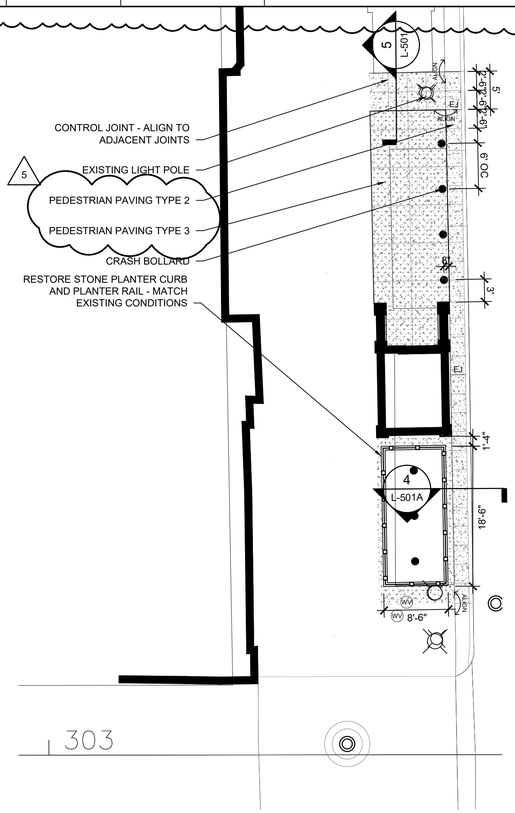
ATTACHMENT G

HARDSCAPE SCHEDULE						
DESCRIPTION	DIMENSIONS	FINISH	COLOR / MATERIAL	MANUFACTURER	LOCATION	REMARKS
Pedestrian Paving Type 1	See Plan	Light Broom perpendicular to path of travel	Cast in place concrete Standard, SRI 33 or higher		Lake Street	MasterSeal SL1 Expansion Joints w/ Saw-cut Control Joints
Pedestrian Paving Type 2	See Plan	Finish: Create smooth texture to match existing, Rubbed/Smooth or light Sandblast	Match existing Beige: 71-PCC-Z394 BG WR FULL AE with limestone color added		State Street West Side	MasterSeal SL1 Expansion Joints w/ Saw-cut Control Joints
Pedestrian Paving Type 3	See Plan	Finish: Create smooth texture to match existing, Rubbed/Smooth or light Sandblast	Match Existing Red: red - 4000 PSI REDGRNT 1974 aggregate with Santa Barbara Brown additive		State Street West Side	MasterSeal SL1 Expansion Joints w/ Saw-cut Control Joints
Pedestrian Stone Pavers Type 2	24" X 24" X 2"	Finish: Thermal, Jointing Material: Grout color gray	Granite, Blush Red	Coldspring	State Street South Median	Match Existing granite used on existing northern median
Pedestrian Stone Pavers Type 1	24" X 24" X 2"	Finish: Thermal, Jointing Material: Grout color gray	Granite, Blush Red	Coldspring	State Street North Median	Match Existing granite used on existing northern median
Reinstall Existing Specialty Stone Pavers				Coldspring	Lake Street	Remove And Reinstall, Replace Any Damage Pavers In Kind To Existing Along Lake Street
Vehicular Stone Pavers	12" X 12" X 4"	Finish: Thermal, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street South Median	Match Existing granite used on existing northern median
Raised Stone Curb	See Plan, 6' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street Medians	Match Existing granite used on existing northern median
Vehicular Stone Curb	See Plan, 5' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street Medians	Match Existing granite used on existing northern median
Mountable Stone Curb	See Plan, 5' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street South Median	Match Existing granite used on existing northern median
Flush Stone Curb	See Plan, 6' Length Max	Finish: Thermal Match Existing Granite Curb, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street Medians	Match Existing granite used on existing northern median
Stone Stair	See Plan, 5' Length Max	Finish: Thermal, Jointing Material: Grout color gray	Granite, Salt And Pepper	Coldspring	State Street North Median	Match Existing granite used on existing northern median
Restore Stone Planter Curb	See Plan	Polished				



1 SOUTH MEDIAN ENLARGEMENT PLAN
1" = 10'-0"

0 2 4 6 8'



2 SOUTHWEST ENLARGEMENT PLAN
1' = 10'-0"

0 2 4 6 8'

LEGEND

- PEDESTRIAN PAVING, TYPE 2
- PEDESTRIAN PAVING, TYPE 3
- PEDESTRIAN STONE PAVERS, TYPE 2
- VEHICULAR STONE PAVERS
- RAISED STONE CURB AND WALLS
- VEHICULAR STONE CURB
- MOUNTABLE STONE CURB
- FLUSH STONE CURB
- EJ — EXPANSION JOINT
- CONTROL JOINT
- SURFACE MOUNT PLANTERS
- CRASH BOLLARD
- BOLLARD
- MOVABLE TABLE AND CHAIRS - FURNISHED BY SSA

DESIGN BY:										
DRAWN BY:		5	2/12/2024	ADDENDA 1	BK	JT	BK		
CHECKED BY:		4	7/3/2023	ISSUED FOR BID	BK	SG	BK		
APPROVED BY:		0	9/9/2022	ISSUED FOR PERMIT	CR	JT	BK		
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SITE DESIGN GROUP, LTD
888 SOUTH MICHIGAN AVENUE, SUITE P1
CHICAGO, ILLINOIS 60605

LICENSED LANDSCAPE ARCHITECT
BRADLEY C. McCAULEY
157001466
STATE OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

HARDSCAPE SOUTH MEDIAN ENLARGEMENT

CDOT PROJECT D-1-209

DATE: 9/9/2022

SPEC. NO.

DRAWING NO. **L-103B**

REVISION NO.

ATTACHMENT H

PLANT SCHEDULE						
CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
SHADE TREES						
GL.TR	2	*Gleditsia Tricanthos 'Shademaster'*	Honey Locust	B&B	2.5" cal	matching heads
PERENNIALS, GROUNDCOVER, AND GRASSES MIXES						
PA.TR	194 SQFT	*Pachysandra Treminalis*	Japanese Pachysandra		4" plug	12" o.c
ANNUALS						
AS.DE	98	*Asparagus densiflorus 'Myers'*	Foxtail Fern		1 gal cont.	10" o.c
AL.RS	61	*Alocasia 'Regal Shields'*	Regal Shields Elephant Ear		10" cont.	12" o.c
BE.BW	122	*Begonia 'Big White w/ Green Leaf'*	Big White Begonia		6" cont.	10" o.c
CA.SB	98	*Caladium 'Summer Breeze'*	Summer Breeze Angel Wings		6" cont.	10" o.c
CO.FR	60	*Cordyline fruticosa 'Exotica Tricolor'*	Exotica Tricolor Hawaiian Ti		10" cont.	12" o.c
CO.UT	231	*Coleus 'Under The Sea Bonefish'*	Under The Sea Bonefish Coleus		4.5" cont.	6" o.c
HE.AL	327	*Hedera algeriensis*	Algerian Ivy		4.5" cont.	6" o.c

5

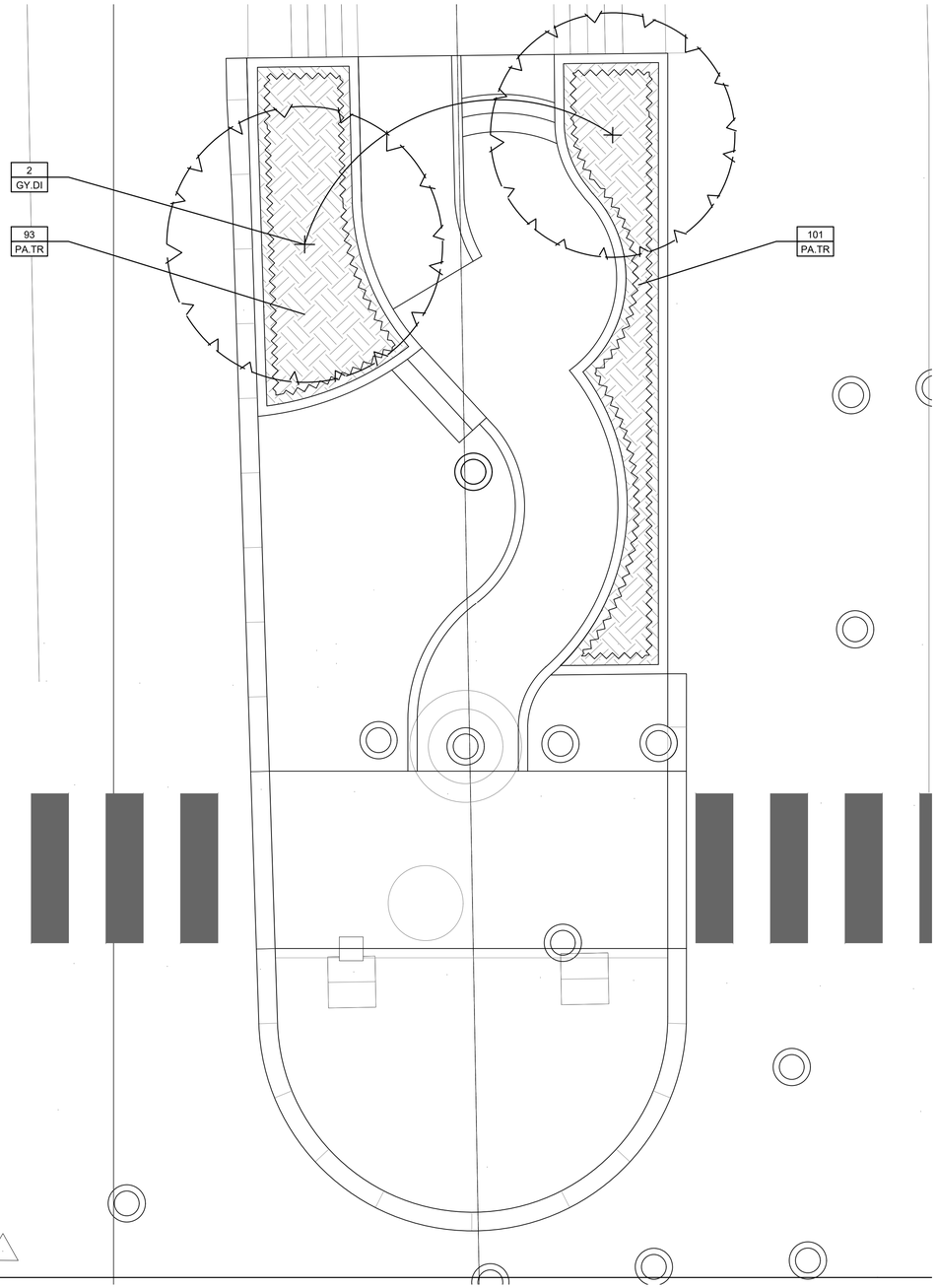
NOTE
1. ANNUAL SELECTION SHALL BE COORDINATED WITH CENTRAL LOOP ALLIANCE PRIOR TO PURCHASE

LEGEND

SHADE TREE

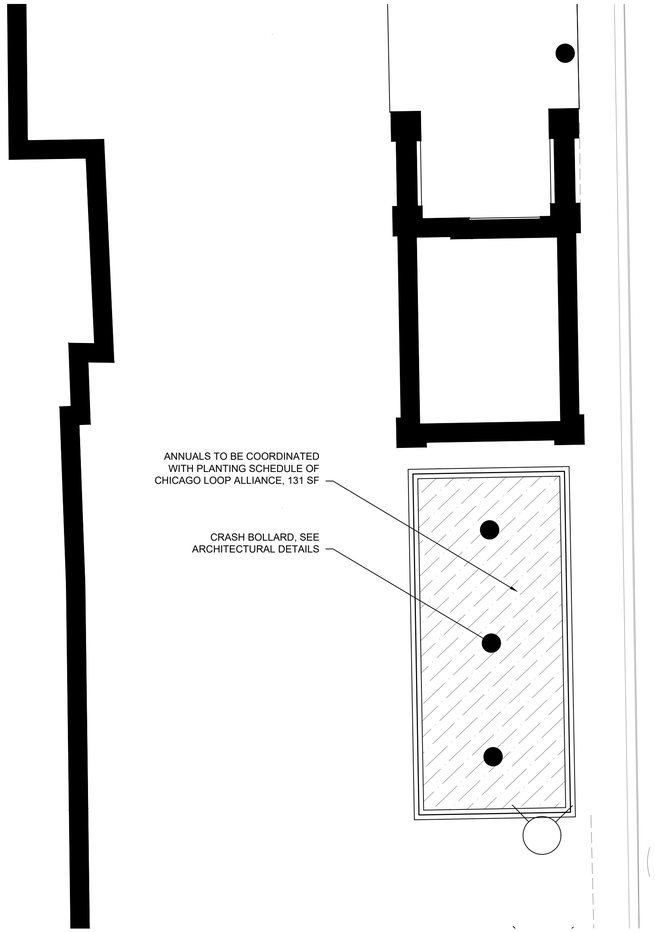
PERENNIALS/ GROUNDCOVER

ANNUALS



1 PLANTING PLAN ENLARGEMENT - NORTH
1/4" = 1'-0"

0 2 4 6 8'



2 PLANTING PLAN ENLARGEMENT - SOUTHWEST
1/4" = 1'-0"

0 2 4 6 8'

DESIGN BY:									
DRAWN BY:		5	2/12/2024	ADDENDA 1	BK	JT	BK		
CHECKED BY:		4	7/3/2023	ISSUED FOR BID	BK	SG	BK		
APPROVED BY:		0	9/9/2022	ISSUED FOR PERMIT	CR	JT	BK		
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SITE DESIGN GROUP, LTD
888 SOUTH MICHIGAN AVENUE, SUITE P1
CHICAGO, ILLINOIS 60605

LICENSED LANDSCAPE ARCHITECT
BRADLEY C. McCAULEY
157001466
STATE OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

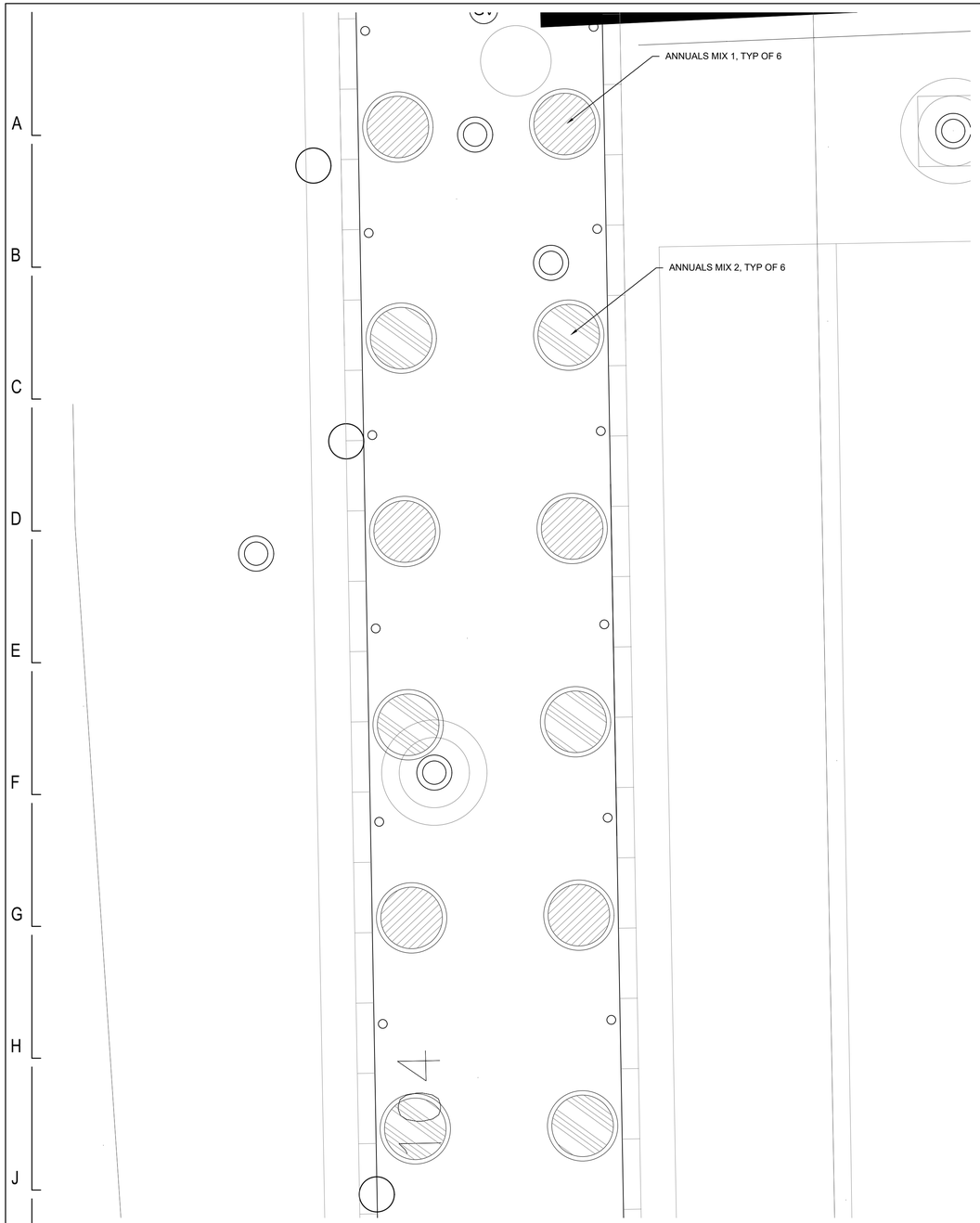
PLANTING PLANS - ENLARGEMENTS

DRAWING NO. **L-106**

CDOT PROJECT D-1-209

DATE: 9/9/2022

REVISION NO.



1 PLANTING PLAN ENLARGEMENT - SOUTH
1/4" = 1'-0"

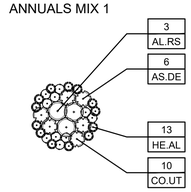
0 2 4 6 8'

PLANT SCHEDULE						
CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
SHADE TREES						
GL.TR	2	*Gleditsia Tricanthos 'Shademaster'*	Honey Locust	B&B	2.5" cal	matching heads
PERENNIALS, GROUNDCOVER, AND GRASSES MIXES						
PA.TR	194 SQFT	*Pachysandra Treminalis*	Japanese Pachysandra		4" plug	12" o.c
ANNUALS						
AS.DE	98	*Asparagus densiflorus 'Myers'*	Foxtail Fern		1 gal cont.	10" o.c
AL.RS	61	*Alocasia 'Regal Shields'*	Regal Shields Elephant Ear		10" cont.	12" o.c
BE.BW	122	*Begonia 'Big White w/ Green Leaf'*	Big White Begonia		6" cont.	10" o.c
CA.SB	98	*Caladium 'Summer Breeze'*	Summer Breeze Angel Wings		6" cont.	10" o.c
CO.FR	60	*Cordyline fruticosa 'Exotica Tricolor'*	Exotica Tricolor Hawaiian Ti		10" cont.	12" o.c
CO.UT	231	*Coleus 'Under The Sea Bonefish'*	Under The Sea Bonefish Coleus		4.5" cont.	6" o.c
HE.AL	327	*Hedera algeriensis*	Algerian Ivy		4.5" cont.	6" o.c

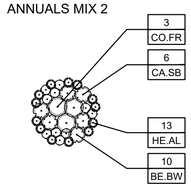
5

NOTE
1. ANNUAL SELECTION SHALL BE COORDINATED WITH CENTRAL LOOP ALLIANCE PRIOR TO PURCHASE

ANNUALS MIX 1



ANNUALS MIX 2



ATTACHMENT I

LEGEND

PERENNIALS/ GROUNDCOVER

ANNUALS MIX 1

ANNUALS MIX 2

DESIGN BY:										
DRAWN BY:		5	2/12/2024	ADDENDA 1	BK	JT	BK		
CHECKED BY:		4	7/3/2023	ISSUED FOR BID	BK	SG	BK		
APPROVED BY:		0	9/9/2022	ISSUED FOR PERMIT	CR	JT	BK		
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SITE DESIGN GROUP, LTD
888 SOUTH MICHIGAN AVENUE, SUITE P1
CHICAGO, ILLINOIS 60605

LICENSED LANDSCAPE ARCHITECT
BRADLEY C. McCAULEY
157001466
STATE OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

PLANTING PLANS - ENLARGEMENTS

DRAWING NO. **L-106A**

CDOT PROJECT D-1-209

DATE: 9/9/2022

REVISION NO.

STRUCTURAL STEEL

1. THE MANUFACTURE, DETAILS, FABRICATION, DELIVERY AND ERECTION OF ALL STRUCTURAL STEEL FRAMING SHALL CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".

2. COMPLY WITH ALL APPLICABLE PROVISIONS OF AISC SPECIFICATION 360-16. ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO AISC CODE OF STANDARD PRACTICE, 303-16.

3. PROVIDE STRUCTURAL STEEL CONFORMING TO THE FOLLOWING STANDARDS FOR THE TRACK SUPPORTING STRUCTURE, UNO:

STRUCTURAL STEEL W SHAPES	ASTM A709, GRADE 50
STRUCTURAL STEEL CHANNELS, ANGLES	ASTM A709, GRADE 50 UNO
SHIM PLATES, GUSSET PLATES	ASTM A709, GRADE 50 UNO
PLATE FOR BENT COLUMNS, GIRDERS, AND STIFFENERS	ASTM A709, GRADE 50
BUILT-UP SHAPES	ASTM A709, GRADE 50
ANCHOR BOLTS	ASTM F1554, GRADE 55
BEAM AND COLUMN HEADED STUDS	ASTM A108, GRADE 1010-1020

4. PROVIDE STRUCTURAL STEEL CONFORMING TO THE FOLLOWING STANDARDS FOR ALL OTHER STRUCTURE, UNO:

STRUCTURAL STEEL W SHAPES	ASTM A992, GRADE 50
STRUCTURAL STEEL CHANNELS, ANGLES	ASTM A36, GRADE 36 UNO
BUILT-UP SHAPES (BOXES AND I-SHAPES)	ASTM A572, GRADE 50
SHIM PLATES, GUSSET PLATES, STIFFENER PLATES	ASTM A36, GRADE 36 UNO
HOLLOW STRUCTURAL SECTION	ASTM A500, GRADE C
PIPE	ASTM A53, GRADE B
ANCHOR BOLTS	ASTM F1554, GRADE 55
HEADED STUDS	ASTM A108, GRADE 1010-1020

SEE CANOPY NOTES ON SHEET S-600 FOR ADDITIONAL MATERIAL DESIGN STRENGTHS.

5. WHERE NO CAMBER IS INDICATED, BEAMS SHALL BE FABRICATED SO THAT AFTER ERECTION, ANY NATURAL CAMBER IS UPWARD.

6. BEARING SURFACES OF ALL COLUMNS SHALL BE FINISHED FOR FULL BEARING CONTACT OR WELDS SHALL BE DESIGNED TO TRANSMIT ALL AXIAL COMPRESSION.

7. FIELD MODIFICATION OF TRACK STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL OF THE COMMISSIONER. ALL COPES, HOLES, OPENINGS, AND MODIFICATIONS REQUIRED IN ALL OTHER STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS FOR APPROVAL BY THE COMMISSIONER. BURNING OF HOLES OR MAKING CUTS IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED EXCEPT BY THE WRITTEN PERMISSION OF THE COMMISSIONER.

8. SPLICING STRUCTURAL MEMBERS WHERE NOT DETAILED ON STRUCTURAL DRAWINGS IS PROHIBITED WITHOUT PRIOR ACCEPTANCE BY THE COMMISSIONER.

9. DO NOT SHORE STEEL BEAMS AND/OR STEEL DECK WITHOUT IMPLEMENTING A SHORING PLAN. SUPPORT FORMWORK FOR FLAT SOFFIT SLABS FROM STEEL BEAMS THAT DIRECTLY SUPPORT SLAB BEING FORMED. DESIGN AND DETAIL FORMWORK FOR FLAT SLABS FROM STEEL BEAMS THAT DIRECTLY SUPPORT SLAB BEING FORMED. DESIGN AND DETAIL FORMWORK FOR FLAT SLABS TO CONTINUOUSLY BRACE TOP FLANGE OF STEEL BEAMS FROM LATERAL MOVEMENT DURING CONSTRUCTION OF SLAB. ROOF SLABS SHALL BE CONSTRUCTED TO THE ELEVATIONS SPECIFIED.

10. FOR ALL STEEL FINISH REQUIREMENTS, REFER TO ARCHITECTURAL DOCUMENTS AND SPECIFICATIONS.

11. THE STRUCTURAL STEEL CONTRACTOR SHALL VERIFY THE FOUNDATION CONSTRUCTION FOR ANCHOR BOLT LOCATION, ELEVATION OF TOP OF CONCRETE AND BEARING PLATES, ALIGNMENT, ETC, PRIOR TO START OF ERECTION.

12. CONTRACTOR SHALL GROUT UNDER ALL COLUMN BASE PLATES WITH AN APPROVED NONSHRINK GROUT AFTER COLUMNS ARE SET AND PLUMBED AND PRIOR TO CONNECTION TO TRACK SUPPORTING STRUCTURE.

13. STRUCTURAL STEEL CONTRACTOR MUST COORDINATE THE FINAL SIZE AND LOCATION OF MECHANICAL UNITS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.

14. STRUCTURAL STEEL CONTRACTOR SHALL FURNISH AND INSTALL ANGLE FRAMING AROUND OPENINGS AND UNDER CURBS OF ALL EQUIPMENT AS PER MECHANICAL DRAWINGS, EVEN IF NOT SHOWN ON STRUCTURAL DRAWINGS. ALL SUPPLEMENTAL STEEL SHALL BE HOT DIP GALVANIZED UNO.

15. DISTRIBUTE STEEL STUDS UNIFORMLY OVER BEAM SPAN UNLESS OTHERWISE NOTED ON DRAWINGS. MAXIMUM SPACING OF ¾ INCH HEADED STUDS SHALL NOT EXCEED 12" ON CENTER (ONE STUD PER FOOT) UNLESS OTHERWISE NOTED ON PLAN.

16. PROVIDE HOLES IN ALL STEEL AS REQUIRED TO PREVENT ANY ACCUMULATION OF WATER. ALL PENETRATIONS THROUGH MAIN MEMBERS SHALL NOT EXCEED 1 1/8" DIAMETER AND SHALL BE GROUND SMOOTH. THESE DRAINS MUST BE KEPT OPEN AND CLEAN.

17. ERECT AND MAINTAIN TEMPORARY BRACING TO INSURE THE ALIGNMENT AND STABILITY OF THE STRUCTURE DURING ERECTION UNTIL PERMANENT CONNECTIONS HAVE BEEN COMPLETED.

18. ALL PROPOSED STRUCTURAL STEEL FOR THE TRACK STRUCTURE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION CONFORMING TO THE REQUIREMENTS OF ASTM A123.

19. THE COLOR OF THE FINAL FINISH COAT FOR THE BENT, TRACK STRINGER, AND PLATFORM STRUCTURAL STEEL SHALL BE CITY OF CHICAGO BORDEAUX. PAINT COLOR SHALL MATCH FOR NEW AND EXISTING TRACK STRINGER STRUCTURAL STEEL. THE COLOR OF THE FINAL FINISH COAT FOR THE CANOPY STRUCTURAL STEEL SHALL BE CTA STANDARD WHITE FEDERAL STANDARD NO. 595(b) COLOR NUMBER 27722 HIGH GLOSS. SEE SPECIFICATIONS FOR HIGH-PERFORMANCE COATINGS. SEE CANOPY DRAWINGS FOR SPECIAL CANOPY FINISH REQUIREMENTS.

20. THE EXISTING STRUCTURAL STEEL BETWEEN BENTS 442 AND 457 SHALL BE CLEANED AND PAINTED. METHOD NO. 6, SSPC-SP 6, COMMERCIAL BLAST CLEANING, SHALL BE USED TO CLEAN EXISTING STRUCTURAL STEEL. SEE THE SPECIFICATIONS FOR CLEANING AND PAINTING OF EXISTING SURFACES.

21. THE EXISTING STRUCTURE CONTAINS LEAD. SEE SPECIFICATIONS FOR LEAD ABATEMENT PROCEDURES.

22. PROPOSED BENT CROSS GIRDERS, COLUMNS, STIFFENERS, STAIR SUPPORTING BEAMS, SPLICES, STRINGER CONNECTIONS, AND BENT CONNECTIONS SHALL BE ASSEMBLED AT THE FABRICATION PLANT AFTER GALVANIZING FOR EACH BENT. PARTS OF A BENT SHALL BE ASSEMBLED, WELL PINNED AND/OR FIRMLY DRAWN TOGETHER WITH BOLTS BEFORE REAMING OR TIGHTENING OF FASTENERS IS COMMENCED. EACH BENT AND ITS PARTS SHALL BE FREE FROM TWISTS, BENDS, AND OTHER DEFORMATIONS THAT WOULD PREVENT ERECTION OF BENT IN THE FIELD AND/OR ANY OF THE SUGGESTED SEQUENCE OF CONSTRUCTION (TRACK STRUCTURE) FROM OCCURING.

23. PROPOSED TRACK STRINGERS, STIFFENERS, LATERAL BRACING AND CROSS FRAMES BETWEEN STRINGERS, AND END CONNECTIONS SHALL BE ASSEMBLED AT THE FABRICATION PLANT AFTER GALVANIZING. THESE PARTS SHALL BE ASSEMBLED, WELL PINNED AND/OR FIRMLY DRAWN TOGETHER WITH BOLTS BEFORE REAMING OR TIGHTENING OF FASTENERS IS COMMENCED. THE TRACK STRINGERS AND THEIR PARTS SHALL BE FREE FROM TWISTS, BENDS, AND OTHER DEFORMATIONS THAT WOULD PREVENT THEIR ERECTION IN THE FIELD AND/OR ANY OF THE SUGGESTED SEQUENCE OF CONSTRUCTION (TRACK STRUCTURE) FROM OCCURING.

24. PROPOSED THRU-PLATE GIRDER, STIFFENERS, AND END CONNECTIONS SHALL BE ASSEMBLED AT THE FABRICATION PLANT AFTER GALVANIZING. THESE PARTS SHALL BE ASSEMBLED, WELL PINNED AND/OR FIRMLY DRAWN TOGETHER WITH BOLTS BEFORE REAMING OR TIGHTENING OF FASTENERS IS COMMENCED. THE THRU-PLATE GIRDER AND ITS PARTS SHALL BE FREE FROM TWISTS, BENDS, AND OTHER DEFORMATIONS THAT WOULD PREVENT ITS ERECTION IN THE FIELD AND/OR ANY OF THE SUGGESTED SEQUENCE OF CONSTRUCTION (TRACK STRUCTURE) FROM OCCURING.

STRUCTURAL STEEL CONNECTIONS

1. BOLTED STRUCTURAL CONNECTIONS SHALL CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS".

2. ALL STEEL CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC-LOAD AND RESISTANCE FACTOR DESIGN.

3. PROVIDE STRUCTURAL STEEL CONNECTION MATERIAL FOR THE TRACK SUPPORTING STRUCTURE, UNO:

WT'S	ASTM A709, GRADE 50
BOLTS	ASTM F3125, GRADE A325, UNO (A490 PROHIBITED)
NUTS	ASTM A563
WASHERS	ASTM F436
WELD ELECTRODES	E70XX (FIELD WELDS NOT PERMITTED)

MIN BOLT SIZE FOR TRACK SUPPORT STEEL = 7/8" DIA. (15/16" DIA. BOLT HOLES)

4. PROVIDE STRUCTURAL STEEL CONNECTION MATERIAL FOR ALL OTHER STRUCTURE, UNO:

WT'S	ASTM A992, GRADE 50
BOLTS	ASTM F3125, GRADE A325 (A490 PROHIBITED)
NUTS	ASTM A563
WASHERS	ASTM F436
WELD ELECTRODES	E70XX

MIN BOLT SIZE ELSE = 3/4" DIA.

5. ALL CONNECTION DETAILS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. ANY DIMENSIONAL DEVIATION OR CONNECTION SUBSTITUTION FROM THE DOCUMENTS SHALL REQUIRE THE CONTRACTOR TO SUBMIT DESIGN AND DETAIL BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER FOR REVIEW AND ACCEPTANCE BY THE COMMISSIONER. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.

6. FIELD WELDS ARE ONLY ALLOWED AS SPECIFICALLY INDICATED AS SUCH ON THE PLANS.

7. FIELD WELDING ON TRACK SUPPORTING STRUCTURE SHALL NOT BE PERMITTED. ALL FIELD CONNECTIONS WITH TRACK SUPPORTING STRUCTURE SHALL BE BOLTED.

8. FOR CONNECTION DESIGN AND DETAILING, SET CONNECTION WORK POINT AT INTERSECTION OF MEMBER CENTERLINES, UNLESS NOTED OTHERWISE.

9. ALL BOLTED CONNECTIONS SHALL BE SLIP-CRITICAL CLASS B CONNECTIONS, UNLESS OTHERWISE NOTED.

10. EACH SHEAR CONNECTION SHALL HAVE A MINIMUM OF TWO BOLTS, THREE BOLTS IF LOCATED AT TRACK SUPPORTING STRUCTURE.

11. WELDING SHALL CONFORM TO STANDARDS OF AWS D1.5 FOR TRACK SUPPORTING STRUCTURE (OR AWS D1.1 ELSEWHERE). ELECTRODES FOR FIELD AND SHOP WELDING SHALL BE E70XX AND SHALL CONFORM TO AWS RECOMMENDATIONS. WELDS NOT INDICATED SHALL BE AWS MINIMUM. FOLLOW PREHEAT REQUIREMENTS OF AWS. LOW HYDROGEN ELECTRODES MAY BE UTILIZED TO MINIMIZE THE USE OF PREHEAT. USE LOW HYDROGEN ELECTRODES FOR WELDING TO CONCRETE EMBEDMENT PLATES OR OTHER STRUCTURAL STEEL ELEMENT IN CONTACT WITH CONCRETE OR MASONRY.

12. UNLESS OTHERWISE NOTED, ALL WELDS SHALL BE CONTINUOUS ¼" MINIMUM FILLET WELDS FOR ALL MISC. STEEL SHOWN ON ARCH/MECH/ELECT. DRAWINGS.

13. UNLESS OTHERWISE NOTED, DETAILS INDICATED ON DRAWINGS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.

14. EXCEPT WHERE SLIP-CRITICAL BOLTS ARE SHOWN ON THE DRAWINGS, ALL HIGH-STRENGTH BOLTS SHALL BE INSTALLED AS FULL PRETENSIONED BOLTS.

15. ELEMENTS SHALL BE SHOP FABRICATED TO THE GREATEST EXTENT POSSIBLE AND SHIPPED PROTECTED TO REDUCE FIELD WELDING AND FIELD TOUCH UP.

16. ALL BOLTS SHALL BE HOT-DIP GALVANIZED CONFORMING TO THE REQUIREMENTS OF ASTM A153.

17. WHERE ACCESSIBLE, CLEAN FAYING SURFACES OF THE EXISTING STEEL ACCORDING TO THE REQUIREMENTS FOR POWER TOOL CLEANING, SSPC-SP3. COAT FAYING SURFACE WITH PRIMER AFTER CLEANING.

FRACTURE CRITICAL

1. FRACTURE CRITICAL MEMBERS AND CONNECTIONS ARE DENOTED ON DRAWINGS (FCM) AND ARE DEFINED AS FOLLOWS:

   TRACK BENT CROSS GIRDERS, TRACK-SUPPORTING BUILT UP SHAPES AND END CONNECTIONS
   TRACK BENT EXPANSION JOINT SEAT CONNECTION AND ITS COMPONENTS
   CANOPY DOME STRUCTURE TENSION TIE GIRDERS

2. ALL FRACTURE CRITICAL MEMBER WELDS SHALL BE FABRICATED IN ACCORDANCE WITH AWS D1.5 AND CHAPTER 12.

3. ALL FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL MEET THE REQUIREMENTS OF AREMA CHAPTER 15, SECTION 1.14, FRACTURE CONTROL PLAN FOR FRACTURE CRITICAL MEMBERS.

4. ALL FRACTURE CRITICAL MATERIALS SHALL MEET CHARPY V-NOTCH IMPACT TEST REQUIREMENTS FOR A MIN. SERVICE TEMPERATURE OF -30° F (SEE AREMA REFERENCE TABLE 15.1.14) UNO.

FOUNDATIONS

1. THE FOUNDATION DESIGN IS BASED ON THE STRUCTURAL GEOTECHNICAL REPORT BY GSG CONSULTANTS, INC. DATED 12/03/2021 AND THE GEOTECHNICAL DESIGN MEMORANDUM DATED 6/9/2022. RECOMMENDATIONS PREPARED THEREIN MUST BE READ THROUGH AND THOROUGHLY STUDIED BY THE CONTRACTOR BEFORE PROCEEDING WITH ANY FOUNDATION WORK INCLUDING SIRE PREPARATION, EXCAVATION, AND MINIMUM EXTERIOR FOOTING DEPTH. BOTTOM OF ALL FOUNDATIONS SHALL BE INSPECTED BY A REGISTERED SOILS ENGINEER AND DESIGN BEARING CAPACITY VERIFIED BEFORE PLACING ANY CONCRETE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PROTECT ALL EXCAVATION. WHERE NECESSARY, THE CONTRACTOR SHALL SUBMIT A TEMPORARY SOIL RETENTION SYSTEM DESIGN INCLUDING PLAN DETAILS AND CALCULATIONS BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER FOR REVIEW AND ACCEPTANCE BY THE COMMISSIONER.

3. ALL MICROPILES WITHIN 25 FEET OF NEIGHBORING STRUCTURES AND EXISTING UTILITIES SHALL BE PRE-AUGURED DOWN TO A MINIMUM DEPTH OF 20 FEET OR THE LOWEST LEVEL OF THE ADJACENT STRUCTURE, WHICHEVER IS DEEPER. THE PILE INSTALLER SHALL SUBMIT A VIBRATION CONTROL AND MONITORING PLAN TO THE COMMISSIONER PRIOR TO THE START OF CONSTRUCTION.

4. OBSTRUCTIONS TO THE DRILLED SHAFT AND MICROPILE DRILLING PROCEDURES ARE ANTICIPATED TO BE ENCOUNTERED. PRE-AUGURING THROUGH FILL OR EXCAVATION TO REMOVE THE OBSTRUCTION SHOULD BE PERFORMED AS NECESSARY TO FACILITATE SHAFT AND PILE INSTALLATION.

5. REFER TO GEOTECHNICAL REPORT FOR ANTICIPATED GROUND WATER TABLE CONDITIONS AND ELEVATIONS.

6. PILE LOAD TESTING SHALL BE PERFORMED ACCORDING TO THE SPECIFICATIONS. REPORTS SHALL BE ISSUED FOR ALL TEST PILES. SEE SPECIFICATION FOR REQUIREMENTS.

7. CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THAT EXCAVATION SHALL NOT UNDERMINE ADJACENT EXISTING BUILDING FOUNDATIONS TO REMAIN, AND THAT EXISTING FOUNDATIONS ARE PROTECTED FROM SETTLEMENT ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

8. PERMANENT CASING SHALL BE REQUIRED AT ALL DRILLED SHAFT LOCATIONS. REFER TO THE SPECIFICATIONS FOR THE REQUIRED DEPTH AND THICKNESS OF THE PERMANENT CASING. THE USE OF TEMPORARY CASING OR ALTERNATE METHODS WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE COMMISSIONER.

9. FOR MORE INFORMATION ON THE DRILLED SHAFTS AND MICROPILES, SEE THE SPECIFICATIONS.

10. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, RELOCATION, AND REINSTALLATION OF THE EXISTING MONUMENT LOCATED IN THE MEDIAN OF STATE STREET NORTH OF LAKE STREET TO A LOCATION DETERMINED BY OTHERS WITHIN ONE MILE AS SPECIFIED BY CDOT. THE CONTRACTOR SHALL PREPARE DRAWINGS AND CALCULATIONS FOR THE FOUNDATION DESIGN AND ALL OTHER MEANS AND METHODS SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER AND SUBMIT TO THE COMMISSIONER FOR APPROVAL.

11. APPROVED BACKFILL MATERIAL UNDER SLABS ON GROUND SHALL BE PLACED IN LAYERS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY OBTAINED IN ACCORDANCE WITH ASTM D 1557, MODIFIED PROCTOR METHOD.

CAST-IN-PLACE CONCRETE

1. CONFORM TO REQUIREMENTS OF STRUCTURAL CONCRETE: "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)" AND REQUIREMENTS OF AREMA (2020). PLACE CONCRETE IN ACCORDANCE WITH ACI 301.

2. SEE ARCHITECTURAL DRAWINGS FOR BLOCKOUTS, GROOVES, AND OTHER SURFACE TREATMENTS. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR FLOOR DEPRESSIONS, PADS, SLEEVES, CURBS, EMBEDMENTS, AND INSERTS.

3. SEE SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES, SURFACE HARDENERS, AND SEALERS.

4. ALL CONCRETE FOR STRUCTURES SHALL BE AIR-ENTRAINED 6.0% +/- 1.5%.

5. THE CONCRETE CLEAR COVER OVER THE STEEL REINFORCEMENT SHALL BE 2" UNLESS NOTED OTHERWISE. THE CONCRETE CLEAR COVER OVER THE STEEL REINFORCEMENT AGAINST EARTH SHALL BE 3" UNLESS NOTED OTHERWISE.

6. ALL ANCHOR RODS SHALL BE CAST-IN-PLACE. DRILLED-IN EPOXY-TYPE ANCHOR RODS ARE NOT PERMITTED.

7. TOP OF ALL CONCRETE PEDESTALS SHALL SLOPE AWAY FROM EDGES OF ISOLATION PADS FOR POSITIVE DRAINAGE.

8. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED ¾".

9. UNLESS OTHERWISE NOTED, NO CONCRETE SHALL BE PLACED UNTIL ALL REINFORCEMENT INDICATED ON THE DRAWINGS IS IN PLACE, TIED, AND INSPECTED.

10. CONDUITS AND PIPE OF ALUMINUM MUST NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

11. ALL CONCRETE PADS SHALL BE PLACED ON COMPACTED GRANULAR FILL.

12. NON-SHRINK GROUT FOR BASE PLATES, SLEEVES, AND EMBEDDED STEEL: GROUT SHALL BE AN APPROVED NON-SHRINK CEMENTITIOUS GROUT CONTAINING NATURAL AGGREGATES DELIVERED TO THE JOB SITE IN FACTORY PRE-PACKAGED CONTAINERS REQUIRING ONLY THE ADDITION OF WATER. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE AT LEAST 1,000 PSI HIGHER THAN THE SUPPORTING CONCRETE STRENGTH, UNLESS NOTED OTHERWISE. GROUT SHALL BE MIXED, APPLIED, AND CURED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. FOR GROUTING UNDER BASE PLATES, GROUT SHALL BE PROPORTIONED AS A FLOWABLE MIX. WHEN A FLOWABLE MIX DOES NOT PROVIDE THE REQUIRED STRENGTH OR WHEN A MINIMUM STRENGTH OF 10,000 PSI IS REQUIRED, AN EPOXY GROUT SHALL BE USED.

13. ALL CONSTRUCTION, CONTROL, AND ISOLATION JOINTS FOR SLABS ON GRADE SHALL BE IN ACCORDANCE WITH THE TYPICAL SLAB ON GRADE DETAILS. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO THE COMMISSIONER FOR ACCEPTANCE BEFORE STARTING CONSTRUCTION.

REINFORCEMENT

1. PROVIDE REINFORCEMENT IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES:

a.	DEFORMED BARS	ASTM A615, GRADE 60
b.	WELDED WIRE FABRIC	ASTM A185

2. ALL REINFORCEMENT SHALL BE EPOXY COATED UNO. ⚠1

3. ALL LAP SPLICES ARE TO BE ACI STANDARD CLASS B TENSION LAP SPLICES. WHERE BARS OF DIFFERENT SIZES LAP, PROVIDE LAP SPLICE LENGTH FOR LARGER BAR.

4. WHERE TWO BARS ARE GRAPHICALLY INDICATED TO LAP, PROVIDE ACI STANDARD CLASS B TENSION LAP SPLICE EVEN IF LESS THAN 100% OF BARS ARE SPLICED AT THAT LOCATION. WHERE TWO GROUPS OF BARS ARE INDICATED TO LAP, PROVIDE CLASS B TENSION LAP SPLICE LENGTH FOR EACH BAR EVEN IF THE NUMBER AND SIZES OF BARS IN ONE GROUP DIFFER FROM THE NUMBER AND SIZES OF BARS IN THE OTHER GROUP.

5. WHERE A 90-DEG HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 90-DEG HOOK. WHERE A 135-DEG HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 135-DEG HOOK. WHERE A 180-DEG HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 180-DEG HOOK.

6. FOR WALLS, EXTEND HOOKED BARS INDICATED BY BAR DIAGRAMS TO DISCONTINUOUS SUPPORT FACE, AND BEYOND LONGITUDINAL BARS OF SUPPORTING MEMBER.

7. AT CORNERS AND INTERSECTIONS OF FOUNDATIONS AND WALLS, PROVIDE BENT BARS OF EQUAL SIZE AND AT SAME SPACING AS TYPICAL REINFORCING AROUND CORNER AND/OR INTO ABUTTING FOUNDATION OR WALL.

8. NO CONSTRUCTION SHALL BE MADE WITHOUT REINFORCEMENT. THE FOLLOWING PERCENTAGE OF THE GROSS CROSS SECTIONAL AREA SHALL BE PROVIDED AS A MINIMUM REINFORCEMENT WHERE NO REINFORCEMENT IS INDICATED:

a.	PILE CAPS	TOP AND BOTTOM, BOTH DIRECTIONS, 0.33%
b.	SUPPORTED STRUCTURAL SLABS	TOP AND BOTTOM, BOTH DIRECTIONS, 0.33%
c.	SLAB ON GRADE	6x6 - W1.4xW1.4 WWF
d.	GRADE BEAMS	TOP AND BOTTOM 0.33%, STIRRUPS #4@12"

BACKFILL AGAINST WALLS:

1. PLACE BACKFILL AGAINST RETAINING WALLS ONLY AFTER SLABS ON GRADE AND ATTACHED FLOOR SLABS ARE COMPLETELY PLACED AND CONCRETE IS VERIFIED TO REACH 75% OF DESIGN STRENGTH. WHERE BACKFILL AGAINST RETAINING WALLS ARE PLACED PRIOR TO COMPLETE CONSTRUCTION OF THE ATTACHED SLAB ON GRADE, CONTRACTOR SHALL DESIGN AND PROVIDE TEMPORARY WALL BRACING.

2. CONTROLLED LOW STRENGTH MATERIAL (CLSM) SHALL BE USED AS BACKFILL FOR THE RETAINING WALLS. THE UNIT WEIGHT SHALL BE 120 PCF OR LESS AND $f'c$ = 100 PSI MINIMUM. THE MATERIAL SHALL MEET REQUIREMENTS AS STATED IN CDOT STANDARD INCLUDING 4.2 AND TEH REFERENCED IDOT REQUIREMENTS AS STATED IN 1019 AND 593. THE MATERIAL SHALL BE EXCAVATIBLE.

ATTACHMENT J

DESIGN BY:	WJC									
DRAWN BY:	ESS									
CHECKED BY:	MDS	5	2/12/2024	BID ADDENDUM 1						
APPROVED BY:	WJC	4	7/3/2023	ISSUED FOR BID						
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT	

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

STRUCTURAL NOTES 2

CDOT PROJECT D-1-209

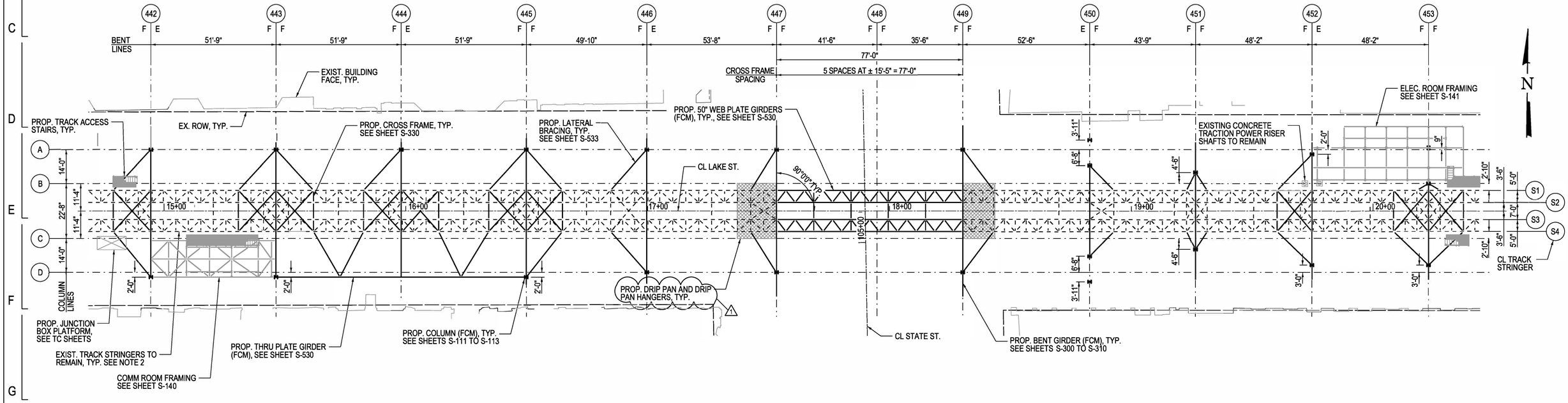
DATE: 7/3/2023

SPEC. NO.

DRAWING NO. S-002

REVISION NO.

ATTACHMENT K



1 OVERALL TRACK STRUCTURE FRAMING PLAN

1" = 20'-0"

NOTES:

1. FOR REMOVAL OF EXISTING TRACK STRUCTURE, SEE SHEET SD-102.
2. FOR EXISTING TRACK STRUCTURE REPAIR DETAILS, SEE SR SHEETS.
3. TRACK LEVEL UTILITIES ARE NOT SHOWN FOR CLARITY. SEE TRACTION POWER PLANS AND SIGNAL PLANS FOR MORE INFORMATION.
4. NEW STRUCTURAL STEEL PLATE GIRDERS WILL SUPPORT THE TRACKS BETWEEN BENTS 447 AND 449. ALL OTHER SPANS WILL REUSE THE EXISTING TRACK SUPERSTRUCTURE.

DESIGN BY:	WJC								
DRAWN BY:	WJC								
CHECKED BY:	MDS	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	MDS	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

OVERALL PLAN - TRACK LEVEL

CDOT PROJECT D-1-209

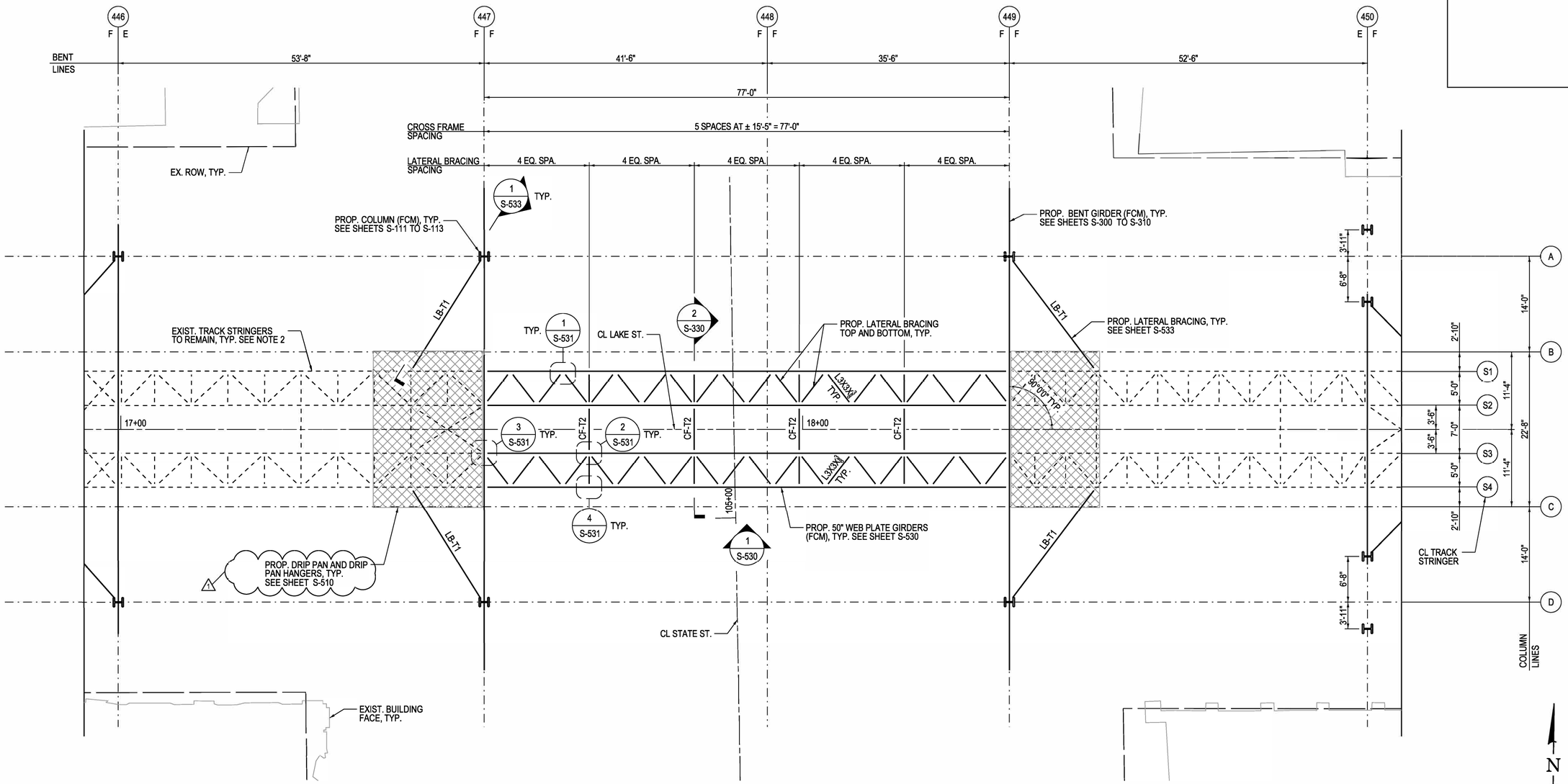
DATE: 7/3/2023

SPEC. NO.

DRAWING NO. S-102

REVISION NO.

ATTACHMENT L



1 TRACK STRUCTURE FRAMING PLAN - PARTIAL PLAN CENTRAL

1/8" = 1'-0"

NOTES:

1. FOR REMOVAL OF EXISTING TRACK STRUCTURE, SEE SHEET SD-102
2. FOR EXISTING TRACK STRUCTURE REPAIR DETAILS, SEE SR SHEETS.
3. TRACK LEVEL UTILITIES ARE NOT SHOWN FOR CLARITY. SEE TRACTION POWER PLANS AND SIGNAL PLANS FOR MORE INFORMATION.
4. "LB-T#" INDICATES LATERAL BRACING TYPE, SEE SHEET S-533.
5. "CF-T#" INDICATES CROSS FRAME TYPE, SEE SHEET S-330.

DESIGN BY:	WJC								
DRAWN BY:	WJC								
CHECKED BY:	MDS	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	MDS	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

PARTIAL PLAN CENTRAL - TRACK LEVEL

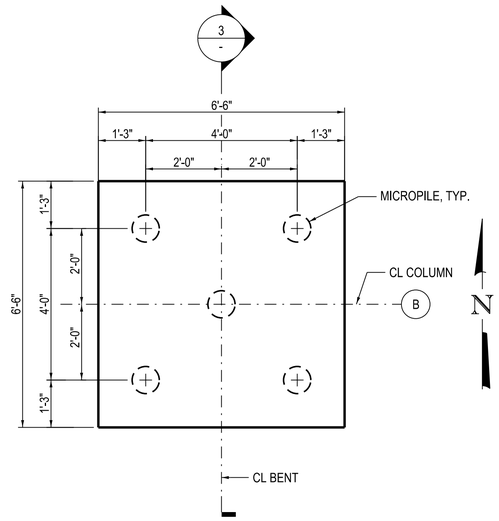
DRAWING NO. S-115

CDOT PROJECT D-1-209

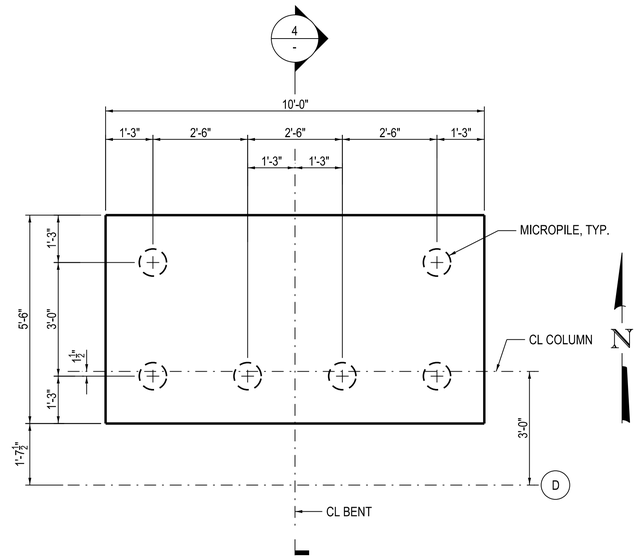
DATE: 7/3/2023

REVISION NO.

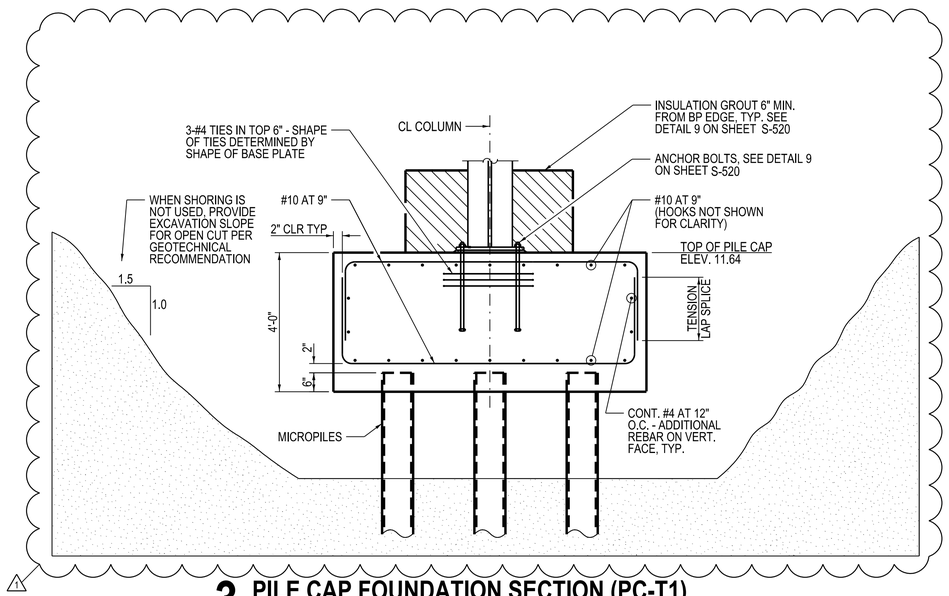
ATTACHMENT M



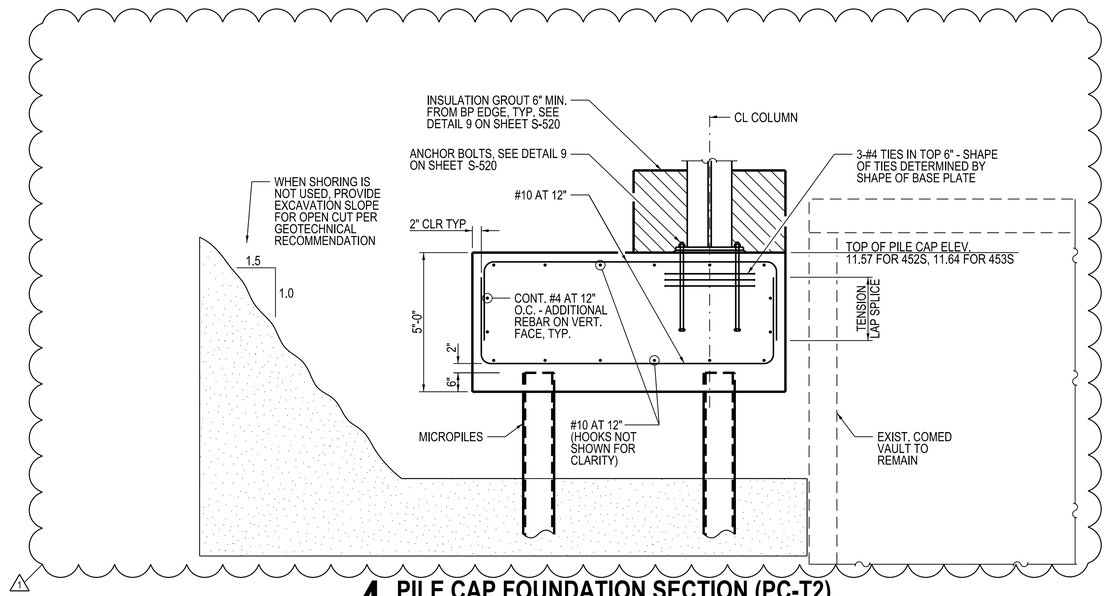
1 PILE CAP FOUNDATION PLAN (PC-T1)
1/2" = 1'-0"



2 PILE CAP FOUNDATION PLAN (PC-T2)
1/2" = 1'-0"



3 PILE CAP FOUNDATION SECTION (PC-T1)
N.T.S.



4 PILE CAP FOUNDATION SECTION (PC-T2)
N.T.S.

DESIGN BY:	CG								
DRAWN BY:	CMG								
CHECKED BY:	WJC	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	WJC	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

BENT PILE CAP FOUNDATION PLAN AND DETAILS 1

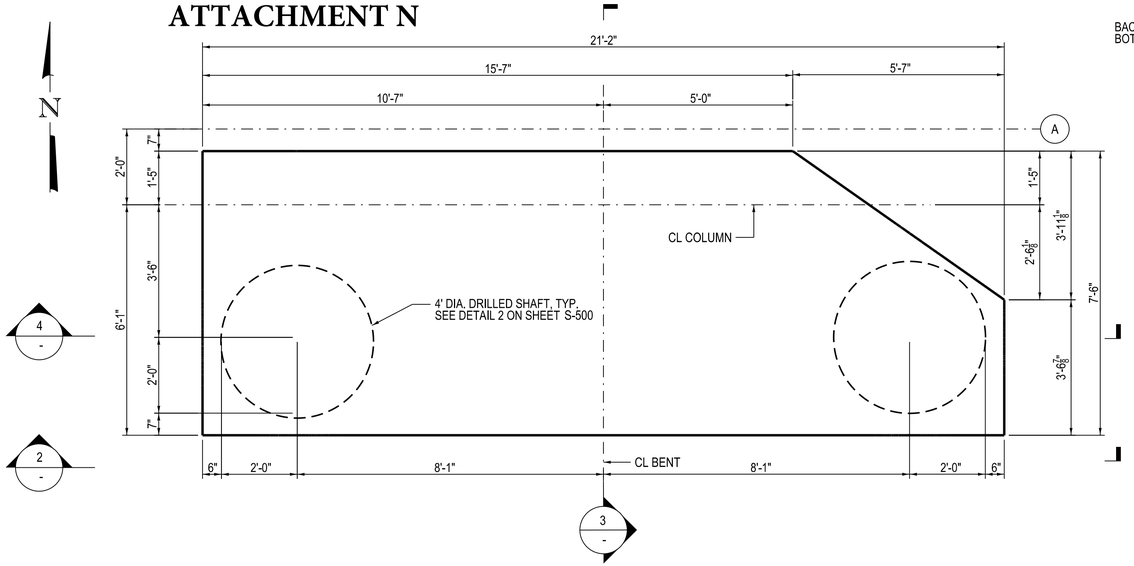
DRAWING NO. S-501

CDOT PROJECT D-1-209

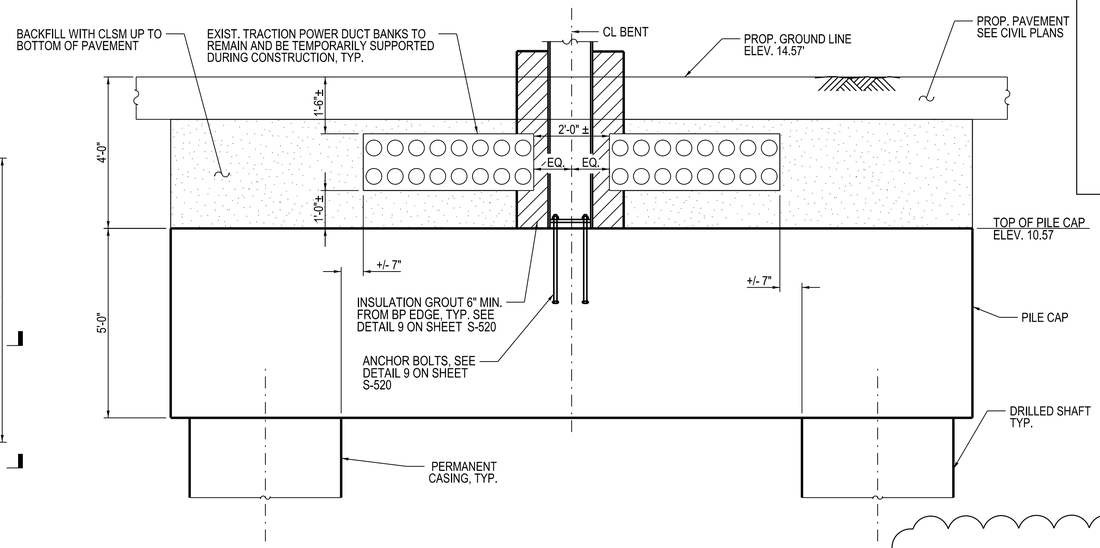
DATE: 7/3/2023

REVISION NO.

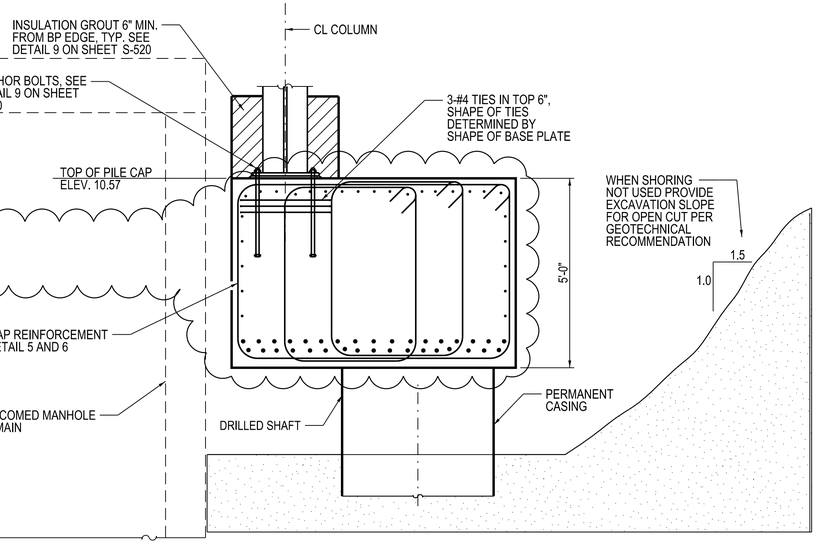
ATTACHMENT N



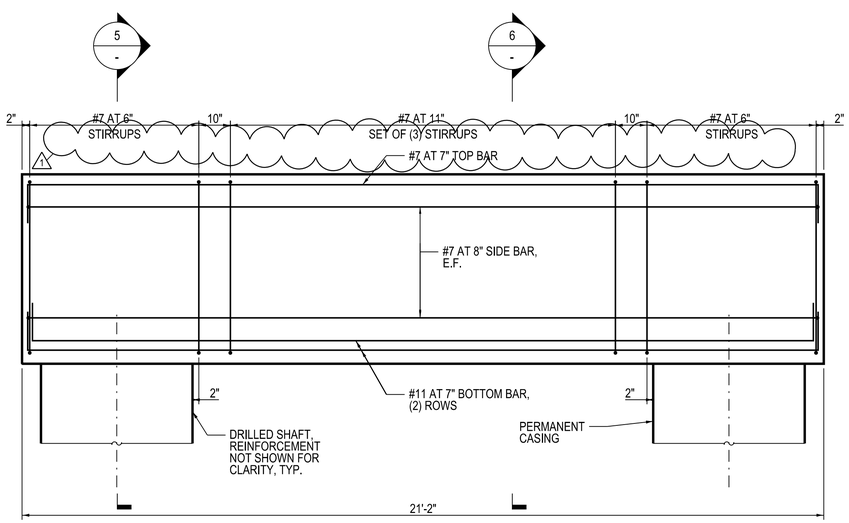
1 PILE CAP FOUNDATION PLAN (PC-T3)
1/2" = 1'-0"



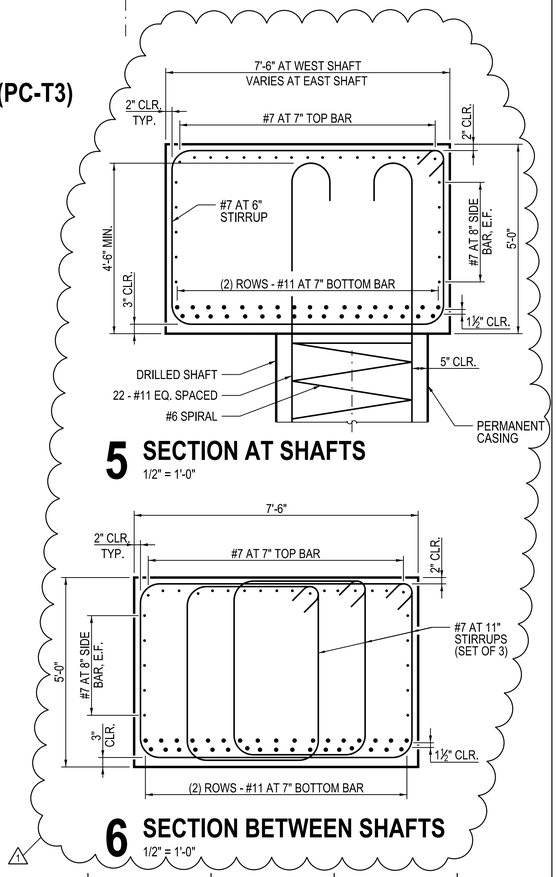
2 PILE CAP FOUNDATION ELEVATION (PC-T3)
1/2" = 1'-0"



3 PILE CAP FOUNDATION SECTION (PC-T3)
1/2" = 1'-0"



4 PILE CAP FOUNDATION REINFORCEMENT SECTION (PC-T3)
1/2" = 1'-0"



5 SECTION AT SHAFTS
1/2" = 1'-0"

6 SECTION BETWEEN SHAFTS
1/2" = 1'-0"

DESIGN BY:	CG								
DRAWN BY:	CG								
CHECKED BY:	WJC	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	WJC	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

BENT PILE CAP FOUNDATION PLAN AND DETAILS 2

CDOT PROJECT D-1-209

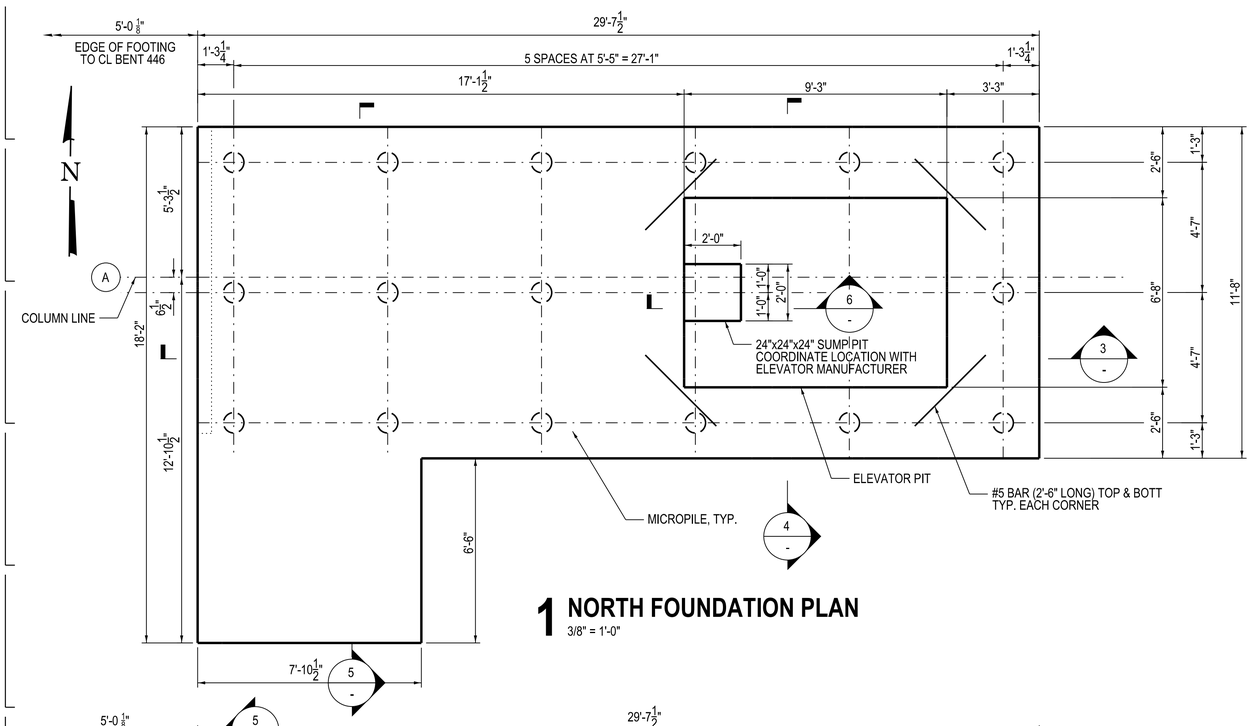
DATE: 7/3/2023

SPEC. NO.

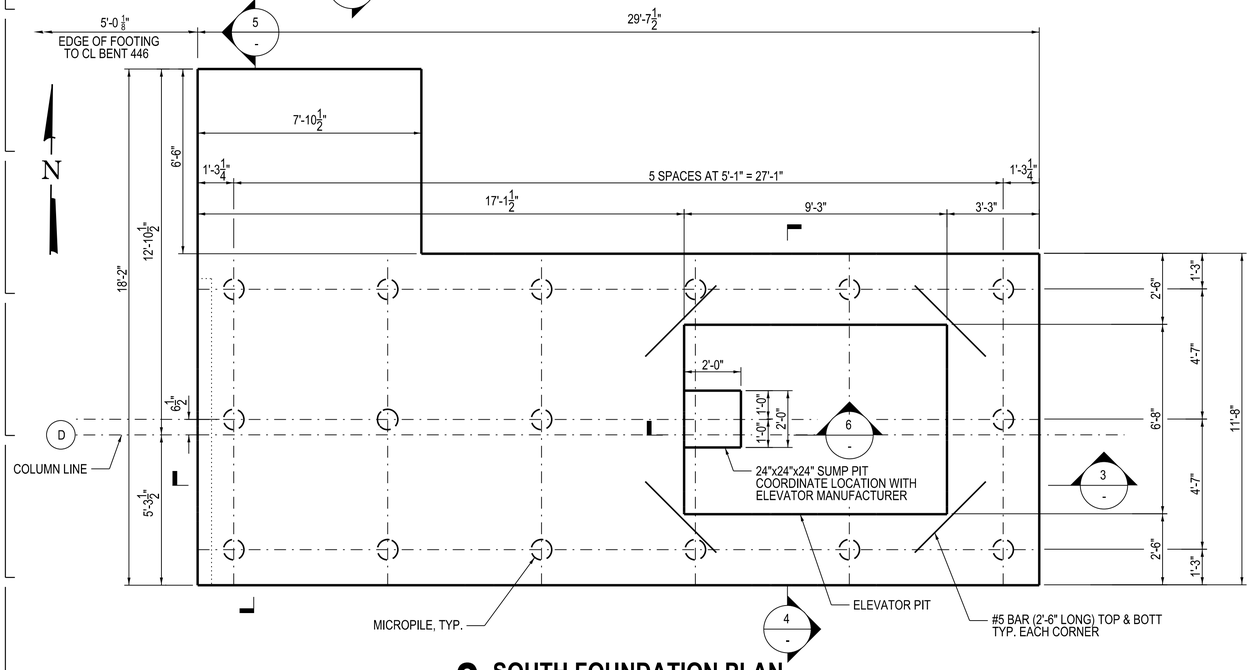
DRAWING NO. S-502

REVISION NO.

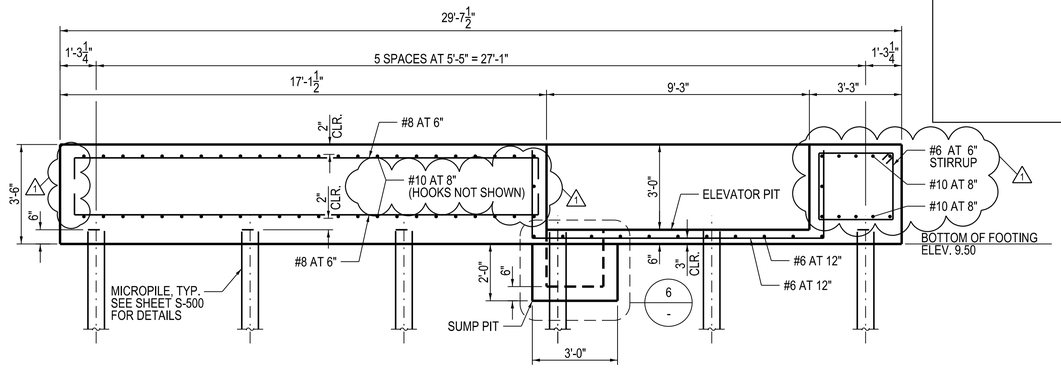
ATTACHMENT O



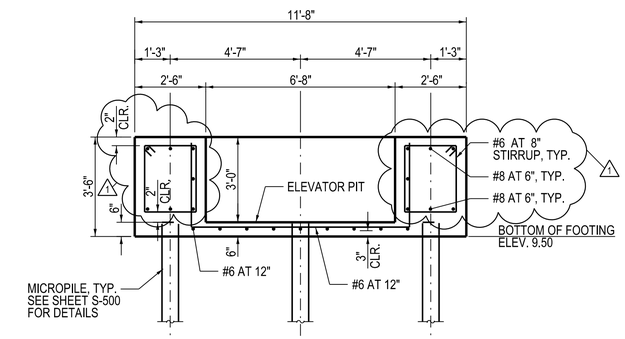
1 NORTH FOUNDATION PLAN
3/8" = 1'-0"



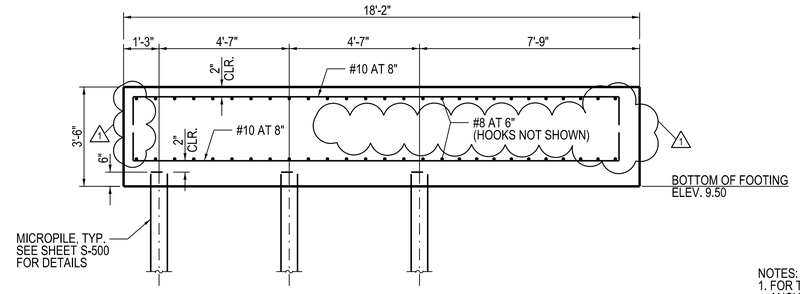
2 SOUTH FOUNDATION PLAN
3/8" = 1'-0"



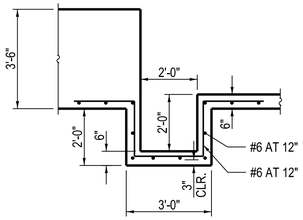
3 SECTION THRU FOOTING
3/8" = 1'-0"



4 SECTION THRU FOOTING
3/8" = 1'-0"



5 SECTION THRU FOOTING AT STAIR LANDING
3/8" = 1'-0"



6 SUMP PIT DETAIL
3/8" = 1'-0"

NOTES:
1. FOR TOWER COLUMN, BASE PLATE, AND ANCHOR BOLT LOCATIONS AND DETAILS, SEE SHEET S-160.

DESIGN BY:	JRM								
DRAWN BY:	JPL								
CHECKED BY:	JRM	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	WJC	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

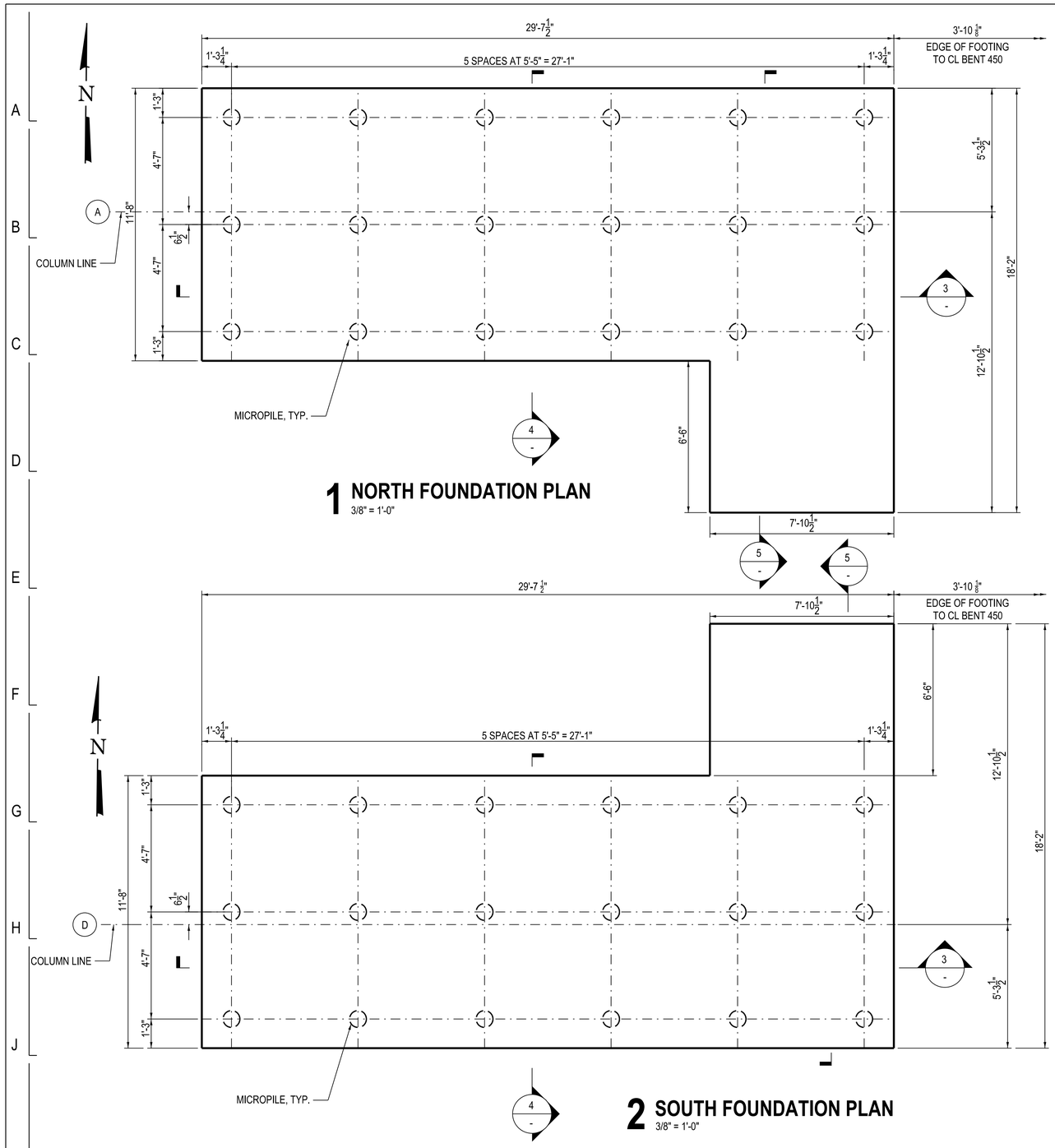
ELEVATOR TOWER FOUNDATION PLAN AND DETAILS

DRAWING NO. S-503

CDOT PROJECT D-1-209

DATE: 7/3/2023

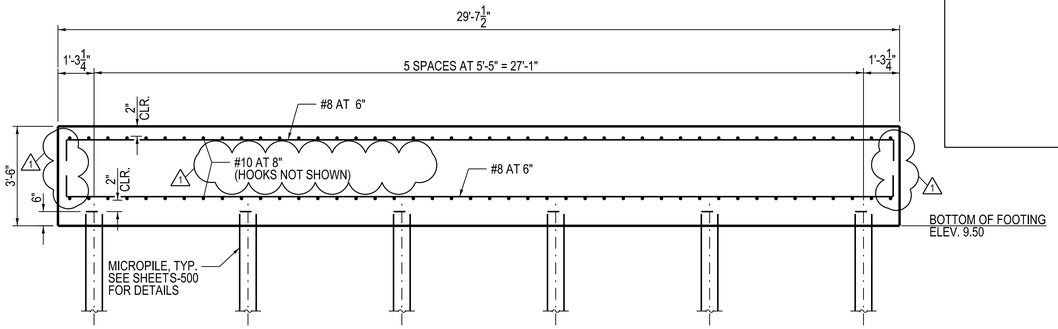
REVISION NO.



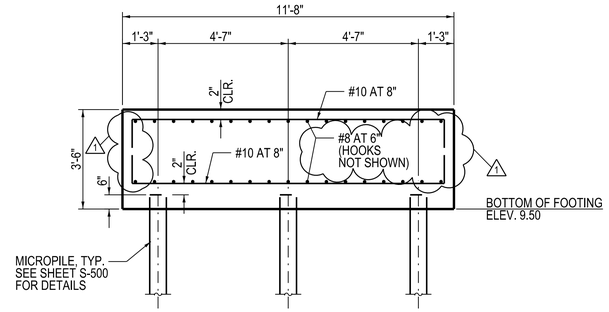
1 NORTH FOUNDATION PLAN
3/8" = 1'-0"

2 SOUTH FOUNDATION PLAN
3/8" = 1'-0"

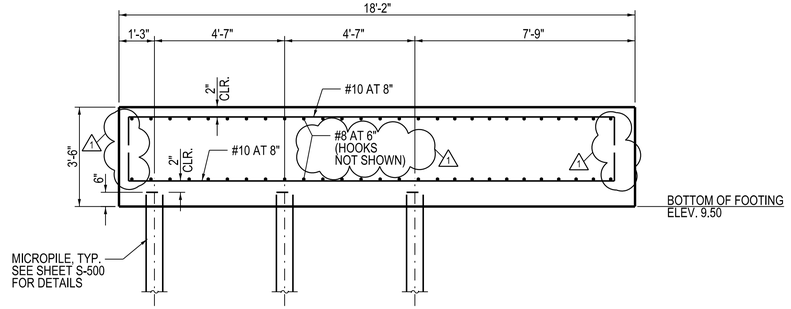
ATTACHMENT P



3 SECTION THRU FOOTING
3/8" = 1'-0"



4 SECTION THRU FOOTING
3/8" = 1'-0"



5 SECTION THRU FOOTING AT STAIR LANDING
3/8" = 1'-0"

NOTES:
1. FOR TOWER COLUMN, BASE PLATE, AND ANCHOR BOLT LOCATIONS AND DETAILS, SEE SHEET S-160.

DESIGN BY:	JRM								
DRAWN BY:	JPL								
CHECKED BY:	JRM	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	WJC	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

ESCALATOR TOWER FOUNDATION PLAN AND DETAILS

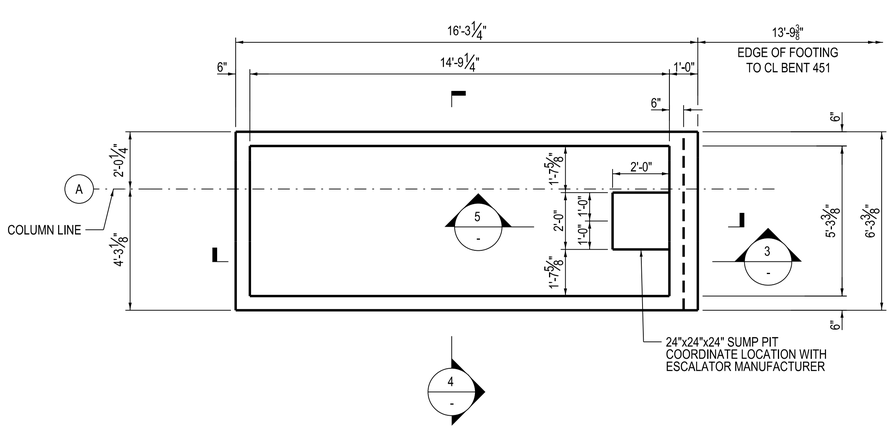
DRAWING NO. S-504

CDOT PROJECT D-1-209

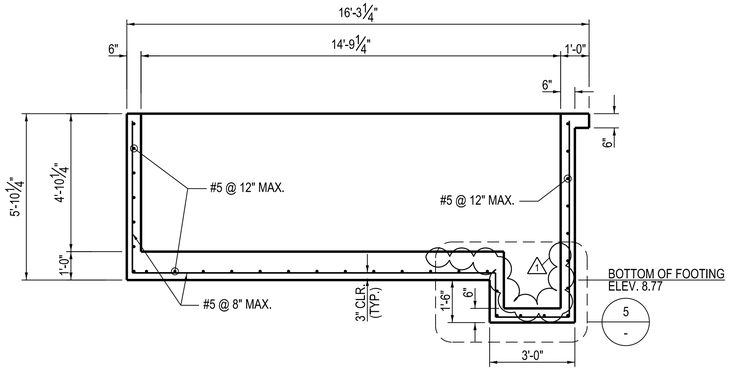
DATE: 7/3/2023

REVISION NO.

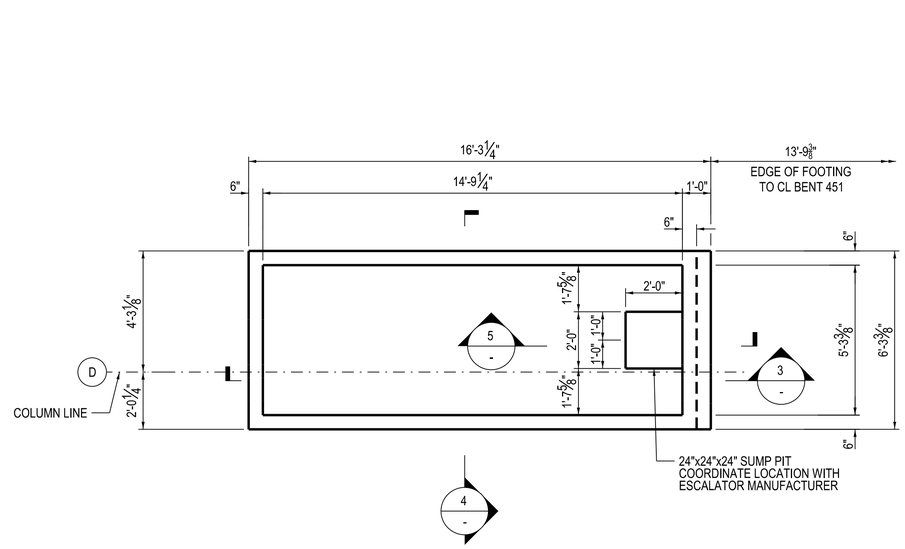
ATTACHMENT Q



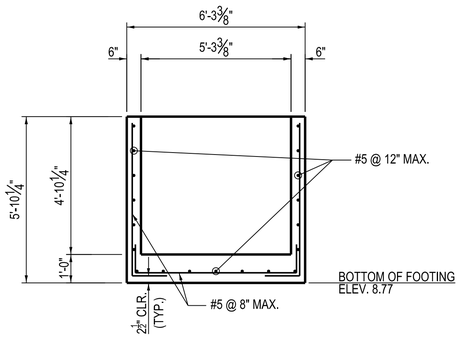
1 NORTH ESCALATOR PIT PLAN
3/8" = 1'-0"



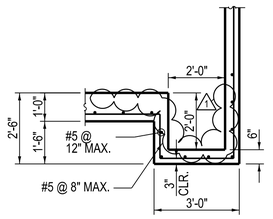
3 SECTION THRU ESCALATOR PIT
3/8" = 1'-0"



2 SOUTH ESCALATOR PIT PLAN
3/8" = 1'-0"



4 SECTION THRU ESCALATOR PIT
3/8" = 1'-0"



5 SUMP PIT DETAIL
3/8" = 1'-0"

DESIGN BY:	IS/MD								
DRAWN BY:	CMD								
CHECKED BY:	DKS	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	WJC	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT
OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

ESCALATOR PIT FOUNDATION PLAN AND DETAILS

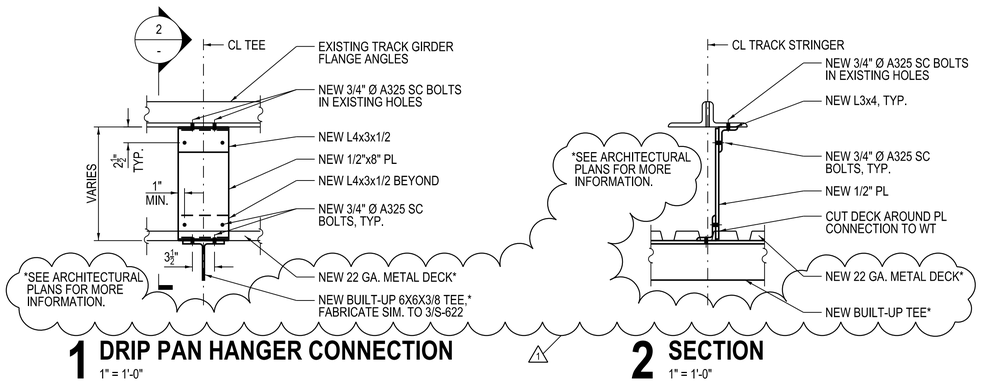
DRAWING NO.
S-505

CDOT PROJECT D-1-209

DATE: 7/3/2023

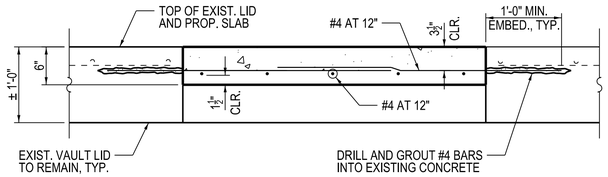
REVISION NO.

ATTACHMENT R

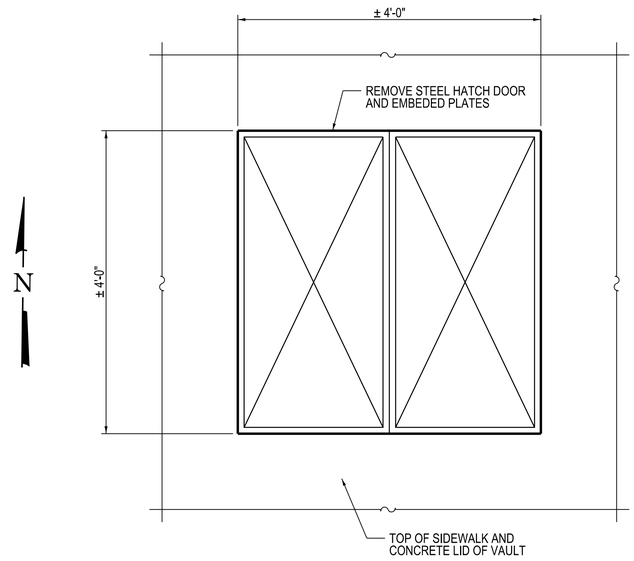


1 DRIP PAN HANGER CONNECTION
1" = 1'-0"

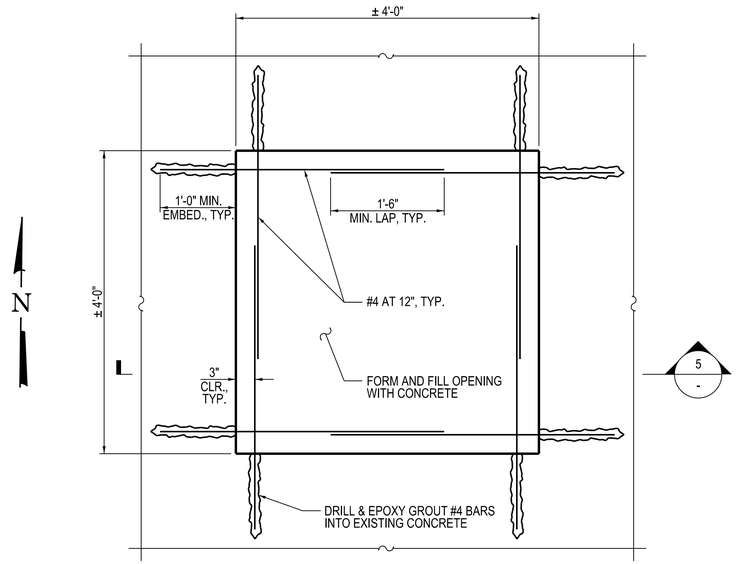
2 SECTION
1" = 1'-0"



5 SECTION
1" = 1'-0"



3 VAULT HATCH DOOR REMOVAL PLAN
1" = 1'-0"



4 VAULT HATCH DOOR FILLING PLAN
1" = 1'-0"

NOTES:

1. ALL REINFORCEMENT SHALL BE EPOXY COATED.
2. EXISTING REINFORCING BARS IN EXISTING CONCRETE SHALL BE LOCATED BEFORE DRILLING HOLES INTO THE EXISTING STRUCTURE. DAMAGE TO THE EXISTING REINFORCEMENT SHALL BE MINIMIZED. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE PROPOSED METHOD OF LOCATING EXISTING REINFORCEMENT FOR APPROVAL.
3. FOR ANCHORAGE OF REINFORCING INTO EXISTING CONCRETE, USE HILTI HIT-RE 500-V3 REPORT EPOXY (ICC ESR-3814) OR APPROVED EQUAL. INSTALL PER ICC AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SUBSTITUTES COMPLYING WITH ACI 318 FOR USE IN CRACKED CONCRETE MAY BE CONSIDERED. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AN EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH THE GOVERNING CODE PRIOR TO INSTALLATION.

DESIGN BY:	CMG								
DRAWN BY:	CMG								
CHECKED BY:	MDS	5	2/12/2024	BID ADDENDUM 1					
APPROVED BY:	MDS	4	7/3/2023	ISSUED FOR BID					
CDOT/APPROVED BY:		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

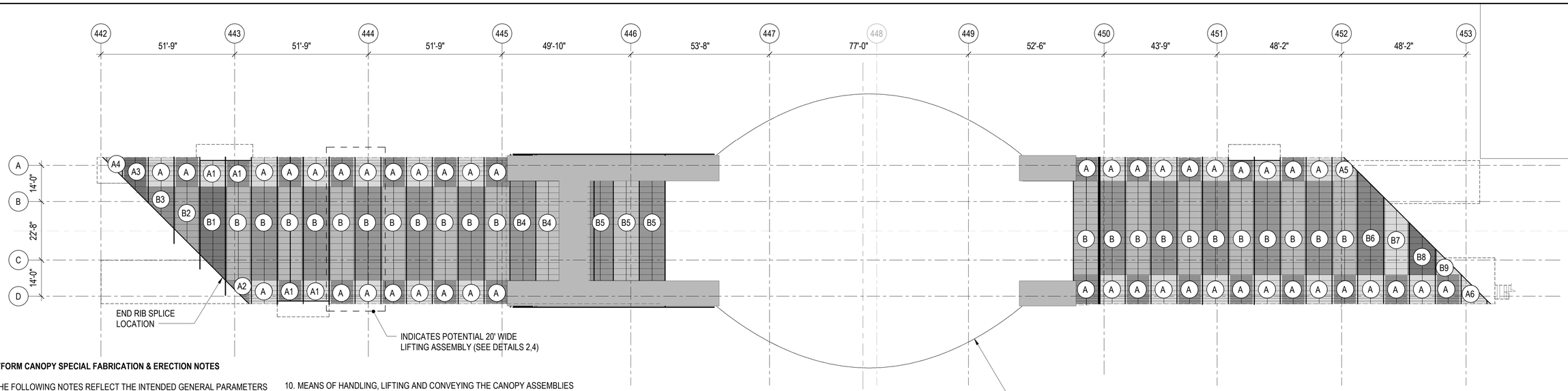
MISCELLANEOUS STRUCTURAL DETAILS

DRAWING NO. S-510

CDOT PROJECT D-1-209

DATE: 7/3/2023

REVISION NO.

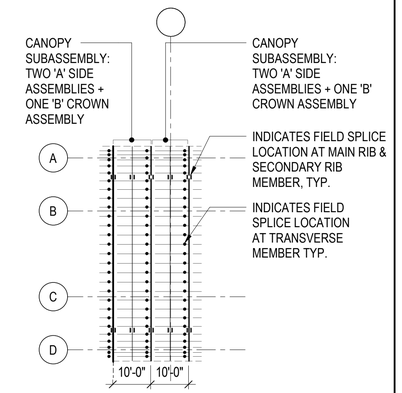


1 PLATFORM CANOPY PREFABRICATED CANOPY ASSEMBLY LAYOUT PLAN

1" = 20'-0"

PLATFORM CANOPY PREFABRICATED ASSEMBLY KEY

- (A) INDICATES TYPICAL PLATFORM CANOPY SIDE ASSEMBLY
- (AX) INDICATES ATYPICAL PLATFORM CANOPY SIDE ASSEMBLY
- (B) INDICATES TYPICAL PLATFORM CANOPY CROWN ASSEMBLY
- (BX) INDICATES ATYPICAL PLATFORM CANOPY CROWN ASSEMBLY

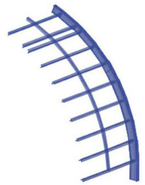


2 TYP. SUBASSEMBLY SPLICE DIAGRAM (PLAN)

1" = 20'-0"

PLATFORM CANOPY SPECIAL FABRICATION & ERECTION NOTES

1. THE FOLLOWING NOTES REFLECT THE INTENDED GENERAL PARAMETERS FOR THE FABRICATION AND ERECTION OF THE TYPICAL PLATFORM CANOPY STRUCTURE. THE CONTRACTOR SHALL DEVELOP A COMPLETE FABRICATION, TRANSPORTATION AND ERECTION METHODS STATEMENT, FOR REVIEW BY THE ARCHITECT, ENGINEER AND COMMISSIONER, PRIOR TO FABRICATION. THE CONTRACTOR'S METHODS STATEMENT SHALL ADDRESS THE INTENDED MEANS FOR FABRICATION OF THE INDIVIDUAL MEMBERS AND NODES, INCLUDING FIT-UP, TO THE PRESCRIBED TOLERANCES. IT SHALL ALSO INCLUDE MEANS OF MAINTAINING GEOMETRY AND INTEGRITY OF ASSEMBLIES DURING TRANSPORTATION AND HANDLING, AND THE MEANS OF ERECTION INCLUDING TEMPORARY SUPPORT AND SEQUENCE OF REMOVAL OF TEMPORARY SUPPORT. THE CONTRACTOR'S MEANS OF ERECTION IS SUBJECT TO THE TRACK ACCESS PERIOD (SEE G-110) AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL DEVELOP A DETAILED SURVEYING PLAN FOR MONITORING THE POSITION OF THE STRUCTURE AT EACH STAGE OF CONSTRUCTION (SEE SURVEY AND TOLERANCE NOTES ON S-600).
2. THE PLATFORM CANOPY IS ENVISIONED TO BE CONSTRUCTED IN A MODULAR FASHION IN WHICH SUBASSEMBLIES ARE SHOP FABRICATED, TRANSPORTED TO SITE, SPLICED ON SITE, AND LIFTED INTO PLACE IN LARGER UNITS.
3. THE LAYOUT OF PREFABRICATED ASSEMBLIES AND SPLICE LOCATIONS INDICATED IS CONSISTENT WITH THE STRUCTURAL ENGINEERING DESIGN FOR THE CANOPY STRUCTURE IN THE PERMANENT CONDITION.
4. SHOP FABRICATED SUBASSEMBLY TYPES SHOWN IN DETAIL 3 REPRESENT ENVISIONED PRE-ASSEMBLED PIECES BASED ON ASSUMED TRANSPORTATION SIZE LIMITATIONS.
5. THE DIAGRAMS IN DETAIL 4 ILLUSTRATE A SCENARIO IN WHICH A 20' WIDE 'STRIP' OF PLATFORM CANOPY STRUCTURE IS FULLY ASSEMBLED AT AN ON-SITE STAGING AREA FROM THE SMALLER TRANSPORTATION-SIZED ASSEMBLIES (DETAIL 3), AND IS THEN LIFTED INTO PLACE ON THE PLATFORM DECK.
6. THE LARGER ASSEMBLY, ONCE LIFTED UP TO PLATFORM LEVEL, WOULD BE CONVEYED TO THE EAST OR WEST ALONG THE PLATFORM, VIA SKIDDING SYSTEM, GANTRY, OR OTHER MEANS, TO THEIR FINAL LOCATION, WHERE THEY WOULD BE AFFIXED TO THE SUPPORTING PLATFORM STRUCTURE. THE CONSTRUCTION IS THUS ENVISIONED TO START FROM THE FAR WEST AND EAST ENDS, AND MOVE IN TOWARDS THE MAIN STATION AT STATE STREET.
7. THE CONTRACTOR MAY PROPOSE ALTERNATIVE MODULARIZATIONS AND SEQUENCES BASED UPON THEIR PROPOSED METHOD OF CONSTRUCTION. ANY ALTERNATIVE PROPOSAL SHALL BE REVIEWED BY THE COMMISSIONER PRIOR TO FABRICATION, AND IS SUBJECT TO THE TRACK ACCESS PERIOD LISTED IN THE SPECIFICATIONS AND PHASING SCHEDULE.
8. REFER TO THE CANOPY STRUCTURAL STEEL DETAIL SHEETS FOR ASSEMBLY CONNECTION DETAILS INCLUDING ASSEMBLY SPLICE DETAILS.
9. THE ARCH RIB ESSEMBLIES ARE NOT SELF SUPPORTING UNTIL PERMANENTLY FIXED TO THE PLATFORM STRUCTURE.
10. MEANS OF HANDLING, LIFTING AND CONVEYING THE CANOPY ASSEMBLIES SHALL PROVIDE ADEQUATE TEMPORARY RESTRAINT OF THE ARCHED RIB BASES TO MAINTAIN THE GEOMETRY OF THE ASSEMBLIES PRIOR TO AFFIXING TO THEIR PERMANENT LOCATION.
11. PROVIDE TEMPORARY LIFTING FRAMES / JIGS AS REQUIRED BASED ON THE CONTRACTOR'S FINAL ERECTION AND LIFTING METHOD.
12. GLAZING IS INTENDED TO BE INSTALLED UPON THE CANOPY STRUCTURE AFTER THE STRUCTURE IS AFFIXED TO THE PLATFORM FRAMING AND ANY TEMPORARY ERECTION FRAMES/JIGS ARE REMOVED.
13. REFER TO SHEET S-600 FOR CANOPY SPECIAL CONSTRUCTION NOTES.



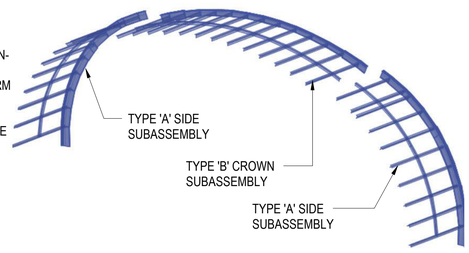
NOTE: TEMPORARY JIG/FRAME (NOT SHOWN) AS REQUIRED - BY CONTRACTOR

SUBASSEMBLY TYPE A (SIDE)

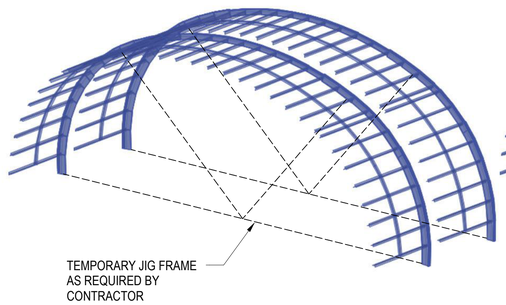
SUBASSEMBLY TYPE B (CROWN)

3 SHOP FABRICATED SUBASSEMBLY TYPES

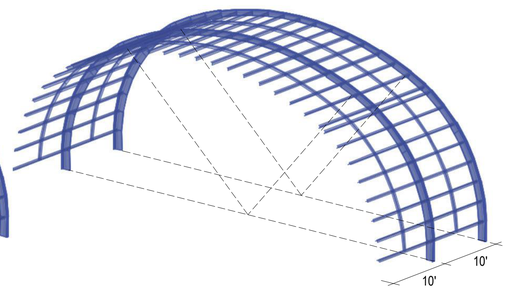
NOT TO SCALE



TYPE 'A' SIDE ASSEMBLIES AND TYPE 'B' CROWN ASSEMBLY CONNECTED ON SITE AT GROUND STAGING AREA



PAIR OF 10' WIDE CANOPY ASSEMBLIES ALIGNED FOR SITE CONNECTION AT GROUND STAGING AREA



20' WIDE CANOPY SECTION FULLY ASSEMBLED - READY FOR LIFTING INTO PLACE ON PLATFORM DECK

4 POTENTIAL LIFTING ASSEMBLY SEQUENCE

NOT TO SCALE

NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
5	2/12/2024	BID ADDENDUM 1					
4	7/3/2023	ISSUED FOR BID					
0	9/9/2022	ISSUED FOR PERMIT	MC	MW	BY		

DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
CDOT/APPROVED BY:

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION
200 NORTH STATE STREET, CHICAGO, IL 60601

PLATFORM CANOPY PREFABRICATED ASSEMBLY LAYOUT

CDOT PROJECT D-1-209 | DATE: 9/9/2022

SPEC. NO.

DRAWING NO. S-610

REVISION NO.5

ATTACHMENT S

ATTACHMENT T

DOME CANOPY SPECIAL FABRICATION & ERECTION NOTES

1. THE FOLLOWING NOTES REFLECT THE INTENDED GENERAL PARAMETERS FOR THE FABRICATION AND ERECTION OF THE DOME CANOPY STRUCTURE. THE CONTRACTOR SHALL DEVELOP A COMPLETE FABRICATION, TRANSPORTATION AND ERECTION METHODS STATEMENT, FOR REVIEW BY THE ARCHITECT, ENGINEER AND COMMISSIONER, PRIOR TO FABRICATION. THE CONTRACTOR'S METHOD STATEMENT SHALL ADDRESS THE INTENDED MEANS FOR FABRICATION OF THE INDIVIDUAL MEMBERS AND NODES, INCLUDING FIT-UP, TO THE PRESCRIBED TOLERANCES. IT SHALL ALSO INCLUDE MEANS OF MAINTAINING GEOMETRY AND INTEGRITY OF ASSEMBLIES DURING TRANSPORTATION AND HANDLING, AND THE MEANS OF ERECTION OFF-SITE AND ON-SITE, INCLUDING TEMPORARY SUPPORT AND SEQUENCE OF REMOVAL OF TEMPORARY SUPPORT. THE CONTRACTOR'S MEANS OF ERECTION IS SUBJECT TO THE TRACK ACCESS PERIODS (SEE G-110) AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL DEVELOP A DETAILED SURVEYING PLAN FOR MONITORING THE POSITION OF THE STRUCTURE AT EACH STAGE OF CONSTRUCTION. (SEE SURVEY AND TOLERANCE NOTES ON S-600).

2. THE DOME CANOPY STRUCTURE IS NOT SELF-SUPPORTING UNTIL THE COMPLETE CANOPY, BRACED FRAME SUPPORT/ABUTMENT STRUCTURES, AND TENSION TIES ARE FULLY CONSTRUCTED AND CONNECTED. IT IS ENVISIONED THAT THE CANOPY IS TO BE SUPPORTED ON TEMPORARY SHORING DURING CONSTRUCTION. THE SHORING SHALL INCLUDE JACKS OR OTHER MEANS TO ALLOW ADJUSTMENT OF THE DOME CANOPY TO THE THEORETICAL SPATIAL COORDINATES.

3. IT IS EXPECTED THAT THE DOME CANOPY STRUCTURE IS SHOP FABRICATED, ASSEMBLED AND TRANSPORTED AS LARGER SUBASSEMBLIES. THE SUBASSEMBLY SIZES SHOWN ON DETAIL 1 ARE ESTIMATED MINIMUM PIECE SIZES BASED ON ASSUMED TRANSPORT SIZE LIMITS.

4. BASED ON SITE LOGISTICS, LIFTING SIZE AND WEIGHT, AND BASED ON THE CONTRACTOR'S PROPOSED CONSTRUCTION METHOD, MULTIPLE SUBASSEMBLIES MAY BE CONNECTED AT AN ON-SITE STAGING AREA, PRIOR TO LIFTING INTO PLACE.

5. DURING FABRICATION AND ASSEMBLY, THE CONTRACTOR SHALL EMPLOY A JIG FRAME OR OTHER MEANS TO PRECISELY CONTROL THE GEOMETRIC POSITIONING AND ALIGNMENT OF THE MEMBERS AND NODES OF EACH SUBASSEMBLY DURING FABRICATION, AND MAINTAIN DURING TRANSPORTATION, AND ERECTION.

6. **OFF-SITE ASSEMBLY**

   A. PRIOR TO ON-SITE ERECTION, THE DOME CANOPY STRUCTURE SHALL BE FABRICATED AND FULLY ASSEMBLED/ERECTED OFF-SITE, UNDER SUPPORT CONDITIONS WHICH REPRESENT THE PERMANENT SUPPORT STRUCTURE, AND UPON SHORING CONDITIONS WHICH REPRESENT THE CONTRACTOR'S INTENDED MEANS OF ERECTION ON SITE.

   B. THIS OFF-SITE ERECTION APPROACH IS INTENDED TO CONFIRM FABRICATION GEOMETRY ACCURACY ALONG WITH THE CONTRACTOR'S INTENDED METHOD FOR LIFTING, SHORING (INCLUDING SHORING ADJUSTMENTS), FIELD CONNECTIONS, AND THE SHORING REMOVAL SEQUENCE. THIS OFF-SITE ERECTION PROGRAM SHALL BE ATTENDED AND WITNESSED BY THE COMMISSIONER, AND THE ARCHITECT & ENGINEER, PROVIDING NOT LESS THAN 2 WEEK ADVANCED NOTICE OF COMMENCING WORK.

   C. OFF-SITE ERECTION INCLUDES STRUCTURAL STEEL ONLY AND DOES NOT INCLUDE GLAZING.

   D. OFF-SITE ERECTION MAY PROCEED IN THE FOLLOWING MANNER, OR VIA AN ALTERNATIVE MANNER AS DEVELOPED BY THE CONTRACTOR:

      PRE-FABRICATED SUBASSMEBLIES (AS SHOWN ON DETAIL 1) ARE TRANSPORTED TO THE OFF-SITE ERECTION LOCATION AND SUPPORTED UPON TEMPORARY SHORING.

      INFILL MEMBERS (AS SHOWN ON DETAIL 1) ADJOINGING THE PREFABRICATED SUBASSEMBLIES ARE ALIGNED AND FULLY CONNECTED

   E. ERECTION IS INTENDED TO START FROM THE SUPPORT ABUTMENT LOCATIONS AND PROCEED TOWARDS THE CROWN.

   F. WHILE THE DOME CANOPY IS SHORED THE CONTRACTOR SHALL SURVEY TO VERIFY THE POSITION AND GEOMETRY OF THE STRUCTURE. SEE CANOPY SURVEY NOTES ON S-600. THE SURVEY RESULTS SHALL BE MADE AVAILABLE FOR REVIEW TO THE COMMISSIONER AND THE ARCHITECT.

   G. AFTER COMPLETE OFF-SITE ERECTION AND SURVEY OF THE DOME CANOPY, SHORING SHALL DISENGAGE IN A SEQUENCE ESTABLISHED BY THE CONTRACTOR. GENERALLY, REMOVAL SHALL INITIATE FROM THE CENTER/CROWN OF THE DOME AND PROCEED TOWARDS THE SUPPORTS.

   H. IT IS EXPECTED THAT THE FULLY ERECTED DOME CANOPY WILL BE RE-SHORED AND DIVIDED INTO SUBASSEMBLIES, FOR TRANSPORTATION TO SITE. ASSEMBLY SIZES CUT FROM THE OFF-SITE ERECTION (SEE DETAIL 1 FOR ENVISIONED CUT LOCATIONS) SHALL BE MADE AS LARGE AS POSSIBLE FOR TRANSPORT TO SITE, IN ORDER TO MINIMIZE THE AMOUNT OF ON-SITE SPLICE CONNECTIONS REQUIRED.

7. **ON-SITE ASSEMBLY**

   A. THE SUBASSEMBLIES, DELIVERED TO SITE FROM THE OFF-SITE ERECTION LOCATION, ARE INTENDED TO BE LIFTED INTO PLACE ON ADJUSTABLE SHORING, REALIGNED, AND FIELD SPLICED. WHEN ALIGNING THE SUBASSEMBLIES CUT FROM THE OFF-SITE ERECTION, SET GAPS (WELD ROOT) AT SPLICE LOCATIONS TO THE WIDTH OF THE SAW-CUT (DO NOT ABUT). PRIOR TO SPLICE WELDING ASSEMBLIES, PLACE ASSEMBLIES ONTO THE SHORING STARTING FROM THE SUPPORT LOCATIONS AND UNIFORMLY/SYMMETRICALLY SETTING ASSEMBLIES TOWARDS THE CROWN. ASSEMBLIES MAY BE ALIGNED TEMPORARILY VIA ERECTION CLIPS OR OTHER MEANS, PRIOR TO WELDING.

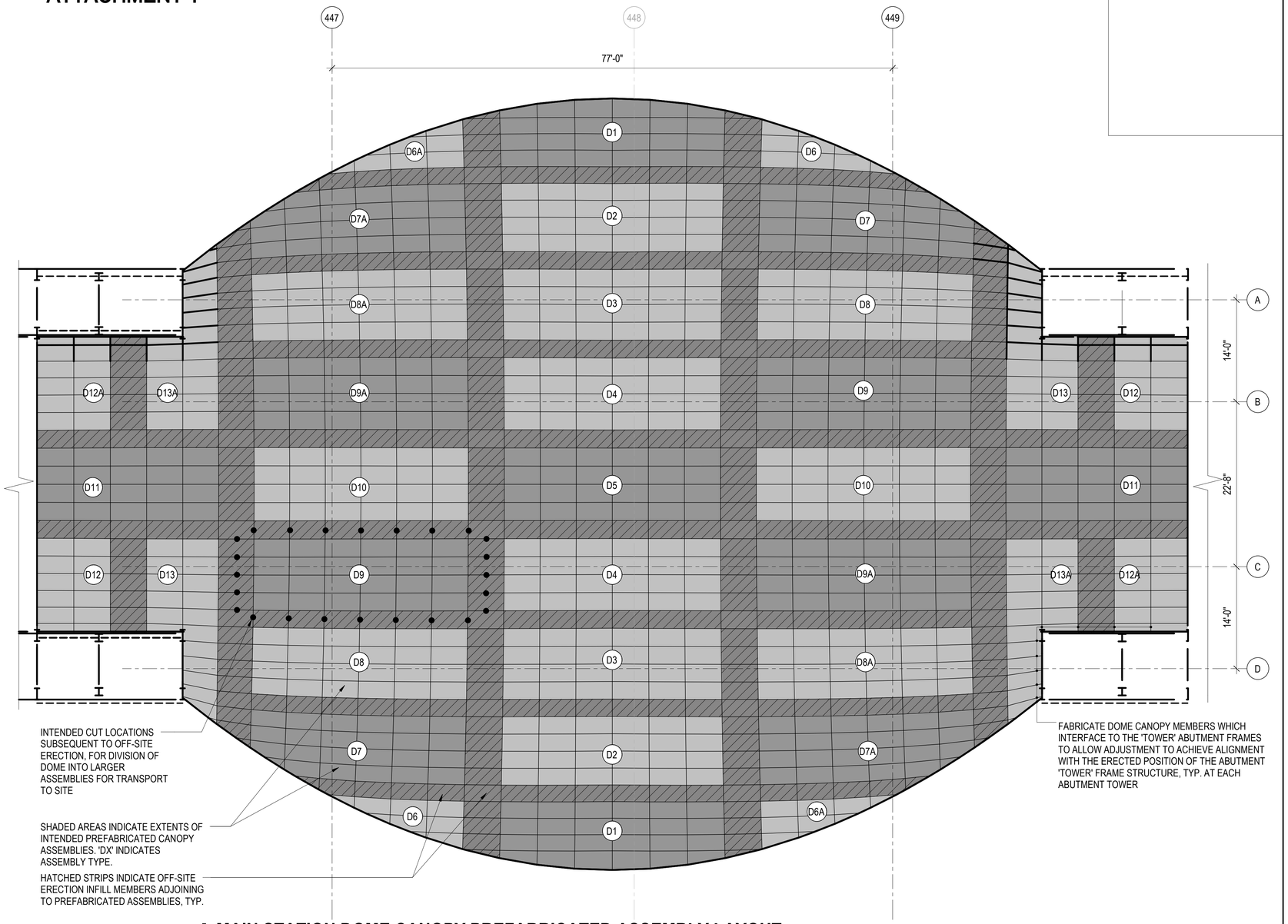
   B. THE 'TOWER' FRAME STRUCTURE SUPPORTING THE DOME CANOPY, AND THE PLATFORM FRAMING INCLUDING THE W36 TENSION TIE MEMBERS SHALL BE FULLY ERECTED AND CONNECTIONS/SPLICES COMPLETE, PRIOR TO TRANSFER OF THE DOME CANOPY WEIGHT/LOADS TO THE SUPPORTING STRUCTURE. CONTRACTOR SHALL VERIFY AND CERTIFY THAT ALL CONNECTIONS ARE COMPLETE PRIOR TO TRANSFER.

   C. ONCE THE FULL DOME STRUCTURE IS ALIGNED AND FULLY CONNECTED, AND ALL SUPPORT STRUCTURES FULLY COMPLETED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY SHORING IN A CONTROLLED MANNER BASED ON THE SEQUENCE DETERMINED AT THE OFF-SITE ERECTION.

   D. THE DOME CANOPY IS DEFINED AS AESS AS PER SHEET S-603 AND UNLESS OTHERWISE NOTED SHALL BE FABRICATED AND ERECTED TO MEET THE ASSOCIATED REQUIREMENTS. REFER TO THE AESS NOTES AND SPECIFICATIONS.

   E. GLAZING IS INTENDED TO BE INSTALLED ON THE FULLY ERECTED, UNSHORED DOME STRUCTURE. GLAZING SHALL BE INSTALLED IN A MANNER WHICH IS SYMMETRICAL AND AVOIDS UNBALANCED LOADING CONDITIONS. GENERALLY, INSTALLATION SHALL PROCEED FROM THE BASE SUPPORTS AND PERIMETER, AND ADVANCE TOWARDS THE CROWN.

   F. WEEKEND CLOSURES, AS PERMITTED BY THE SPECIFICATIONS WOULD ALLOW THE CONSTRUCTION AND EVENTUAL REMOVAL OF THE TEMPORARY SHORING.



1 MAIN STATION DOME CANOPY PREFABRICATED ASSEMBLY LAYOUT

1/8" = 1'-0"

NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
5	2/12/2024	BID ADDENDUM 1					
4	7/3/2023	ISSUED FOR BID					
0	9/9/2022	ISSUED FOR PERMIT	MC	MW	BY		

DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
CDOT/APPROVED BY:

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION
200 NORTH STATE STREET, CHICAGO, IL 60601

DOME CANOPY PREFABRICATED ASSEMBLY LAYOUT

SPEC. NO.

DRAWING NO. S-620

CDOT PROJECT D-1-209

DATE: 9/9/2022

REVISION NO. 5

ATTACHMENT U

CAST-IN-PLACE CONCRETE:

1. REFERENCE STANDARDS:
   EXCEPT AS INDICATED, ALL CONCRETE WORK AND DETAILING, FABRICATION AND PLACING OF REINFORCING SHALL BE GOVERNED BY:
   ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, 2010.
   ACI 305.1, HOT WEATHER CONCRETING, 2006.
   ACI 306, COLD WEATHER CONCRETING, 2010.
   ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, 1999.
   ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014.

2. THE CAST-IN-PLACE CONCRETE AT 28 DAYS OF AGE MINIMUM STRENGTH SHALL BE AS FOLLOWS:

ITEM	PSI
GRADE BEAMS	5,000 PSI
FOUNDATIONS	5,000 PSI
SLABS ON GRADE	4,000 PSI
CURBS AND SIDEWALKS	4,000 PSI
WALLS	6,000 PSI
ELEVATED BEAMS AND SLABS	6,000 PSI

3. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE WORK IS PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS FOR REVIEW BY THE COMMISSIONER. ADDITIONAL CONSTRUCTION JOINTS MAY REQUIRE ADDITIONAL REINFORCEMENT AS SPECIFIED BY THE COMMISSIONER, WHICH MUST BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

4. EMBEDDED CONDUITS, PIPES, AND SLEEVES MUST BE IN ACCORDANCE WITH ACI 318, SECTION 6.3, INCLUDING THE FOLLOWING:

   A. CONDUITS AND PIPES EMBEDDED WITHIN A SLAB, WALL, OR BEAM (OTHER THAN THOSE PASSING THROUGH)\ MUST NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED.

   B. CONDUITS, PIPES AND SLEEVES MUST NOT BE SPACED CLOSER THAN THREE DIAMETERS.

   C. EMBEDDED CONDUITS, PIPES AND SLEEVES MUST BE OF UNCOATED OR GALVANIZED IRON OR STEEL NOT THINNER THAN STANDARD SCHEDULE 40 STEEL PIPE.

5. CONCRETE MIX DESIGNS MUST BE SUBMITTED FOR APPROVAL A MINIMUM OF 15 DAYS PRIOR TO THE PLACEMENT OF CONCRETE. ANY ADJUSTMENTS TO THE APPROVED MIX DESIGNS, INCLUDING CHANGES TO THE ADMIXTURES, MUST BE SUBMITTED FOR APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.

6. CONCRETE DESIGNED TO BE PUMPED MUST BE NOTED ON THE MIX DESIGNS AND MUST HAVE MIX PROPORTIONS COMPATIBLE WITH THE PUMPING PROCESS. ALL MIX DESIGNS MUST HAVE THE TYPE AND LOCATION IDENTIFIED ON THE SUBMITTAL

7. ALL MAJOR DEFECTIVE AREAS IN CONCRETE INCLUDING HONEYCOMBS, CRACKS IN EXCESS OF 0.01", AND SPALLS THAT OCCUR IN LOAD CARRYING MEMBERS VITAL TO STRUCTURAL INTEGRITY MUST BE REPAIRED USING EPOXY ADHESIVE, EPOXY MORTAR AND/OR POLYMER CONCRETE. EXTENT AND DETERMINATION OF MAJOR DEFECTIVE AREAS MUST BE DETERMINED BY THE COMMISSIONER.

8. PROVIDE CONTINUOUS NOMINAL 2x4 SHEAR KEYS IN ALL HORIZONTAL CONCRETE WALL CONSTRUCTION JOINTS WITH MINIMUM #4 DOWELS x2'-0" AT 24" CENTERS TO ALL FLOOR AND FOUNDATION CONSTRUCTION UNLESS DETAILED OTHERWISE ON THE DRAWINGS.

9. UNLESS SPECIFIED OTHERWISE, SLAB-ON-GRADE CONSTRUCTION MUST FOLLOW THE RECOMMENDATIONS OF THE GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION ACI 302.1R. DURING PLACEMENT OF CONCRETE SLABS, TAKE ALL NECESSARY STEPS TO AVOID PLASTIC CRACKS DUE TO WEATHER CHANGES IN ACCORDANCE WITH ACI 305.1 AND 306R. CURE ALL CONCRETE ACCORDING TO ACI 308.1. UTILIZE THE LATEST EDITION OF ALL ACI SPECIFICATIONS.

10. WHERE ANY OPENING REQUIRED FOR THE WORK IS NOT INDICATED, OBTAIN APPROVAL FROM THE COMMISSIONER BEFORE PROCEEDING WITH THE WORK.

11. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE EXCEPT AS INDICATED.

12. WALLS AND PILASTERS MUST BE CAST MONOLITHICALLY. CONTRACTOR MUST LIMIT LENGTH OF CONTINUOUS WALL PLACEMENT TO 60 FEET.

13. ALL CONCRETE USED ON THE PROJECT MUST BE NORMAL WEIGHT UNO.

14. PROVIDE CONTRACTION JOINTS IN SLAB ON GRADE AS SHOWN ON THE CONTRACT DOCUMENTS. THE MAXIMUM ASPECT RATIO OF 1.5:1 MUST BE MAINTAINED. THE MAXIMUM SPACING OF THE CONTROL JOINTS MUST NOT EXCEED 15'-0". SEE DRAWINGS FOR TYPICAL DETAILS.

15. AT CORNERS AND INTERSECTIONS OF FOUNDATIONS AND WALLS, PROVIDE BENT BARS OF EQUAL SIZE AND AT SAME SPACING AS TYPICAL REINFORCING AROUND CORNER AND/OR INTO ABUTTING FOUNDATION OR WALL. REFERENCE TYPICAL DETAILS.

16. AT SLAB AND WALL OPENING CORNERS AND REENTRANT CORNERS, PROVIDE ADDITIONAL REINFORCEMENT PER TYPICAL DETAILS.

17. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH HAS REACHED 0.75 f'c AND A MINIMUM OF 7 DAYS.

CAST-IN-PLACE CONCRETE CONT.:

18. FINISH OF CONCRETE HANDICAP RAMPS TO CONFORM WITH THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA).

19. WHERE BRITTLE FLOOR FINISHES ARE TO BE APPLIED TO FLOOR SLABS, COORDINATE CONTRACTION JOINT LOCATION WITH FLOOR FINISH JOINT LOCATIONS AND ARCHITECT.

20. CONDUITS AND PIPES OF ALUMINUM MUST NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

21. PROVIDE CONTRACTION/CONSTRUCTION JOINTS IN CONCRETE WALLS AT A MAXIMUM SPACING OF 1.5 THE HEIGHT OF THE WALL ABOVE THE TOP OF FOOTING. MAXIMUM JOINT SPACING MUST NOT EXCEED 20 FEET. SEE ARCHITECTURAL DRAWINGS FOR ARCHITECTURAL JOINT TREATMENT. SEE TYPICAL DETAILS FOR ADDITIONAL DETAILING REQUIREMENTS.

22. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS MUST BE WELL SECURED IN POSITION WITH WIRE POSITIONERS BEFORE PLACING CONCRETE OR GROUT.

5

23. ALL REINFORCEMENT BARS SHALL BE EPOXY COATED U.N.O.

CONCRETE FORMWORK:

1. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ALL FORMS, SHORES, BACKSHORES, FALSEWORK, BRACING, AND OTHER TEMPORARY SUPPORTS MUST BE DESIGNED BY A REGISTERED, PROFESSIONAL ENGINEER TO SUPPORT ALL LOADS IMPOSED INCLUDING THE WET WEIGHT OF CONCRETE, CONSTRUCTION EQUIPMENT, LIVE LOADS, LATERAL LOADS DUE TO WIND AND WET UNBALANCED CONCRETE. THE CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR DETERMINING WHEN TEMPORARY SUPPORTS, SHORES, BACKSHORES AND OTHER BRACING CAN BE SAFELY REMOVED.

2. PROVIDE FORMWORK IN ACCORDANCE WITH ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE

3. TRANSYSTEMS IS NOT RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY BRACING OR SHORING. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY BRACING OR SHORING.

CONCRETE REINFORCING:

1. DETAILING AND FABRICATION OF REINFORCING STEEL AND SUPPORTS MUST CONFORM TO:
   ACI 315-99 DETAILS AND DETAILING OF CONCRETE REINFORCING.
   ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
   SP-66 ACI DETAILING MANUAL, 2004.

2. MATERIALS:

ITEM	ASTM	Fy (KSI)
DEFORMED REINF BARS	A615	60
DEFORMED REINF BARS - WELDABLE	A705	60
SMOOTH WELDED WIRE MESH	A185	65

3. ALL HOOKS AND BENDS IN REINFORCING BARS MUST CONFORM TO ACI DETAILING STANDARDS UNLESS SHOWN OTHERWISE.

4. PROVIDE REINFORCING BARS IN ACCORDANCE WITH THE BAR BENDING DIAGRAM IF BAR TYPES ARE SPECIFIED IN UNSCHEDULED BEAMS, SLAB, COLUMNS AND WALLS DETAIL REINFORCING AS FOLLOWS:
   A. LAP BEAM TOP REINFORCING BARS AT MID SPAN BETWEEN SUPPORTS WITH A CLASS B TENSION SPLICE.
   B. LAP BEAM BOTTOM REINFORCING BARS AT THE SUPPORTS WITH A CLASS B TENSION SPLICE.
   C. LAP VERTICAL BARS IN COLUMNS AND WALLS ONLY AT FLOOR LINES, UNLESS NOTED OTHERWISE.
   D. LAP REINFORCING BARS WITH CLASS B TENSION SPLICE AT OTHER LOCATIONS, UNLESS NOTED OTHERWISE.
   E. PROVIDE STANDARD HOOKS IN TOP BARS AT CANTILEVER AND DISCONTINUOUS ENDS OF BEAMS, WALLS AND SLABS.
   F. PROVIDE CORNER BARS FOR ALL HORIZONTAL BARS AT THE INSIDE AND OUTSIDE FACES OF INTERSECTION BEAMS OR WALLS, CORNER BARS ARE NOT REQUIRED AT INSIDE FACE IF HORIZONTAL BARS ARE HOOKED. CORNER BARS MUST BE THE SAME SIZE AS LAPPED BARS AND MUST BE CLASS A TENSION SPLICE WITH 90 DEGREE BEND EACH SIDE, UNLESS NOTED OTHERWISE.
   G. UNLESS NOTED OTHERWISE ON DRAWINGS LAP ALL WELDED WIRE MESH A MINIMUM DISTANCE OF ONE CROSS WIRE SPACING PLUS 2 INCHES.
   H. PROVIDE WELDED WIRE MESH IN FLAT SHEETS.
   I. ALL REINFORCING MUST BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES DURING CONCRETE PLACEMENT. REINFORCING MUST NOT BE SUPPORTED ON BOOSTERS MADE OF CMU OR CONCRETE NOT SPECIFICALLY DESIGNED TO SUPPORT THE REINFORCING STEEL.

5. GRADE BEAM BOTTOM STEEL MUST BE CHAIRED AT 5'-0" MAXIMUM CENTERS USING BEAM BOLSTERS PROVIDING 3" BOTTOM COVER TO REINFORCING STEEL. BEAM BOLSTERS USED MUST BE INTENDED FOR SUPPORT IN SOIL.

CONCRETE REINFORCING CONT.:

6. ADDITIONAL WALL ENFORCEMENT IS REQUIRED AROUND ALL OPENINGS IN THE WALL. SEE TYPICAL DETAIL ON THE DRAWINGS.

7. SPLICES IN WALL REINFORCING STEEL.
   A. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, SPLICE NO MORE THAN 50% OF THE BARS IN ANY VERTICAL WIDTH OF WALL WITH A MINIMUM OFFSET BETWEEN SPLICE PLANES OF A TENSION DEVELOPMENT LENGTH OF THE BARS. SPLICED BARS MUST BE STAGGERED WITH UNSPLICED BARS. SPLICES MUST BE A CLASS B TENSION SPLICE.

8. DO NOT USE HEAT IN THE FABRICATION OR INSTALLATION OF REINFORCEMENT.

9. REINFORCING STEEL CLEAR COVER MUST BE AS FOLLOWS. COVER IN MEMBER NOT SHOWN BELOW MUST CONFORM TO THE REQUIREMENTS OF ACI 318 UNLESS NOTED OTHERWISE ON DRAWINGS. EXCEPT AS INDICATED, MINIMUM COVER FOR REINFORCING MUST BE AS FOLLOWS:

ITEM	CLEAR (IN)
FOUNDATIONS, GRADE BEAMS:	------
TOP	2
BOTTOM	3
SIDES, EARTH FORMED	3
SIDES, FORMED	2
DRILLED PIERS:	------
SIDES	3
BOT	6
INTERIOR:	------
WALLS	2
COLUMNS	1 1/2
SLABS ABOVE GRADE	1
BEAMS, JOIST ABOVE GRADE	1 1/2
SLABS ON GRADE	PER DETAIL

10. CONTRACTOR MUST MAKE ALLOWANCE TO PROVIDE AND INSTALL TWO (2) TONS OF ADDITIONAL REINFORCING STEEL (SIZE TO RANGE FROM #4 TO #10) TO BE USED IN THE FIELD AS DIRECTED BY THE COMMISSIONER. ANY UNUSED PORTION OF THE QUANTITY MUST BE CREDITED.

11. WHERE NO REINFORCING IS INDICATED IN SLABS ON GRADE, PROVIDE #4 @ 12" ON CENTER, EACH WAY.

12. SEE REINFORCING BAR DEVELOPMENT TABLE FOR REQUIRED DEVELOPMENT AND LAP SPLICE LENGTHS.

13. REINFORCING BARS MUST BE FREE OF DIRT AND FORM RELEASE AGENTS.

ARCHITECTURAL CLADDING:

1. TYPICAL DETAILS INDICATE GENERAL CRITERIA FOR ASSUMED CONNECTIONS OF ARCHITECTURAL CLADDING TO BASE BUILDING STRUCTURE. PROVIDE DESIGNS THAT MEET INDICATED CRITERIA AND CONFORM TO LISTED CODES AND STANDARDS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2. ALL INSERTS, ANCHORS AND SLEEVES SHALL BE CAST IN PLACE. DRILLED AND POWDER DRIVEN FASTENERS WILL BE PERMITTED ONLY WHEN IT CAN BE SHOWN THAT THE INSERTS WILL NOT SPALL THE CONCRETE AND ARE LOCATED SO AS TO AVOID THE TENDONS AND ANCHORAGE'S AND ONLY WHEN APPROVED IN WRITING BY THE COMMISSIONER.

MASONRY:

REFERENCE STANDARDS:
1. EXCEPT AS INDICATED, ALL DESIGN, MANUFACTURE AND CONSTRUCTION OF MASONRY SHALL BE GOVERNED BY:
   ACI 530, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES, 2011.
   ACI 530.1, SPECIFICATION FOR MASONRY STRUCTURES, 2011.

MATERIAL	ASTM SPEC	GRADE	TYPE	PSI
MASONRY STRENGTH f'm:				1500
HOLLOW CMU, LOAD-BEARING:	C90			1900
HOLLOW CMU, NON-LOAD BEARING:	C90			1500
MORTAR, ALL STRUCTURAL MASONRY:	C270	N		
GROUT:	C476			3000
DEFORMED BAR REINFORCING:	A615	60		
DEFORMED BAR REINFORCING (WELDABLE):	A706	60		
HORIZONTAL JOINT REINFORCING:	A82			

MASONRY CONT.:

2. ALL CMU SHALL BE TWO-CELL TYPE UNITS EXCEPT LINTELS WHICH SHALL BE U-SHAPED UNITS. BOND BEAM UNITS MAY BE U-SHAPED OR TWO-CELL TYPE.

3. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATION, ETC. FOR ALL WALLS INCLUDING LINTELS.

4. ALL MASONRY RUNNING BOND WALLS SHALL HAVE BOND BEAMS TO BE LOCATED AT EACH FLOOR AND ROOF LEVEL, TOP OF ALL WALLS AND AROUND ALL OPENINGS AS SPECIFIED ON THE TYPICAL CMU DETAILS. BOND BEAMS TO BE REINFORCED ACCORDING TO TYPICAL DETAILS.

5. ALL MASONRY STACK BOND WALLS TYPE SHALL HAVE BOND BEAMS @ 4'-0" ON CENTER IN ADDITION TO TYPICAL BOND BEAMS AT FLOORS, ROOFS AND TOP OF WALLS.

6. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SPECIFICATIONS OF FIRE RATED MASONRY.

7. RUNNING BOND PATTERN SHALL BE USED FOR ALL MASONRY WORK UNLESS OTHERWISE NOTED.

8. PROVIDE MOVEMENT (CONTROL AND EXPANSION) JOINTS IN WALLS WHERE INDICATED ON DRAWINGS. BOND BEAMS SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS UNLESS NOTED OTHERWISE:

9. UNLESS NOTED OTHERWISE ON PLANS, FILL CELLS WITH GROUT UNDER LINTELS, BEARING PLATES, BEAMS, ETC., 3 COURSES MINIMUM BELOW BEARING.

10. ALL REINFORCING STEEL SHALL BE SUPPORTED AND FASTENED TO APPROVED POSITIONERS LOCATED AT 192 BAR DIAMETERS MAXIMUM SPACING AND WITH A MINIMUM OF TWO POSITIONERS PER GROUT POUR (ONE NEAR THE BOTTOM AND ONE NEAR THE TOP) TO PREVENT DISPLACEMENT DURING THE PLACEMENT OF GROUT.

12. GROUT ALL CELLS BELOW GRADE SOLID.

13. PROVIDE REINFORCING BAR SPLICES AS SPECIFIED IN THE MASONRY TYPICAL DETAIL TABLE. BAR SPLICE COUPLERS MAY BE CONSIDERED AS A SUBSTITUTE, SUBMIT MANUFACTURER'S DATA PRIOR TO INSTALLATION.

14. MAXIMUM GROUT LIFT = 51". GROUT SHALL BE MECHANICALLY VIBRATED.

15. GROUT CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR 1" BELOW THE TOP OF THE UPPERMOST UNIT.

16. HORIZONTAL JOINT REINFORCEMENT:
    9 GAUGE DEFORMED WIRE, LADDER TYPE REINFORCEMENT HOT DIP GALVANIZED COLD DRAWN STEEL IN EVERY SECOND BLOCK COURSE, FULL HEIGHT, AND WHERE INDICATED. PROVIDE IN FIRST BED JOINT ABOVE AND BELOW OPENINGS AND EXTENDING 24" BEYOND OPENINGS. LAP FULL WIDTH AT CORNERS AND INTERSECTIONS.

17. PROVIDE PREFABRICATED "L" AND "T" SHAPED HORIZONTAL JOINT REINFORCING AT WALL INTERSECTIONS.

18. ALL CELLS CONTAINING REINFORCING SHALL BE COMPLETELY GROUTED. VERTICAL CELLS TO BE GROUTED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL WITH HORIZONTAL DIMENSIONS NOT LESS THAN 2"x3". INSTALL REINFORCING BARS ACCURATELY IN POSITION INDICATED AND SECURE WITH STANDARD ACCESSORIES DURING GROUT PLACEMENT. GROUT REINFORCED MASONRY WALLS IN LIFTS 48" HIGH MAXIMUM.

19. ALL MASONRY BOND BEAMS AND LINTELS SHALL BE COMPLETELY GROUTED. BOND BEAMS AT INTERSECTING CMU WALLS SHALL MEET AT THE SAME ELEVATION AND THE REINFORCING SHALL BE LAPPED AS REQUIRED.

5

20. ALL REINFORCEMENT BARS SHALL BE EPOXY COATED U.N.O.

NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
5	2/12/2024	BID ADDENDUM 1					
4	7/03/2023	ISSUED FOR BID	MMB	MDG	MJT		
0	9/9/2022	ISSUED FOR PERMIT	MMB	MDG	MJT		

DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
CDOT/APPROVED BY:

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

STATE OF ILLINOIS ANNA M. DUKES 062-057206 REGISTERED PROFESSIONAL ENGINEER

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

GENERAL STRUCTURAL NOTES (2 OF 4)

DRAWING NO. SS-002

CDOT PROJECT D-1-209

DATE: 9/9/2022

REVISION NO.5

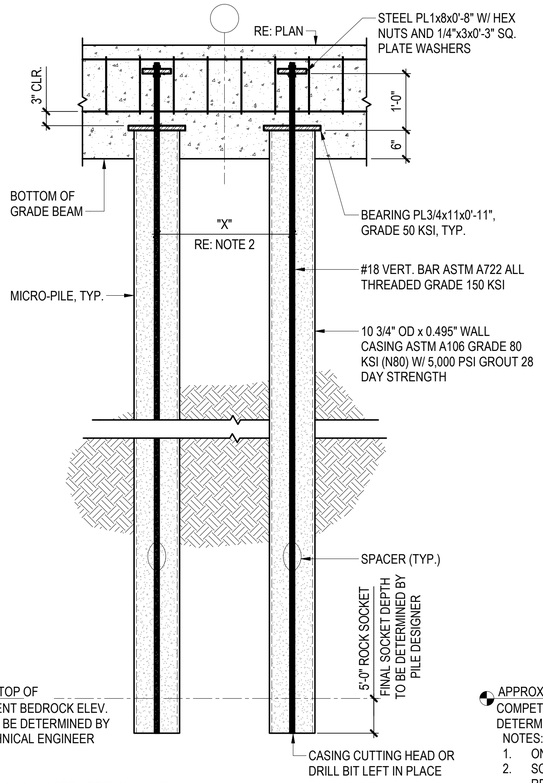
ATTACHMENT V

CONCRETE REINFORCING DEVELOPMENT LENGTHS (TENSION SPLICE) SCHEDULE

GRADE 60 REINFORCING (Fy=60 KSI)

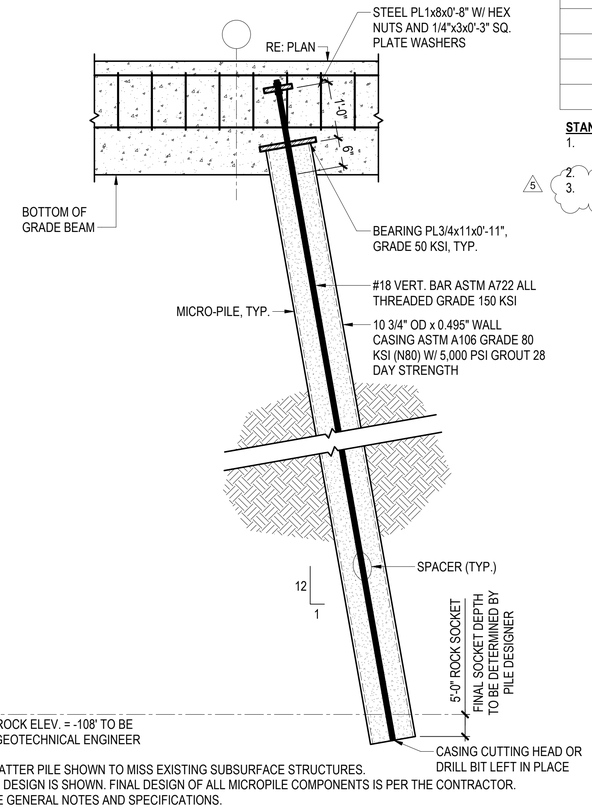
BAR SIZE	CONCRETE STRENGTH (PSI) 3000		4000		5000		6000		7000		8000	
	ℓd	1.3 ℓd	ℓd	1.3 ℓd	ℓd	1.3 ℓd	ℓd	1.3 ℓd	ℓd	1.3 ℓd	ℓd	1.3 ℓd
3	17	22	15	20	13	17	12	16	12	16	12	16
4	22	29	19	25	17	22	16	21	15	20	14	19
5	28	37	24	31	22	29	20	26	18	24	17	22
6	33	43	29	38	26	34	24	32	22	29	21	28
7	48	63	42	55	37	48	34	45	32	42	30	39
8	54	70	48	62	43	56	39	51	36	47	34	45
9	62	81	54	70	48	62	45	59	40	52	38	50
10	68	88	60	78	53	69	49	64	45	59	42	55
11	76	99	65	85	58	76	54	70	50	65	46	60

NOTES:
1. MULTIPLY VALUES IN TABLE BY 1.3 FOR HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW BARS.
2. MULTIPLY VALUES IN TABLE BY 1.3 FOR LW CONCRETE.
3. MULTIPLY VALUES IN TABLE BY 1.5 FOR COVER LESS THAN Db AND CLEAR SPACING LESS THAN 2Db.
4. MULTIPLY VALUES IN TABLE BY 1.2 FOR EPOXY COATED BARS.



NOTES:
1. RE: 2/SS-012 FOR ADDITIONAL INFO.
2. "X" = DIMENSION BETWEEN CENTER LINE OF PILES AT BOTTOM OF FOOTING 3'-0" MIN.
3. FIRST CONNECTION SHALL BE AT LEAST MINIMUM 20 FEET BELOW BOTTOM OF GRADE BEAM WITH INTERNAL FLUSH COUPLE THREADED CONNECTION.
4. PROVIDE MECHANICAL COUPLER CONNECTION TO SPLICE THE VERTICAL BAR.

1 TYPICAL VERTICAL MICRO-PILE SECTION
3/4" = 1'-0"



NOTES:
1. ONE-WAY BATTER PILE SHOWN TO MISS EXISTING SUBSURFACE STRUCTURES.
2. SCHEMATIC DESIGN IS SHOWN. FINAL DESIGN OF ALL MICROPILE COMPONENTS IS PER THE CONTRACTOR. REFERENCE GENERAL NOTES AND SPECIFICATIONS.
3. RE: SS-001 FOR DESIGN FORCES.
4. HEX NUT AND STEEL PLATE SIZE TO BE DETERMINED BY PILE CONTRACTOR. PLATE SHALL BE SUFFICIENT TO DEVELOP VERTICAL BAR. PROVIDE MINIMUM PLATE 1"X12"X1'-0" GRADE A36 WITH 1/2" THICK PLATE WASHERS 4"x4" TOP AND BOTTOM OF PLATE.
5. PROVIDE MECHANICAL COUPLER CONNECTION TO SPLICE THE VERTICAL BAR.

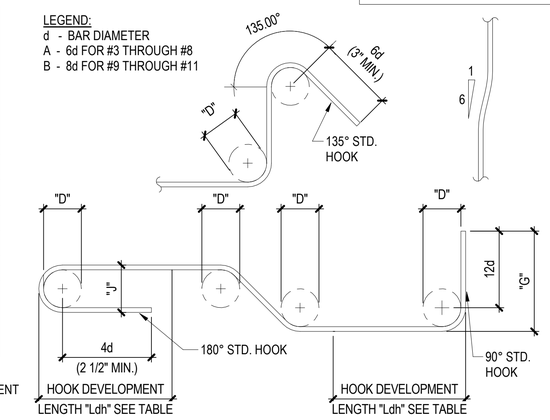
2 TYPICAL BATTER MICRO-PILE SECTION
3/4" = 1'-0"

STANDARD HOOK DEVELOPMENT LENGTH, "Ldh"

BAR SIZE	"D"	"G" 90 HOOK	"J" 180 HOOK	NORMAL WEIGHT 3000 PSI	NORMAL WEIGHT 4000 PSI	NORMAL WEIGHT 5000 PSI	LIGHT WEIGHT 3000 PSI	LIGHT WEIGHT 4000 PSI	LIGHT WEIGHT 5000 PSI
#3	2 1/4"	6"	3"	0' -9"	0' -8"	0' -7"	0' -11"	0' -10"	0' -9"
#4	3"	8"	4"	0' - 11"	0' - 10"	0' - 9"	1' - 3"	1' - 1"	1' - 0"
#5	3 3/4"	10"	5"	1' - 2"	1' - 0"	0' - 11"	1' - 6"	1' - 4"	1' - 2"
#6	4 1/2"	12"	6"	1' - 5"	1' - 3"	1' - 1"	1' - 10"	1' - 7"	1' - 5"
#7	5 1/4"	1' - 2"	7"	1' - 8"	1' - 5"	1' - 3"	2' - 1"	1' - 10"	1' - 8"
#8	6"	1'- 4"	8"	1' - 10"	1' - 7"	1' - 5"	2' - 5"	2' - 1"	1' - 11"
#9	9 1/2"	1' - 7 1/2"	11 3/4"	2' - 1"	1' - 10"	1' - 8"	2' - 9"	2' - 4"	2' - 1"
#10	10 3/4"	1' - 10"	1' - 1 1/4"	2' - 4"	2' - 1"	1' - 10"	3' - 1"	2' - 8"	2' - 5"
#11	12"	2' -0 1/2"	1' - 2 1/4"	2' - 7"	2' - 3"	2' - 0"	3' - 5"	2' - 11"	2' - 8"

STANDARD HOOK NOTES:
1. ALL HOOK BARS SHALL EXTEND AS FAR AS POSSIBLE WITH A MINIMUM 2" END COVER AND WITH EMBEDMENT NOT LESS THAN SHOWN ON THE SCHEDULE U.N.O. ON PLANS.
2. MINIMUM SIDE COVER =2 1/2".
3. MULTIPLY VALUES IN TABLE BY 1.2 FOR EPOXY COATED BARS.

5



NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
5	2/12/2024	BID ADDENDUM 1					
4	7/03/2023	ISSUED FOR BID	MMB	MDG	MJT		
2	1/13/2023	ISSUED FOR PERMIT REVISION 2					
1	11/04/2022	ISSUED FOR PERMIT REVISION 1					
0	9/9/2022	ISSUED FOR PERMIT	MMB	MDG	MJT		

DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
CDOT/APPROVED BY:

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

STATE OF ILLINOIS — ANNA M. DUKE — 062-052866 — LICENSED PROFESSIONAL ENGINEER

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

TYPICAL CONCRETE DETAILS (3 OF 3)

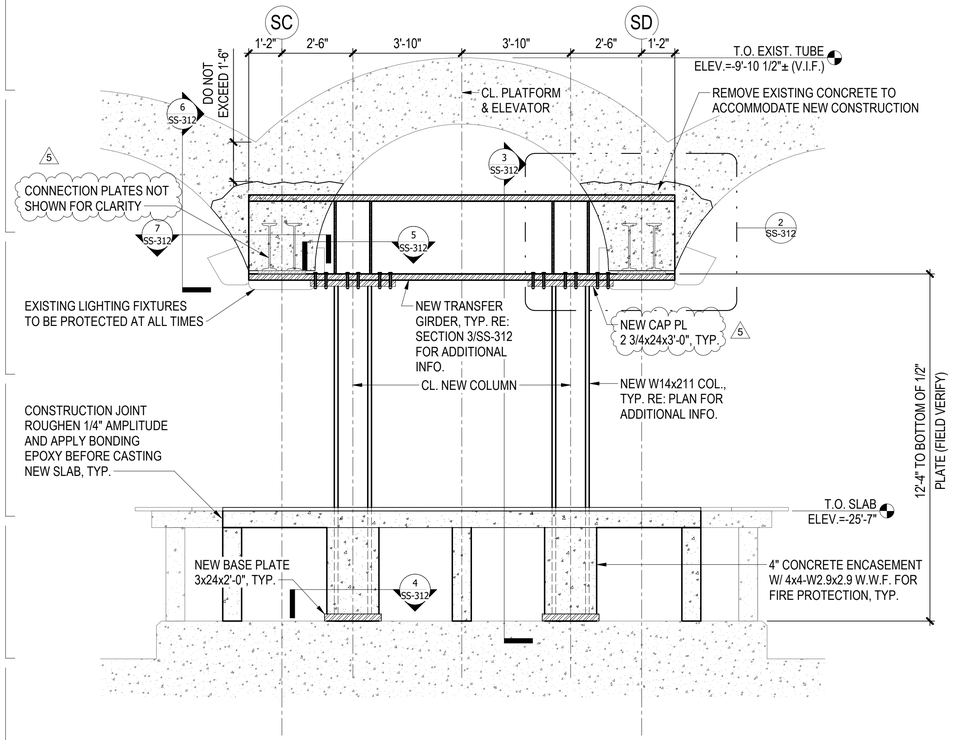
DRAWING NO. SS-012

CDOT PROJECT D-1-209

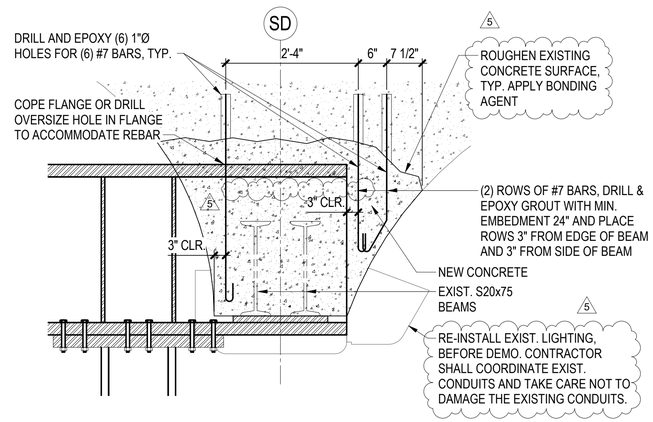
DATE: 9/9/2022

REVISION NO. 5

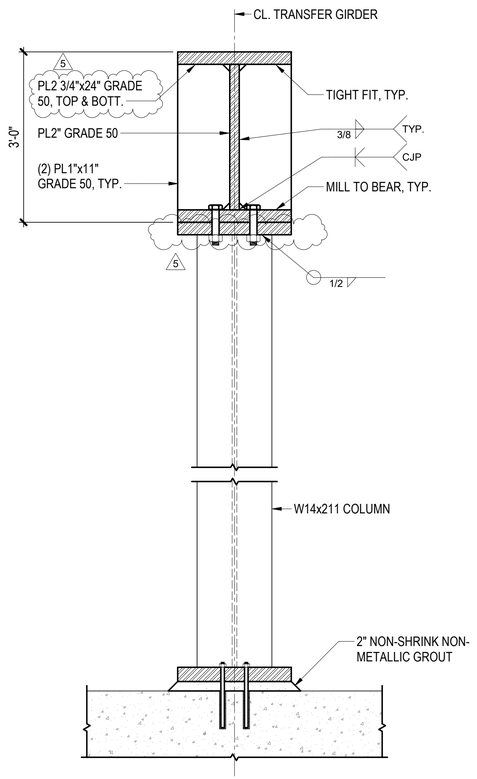
ATTACHMENT W



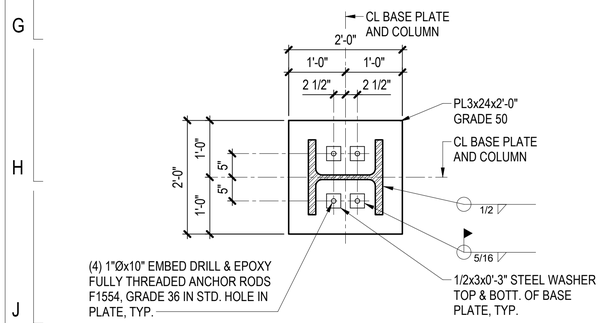
1 SECTION
3/8" = 1'-0"



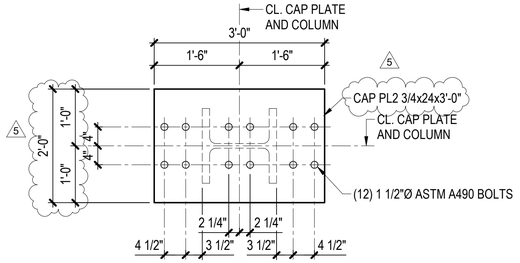
2 DETAIL
3/4" = 1'-0"



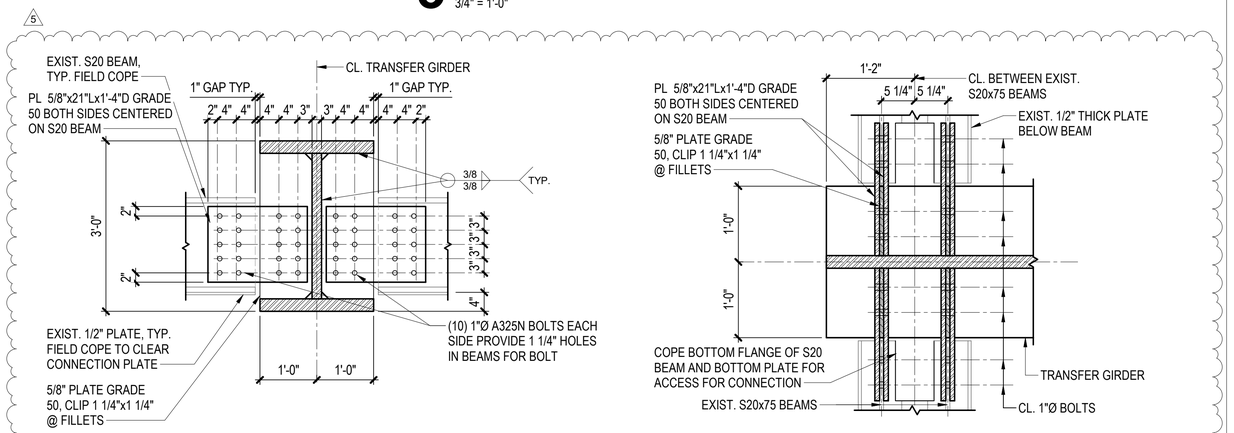
3 SECTION
3/4" = 1'-0"



4 SECTION
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"



6 SECTION
3/4" = 1'-0"

7 SECTION
1" = 1'-0"

DESIGN BY:										
DRAWN BY:										
CHECKED BY:		5	3/22/2024	BID ADDENDUM 1						
APPROVED BY:		4	7/03/2023	ISSUED FOR BID						
CDOT/APPROVED BY:		1	11/04/2022	ISSUED FOR PERMIT REVISION 1						
		0	9/9/2022	ISSUED FOR PERMIT	MMB	MDG	MJT			
		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT	

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

STATE OF ILLINOIS — ANNA M. DUKES — 062-071886 — LICENSED PROFESSIONAL ENGINEER

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SECTIONS AND DETAILS

CDOT PROJECT D-1-209

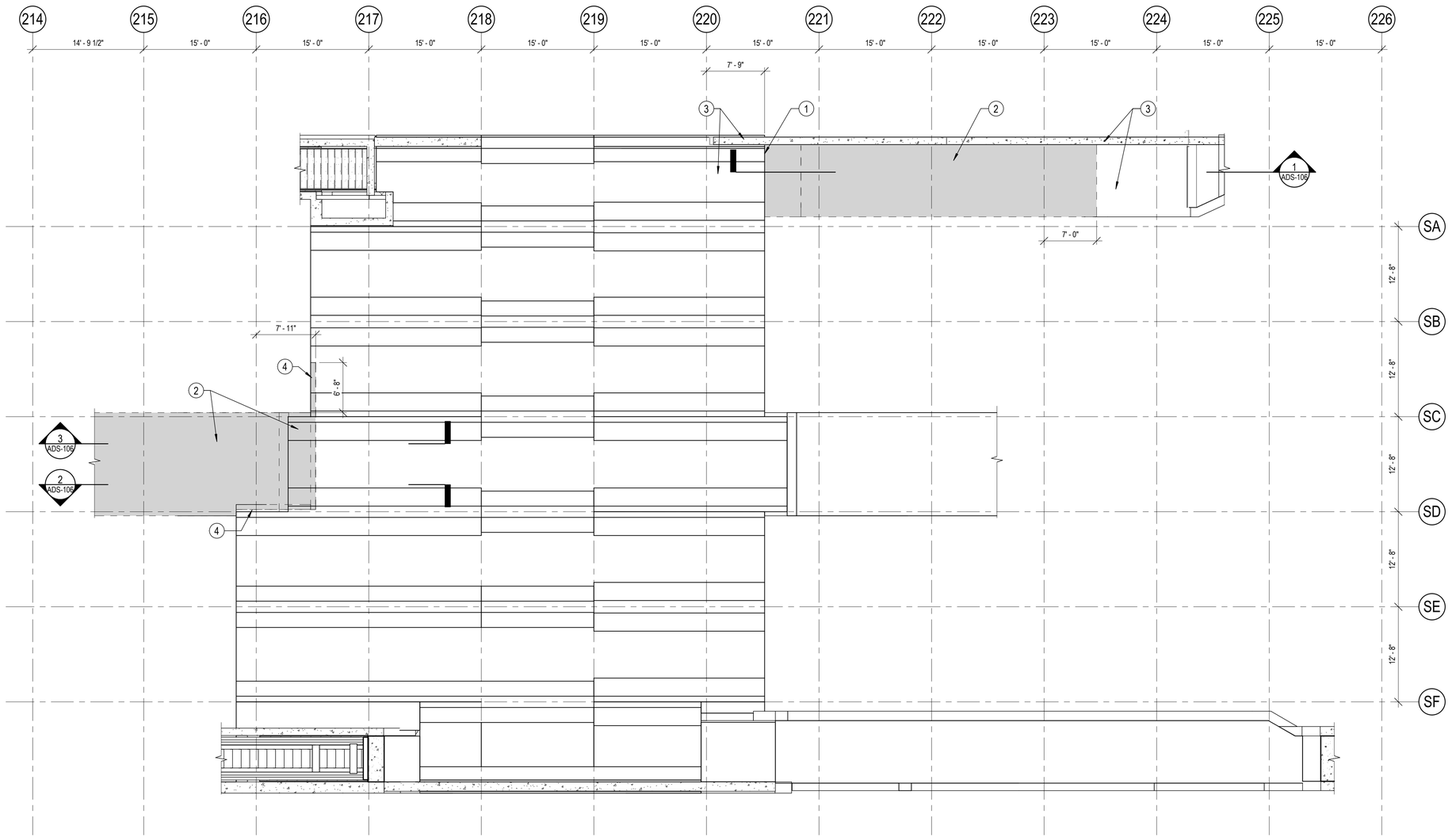
DATE: 9/9/2022

SPEC. NO.

DRAWING NO. SS-312

REVISION NO.5

ATTACHMENT X



1 SUBWAY MEZZANINE ROOF DEMO PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL REPAIR PRE-EXISTING LEAKS OR CRACKS IN THE EXISTING CONCRETE WITH AN EPOXY RESIN SYSTEM THAT CAN BE INJECTED. THE PRODUCT SPECIFICATIONS AND INFORMATION ON THE APPLICATION PROCESS SHALL BE SUBMITTED TO COMMISSIONER AS A SUBMITTAL FOR REVIEW PRIOR TO APPLICATION.
2. CONTRACTOR SHALL INCLUDE IN THE BID AN ESTIMATED 100 SQ.FT OF CONCRETE REPAIR (CRACKS AND SPALLING) OF EXISTING STRUCTURE AS DIRECTED BY THE ENGINEER/ARCHITECT FOR SPECIAL AND UNFORESEEN CONDITIONS, LABOR AND MATERIAL FOR REPAIR TO BE INCLUDED IN BID.

5

DEMOLITION KEY NOTES (APPLIES TO THIS SHEET ONLY):

1 CUT OFF ROOF SLAB TO MATCH NORTH FACE OF MEZZANINE WALL/ GRADE BEAM. CONTRACTOR TO USE CAUTION NOT TO DAMAGE EXISTING CONCRETE TO REMAIN.
2 REMOVE CONCRETE ROOF
3 EXISTING STRUCTURE TO REMAIN.
4 DEMOLISH 8" OF EXISTING CONCRETE MEZZ ROOF SLAB AT EXTERIOR OF ROOF.

DEMOLITION LEGEND

- AREA TO BE DEMOLISHED
- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN
- I-1 PHOTOS

DESIGN BY:									
DRAWN BY:									
CHECKED BY:									
APPROVED BY:		5	2/12/2024	BID ADDENDUM 1					
CDOT/APPROVED BY:		4	7/3/2023	ISSUED FOR BID	KP	KP	NL		
		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TranSystems
TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

LICENSED ARCHITECT
QUENTIN PETERSEN
001.024088
STATE OF ILLINOIS

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SUBWAY MEZZANINE ROOF DEMO PLAN

CDOT PROJECT D-1-209

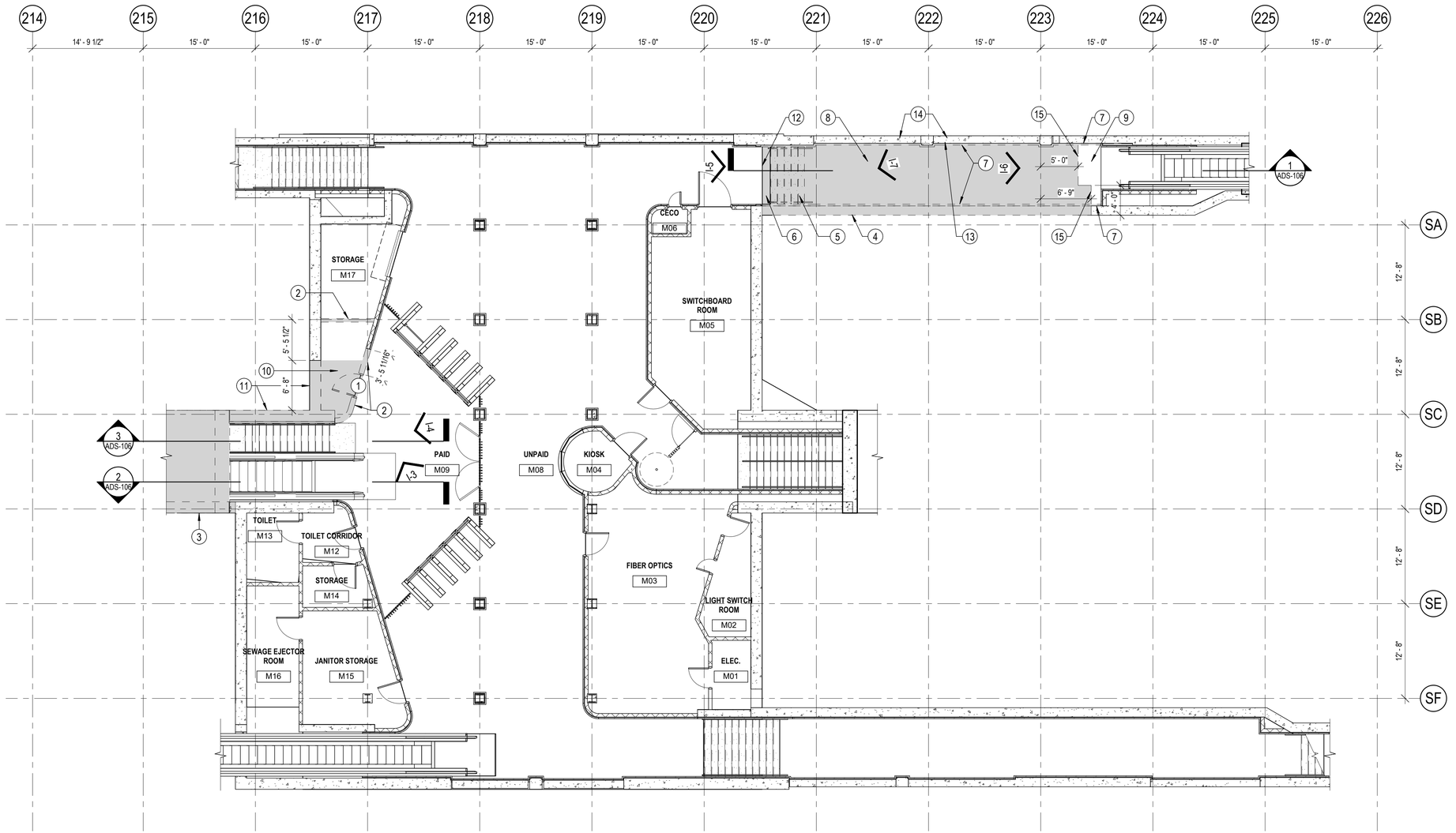
DATE: 9/9/2022

SPEC. NO.

DRAWING NO. ADS-102

REVISION NO.5

ATTACHMENT Y



1 SUBWAY MEZZANINE LEVEL DEMO PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL REPAIR PRE-EXISTING LEAKS OR CRACKS IN THE EXISTING CONCRETE WITH AN EPOXY RESIN SYSTEM THAT CAN BE INJECTED. THE PRODUCT SPECIFICATIONS AND INFORMATION ON THE APPLICATION PROCESS SHALL BE SUBMITTED TO COMMISSIONER AS A SUBMITTAL FOR REVIEW PRIOR TO APPLICATION.
2. CONTRACTOR SHALL INCLUDE IN THE BID AN ESTIMATED 100 SQ.FT OF CONCRETE REPAIR (CRACKS AND SPALLING) OF EXISTING STRUCTURE AS DIRECTED BY THE ENGINEER/ARCHITECT FOR SPECIAL AND UNFORESEEN CONDITIONS, LABOR AND MATERIAL FOR REPAIR TO BE INCLUDED IN BID.

5

DEMOLITION KEY NOTES (APPLIES TO THIS SHEET ONLY):

1 REMOVE S.S. DOOR AND FRAME IN ITS ENTIRETY
2 REMOVE WALL IN ITS ENTIRETY FROM FLOOR SLAB TO ROOF SLAB
3 REMOVE CONCRETE WALL, SEE ADS-106 FOR EXTENTS
4 REMOVE CONCRETE WALL COMPLETE FROM FLOOR SLAB TO CEILING SLAB
5 REMOVE GRANITE TREADS/RISERS, CONCRETE STAIRS AND MTL RAILING IN THEIR ENTIRETY
6 REMOVE TRENCH DRAIN, SEE PLUMBING
7 REMOVE SGFT
8 SAW-CUT AND REMOVE EXISTING CONCRETE SLAB -ROOF AND FOUNDATION MAT
9 CONCRETE SLAB TO REMAIN
10 REMOVE TOPPING SLAB
11 REMOVE CONCRETE WALL FROM TOP OF MEZZANINE LEVEL FLOOR SLAB UP TO ROOF SLAB
12 CUT OFF MAT AND ROOF SLABS AT EXTERIOR FACE OF MEZZANINE WALL / GRADE BEAM. CONTRACTOR TO USE CAUTION NOT TO DAMAGE EXISTING CONCRETE TO REMAIN.
13 CUT OFF MAT AND ROOF SLABS AT EAST FACE OF EXISTING VAULT WALL. EXISTING VAULT WALL TO REMAIN. CONTRACTOR TO PROTECT EXISTING WALL DURING CONSTRUCTION TO AVOID DAMAGE AND PROVIDE TEMPORARY SUPPORT FOR THE WALL DURING CONSTRUCTION.
14 CONTRACTOR TO UNDERPIN EXISTING VAULT WALL AND FOUNDATION TO STABILIZE CONDITIONS DURING CONSTRUCTION AND UNTIL THE FINAL LOWER FOUNDATIONS ARE IN PLACE.
15 CUT OFF MAT SLAB AS SHOWN ON PLAN. CUT OFF ROOF SLAB 6'-9" FROM GRID 223. CONTRACTOR TO USE CAUTION NOT TO DAMAGE EXISTING CONCRETE TO REMAIN.

DEMOLITION LEGEND

- AREA TO BE DEMOLISHED
- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN
- I-1 PHOTOS

NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
5	2/12/2024	BID ADDENDUM 1					
4	7/3/2023	ISSUED FOR BID	KP	KP	NL		

DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
CDOT/APPROVED BY:

TranSystems
TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

LICENSED ARCHITECT
QUENTIN PETERSEN
001.024066
STATE OF ILLINOIS

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SUBWAY MEZZANINE DEMOLITION PLAN

CDOT PROJECT D-1-209

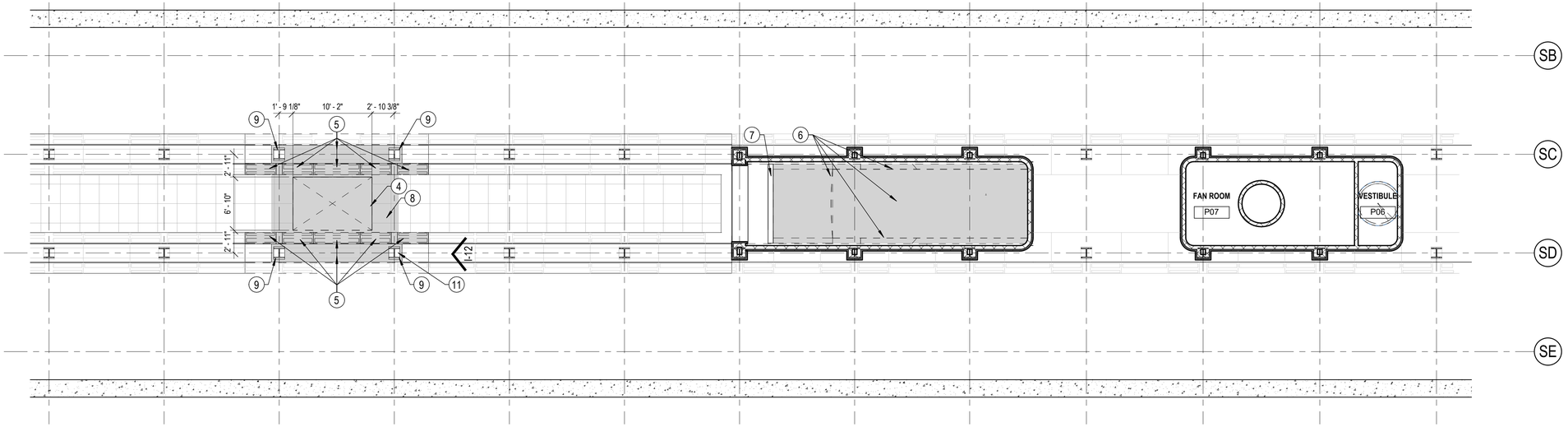
DATE: 9/9/2022

SPEC. NO.

DRAWING NO. ADS-103

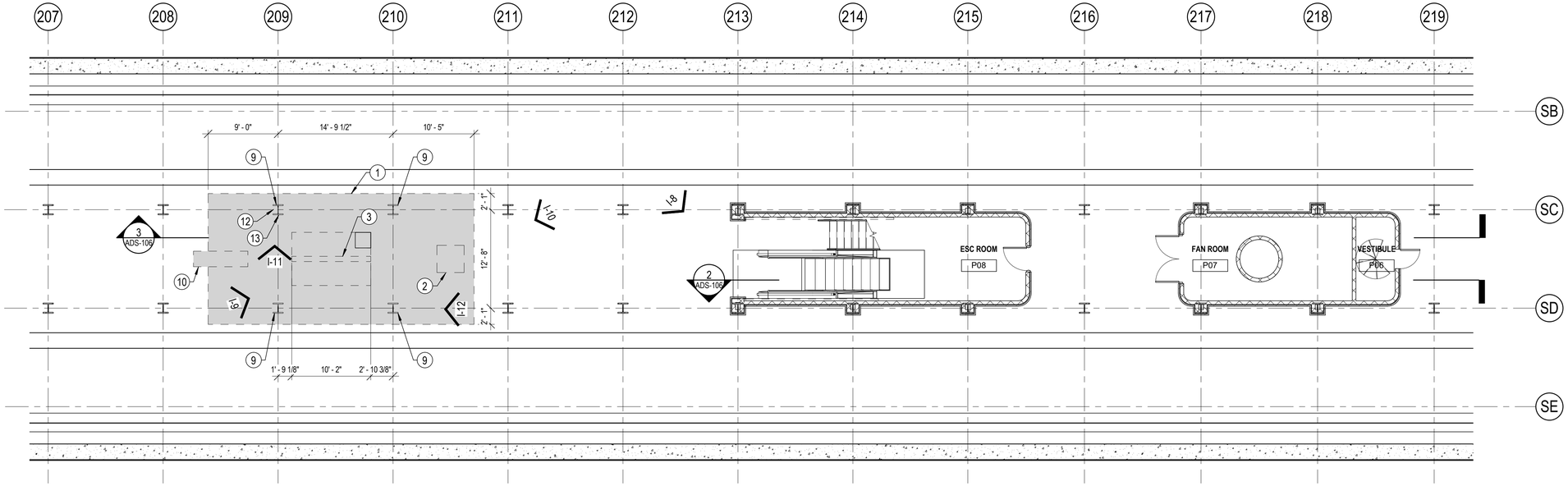
REVISION NO.5

ATTACHMENT Z



2 PLATFORM REFLECTED CEILING DEMO PLAN

1/8" = 1'-0"



1 SUBWAY PLATFORM LEVEL DEMO PLAN

1/8" = 1'-0"

K

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

GENERAL NOTES:

1. CONTRACTOR SHALL REPAIR PRE-EXISTING LEAKS OR CRACKS IN THE EXISTING CONCRETE WITH AN EPOXY RESIN SYSTEM THAT CAN BE INJECTED. THE PRODUCT SPECIFICATIONS AND INFORMATION ON THE APPLICATION PROCESS SHALL BE SUBMITTED TO COMMISSIONER AS A SUBMITTAL FOR REVIEW PRIOR TO APPLICATION.
2. CONTRACTOR SHALL INCLUDE IN THE BID AN ESTIMATED 100 SQ.FT OF CONCRETE REPAIR (CRACKS AND SPALLING) OF EXISTING STRUCTURE AS DIRECTED BY THE ENGINEER/ARCHITECT FOR SPECIAL AND UNFORESEEN CONDITIONS, LABOR AND MATERIAL FOR REPAIR TO BE INCLUDED IN BID.

5

DEMOLITION KEY NOTES (APPLIES TO THIS SHEET ONLY):

1 SAW-CUT AND REMOVE PORTION OF EXISTING CONCRETE SLAB TO ACCOMODATE NEW ELEVATOR, SHORING, & RELOCATED COLUMNS, REF STRUCT. REMOVE AND SALVAGE GRANITE FLOORING.
2 REMOVE FLOOR ACCESS PANEL IN ITS ENTIRETY.
3 REMOVE WALL BELOW PLATFORM THROUGH ELEVATOR PIT. GC TO COORDINATE PIT SIZE WITH ELEVATOR MANUFACTURER.
4 SAW-CUT AND REMOVE PORTION OF EXISTING CONCRETE TUBE AND STEEL LINER TO ACCOMODATE NEW ELEVATOR. GC TO COORDINATE ELEVATOR SHAFT SIZE PER MANUFACTURER REQUIREMENTS TO ADJUST DIMENSION AS REQUIRED.
5 REMOVE EXISTING LIGHT TRAY SECTIONS. WIRING WITHIN TO BE REROUTED, SEE ELECTRICAL.
6 REMOVE CEILING SYSTEM IN ITS ENTIRETY AND LIGHT FIXTURES (SEE ELECTRICAL) AT CEILING OF STAIR/ESCALATOR
7 S.S. SOFFIT TO REMAIN
8 REMOVE/REPLACE CERAMIC TILE CEILING PANEL SYSTEM TO ACCOMODATE NEW ELEVATOR HOISTWAY
9 REMOVE STEEL COLUMN. SHORE EXISTING BEAMS S20 PRIOR TO REMOVAL OF STEEL COLUMNS. REFER TO STRUCTURAL FOR SUGGESTED SHORING.
10 REMOVE BENCH.
11 REMOVE & RELOCATE TELECOM. DEVICE, REF. TELECOM
12 REMOVE PAYPHONE HOUSING.
13 REMOVE & RELOCATE CUSTOMER ASSISTANT CALL BUTTON, REF. TELECOM.

DEMOLITION LEGEND

- AREA TO BE DEMOLISHED
- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN
- I-1 PHOTOS

DESIGN BY:									
DRAWN BY:									
CHECKED BY:									
APPROVED BY:		5	2/12/2024	BID ADDENDUM 1					
CDOT/APPROVED BY:		4	7/3/2023	ISSUED FOR BID	KP	KP	NL		
		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TranSystems
TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

LICENSED ARCHITECT
QUENTIN PETERSEN
001.024066
STATE OF ILLINOIS

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

SUBWAY PLATFORM DEMOLITION PLAN

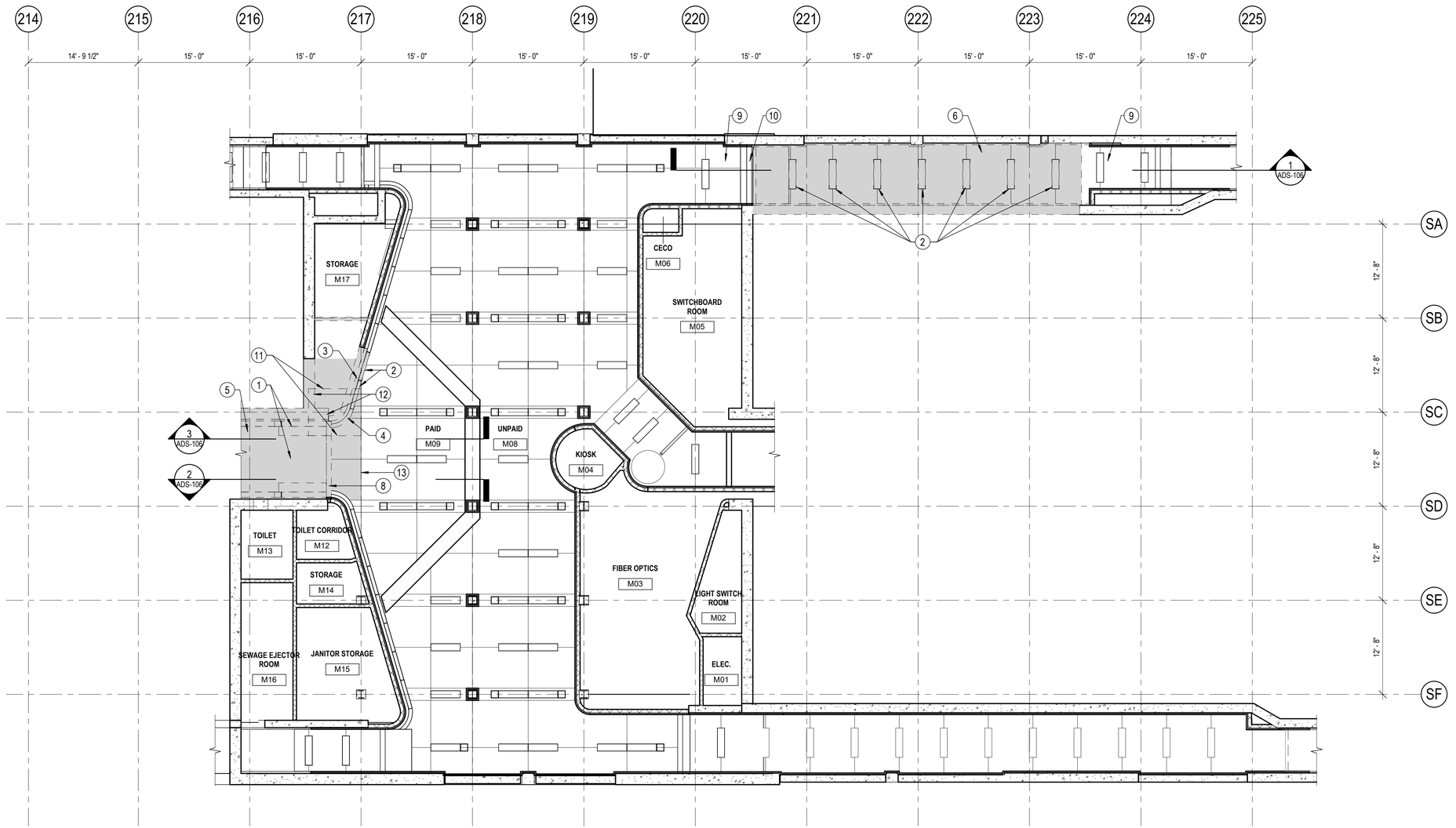
DRAWING NO. ADS-104

CDOT PROJECT D-1-209

DATE: 9/9/2022

REVISION NO.5

ATTACHMENT AA



1 MEZZANINE REFLECTED CEILING DEMO PLAN NORTH

1/8" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL REPAIR PRE-EXISTING LEAKS OR CRACKS IN THE EXISTING CONCRETE WITH AN EPOXY RESIN SYSTEM THAT CAN BE INJECTED. THE PRODUCT SPECIFICATIONS AND INFORMATION ON THE APPLICATION PROCESS SHALL BE SUBMITTED TO COMMISSIONER AS A SUBMITTAL FOR REVIEW PRIOR TO APPLICATION.
2. CONTRACTOR SHALL INCLUDE IN THE BID AN ESTIMATED 100 SQ.FT OF CONCRETE REPAIR (CRACKS AND SPALLING) OF EXISTING STRUCTURE AS DIRECTED BY THE ENGINEER/ARCHITECT FOR SPECIAL AND UNFORESEEN CONDITIONS, LABOR AND MATERIAL FOR REPAIR TO BE INCLUDED IN BID.

5

DEMOLITION KEY NOTES (APPLIES TO THIS SHEET ONLY):

1 REMOVE TILE CEILING PANELS AND LIGHT FIXTURES AT CEILING OF STAIR/ESCALATOR
2 REMOVE LIGHT FIXTURE, REF ELEC
3 REMOVE SS SOFFIT. MATCH EXTENTS OF ADJACENT WALL DEMO.
4 REMOVE SS LIGHT TRAY
5 REMOVE CONCRETE ROOF ABOVE ESCALATOR & STAIR. REFER TO ADS-106 FOR EXTENTS
6 REMOVE CONCRETE ROOF. REMOVE CEMENT PLASTER CEILING UP TO NEAREST CONTROL JOINT.
8 REMOVE SS SOFFIT.
9 CONCRETE ROOF TO REMAIN.
10 SS SOFFIT WITH SIGNAGE AND LIGHT FIXTURE TO REMAIN.
11 DEMOLISH PARTIAL DEPTH OF MEZZ CONCRETE ROOF SLAB UNDER EXISTING STEEL BEAM AS REQUIRED TO INSTALL NEW COLUMN, REF STRUCT
12 SHORE EXISTING ROOF STRUCTURE PRIOR TO REMOVAL OF EXISTING WALL AND CONCRETE COLUMN. SHORING TO REMAIN IN PLACE UNTIL FINAL CONSTRUCTION IS COMPLETE.
13 REMOVE EXISTING CEMENT PLASTER CEILING AS NEEDED, EXTEND TO NEAREST CONTROL JOINT

DEMOLITION LEGEND

- AREA TO BE DEMOLISHED
- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN
- I-1 PHOTOS

DESIGN BY:									
DRAWN BY:									
CHECKED BY:									
APPROVED BY:		5	2/12/2024	BID ADDENDUM 1					
CDOT/APPROVED BY:		4	7/3/2023	ISSUED FOR BID	KP	KP	NL		
		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TranSystems
TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

LICENSED ARCHITECT
QUENTIN PETERSEN
001.024068
STATE OF ILLINOIS

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SUBWAY MEZZANINE REFLECTED CEILING DEMO PLAN

CDOT PROJECT D-1-209

DATE: 9/9/2022

SPEC. NO.

DRAWING NO. ADS-105

REVISION NO.5

ATTACHMENT BB

GENERAL NOTES:

1. ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
2. THE CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THIS WORK IS TO BECOME THOROUGHLY FAMILIAR WITH THE PROJECT SPECIFICATIONS BEFORE COMMENCING ANY WORK. THE PROJECT SPECIFICATIONS AND DRAWINGS FORM THE BASIS OF THE CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, SPECIFICATIONS GOVERN UNLESS THE AUTHORITY DIRECTS OTHERWISE.
3. THE CONTRACTOR IS TO CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET, ALARM STATION OR CONTROL AND POWER WIRING IS OMITTED. THE CONTRACTOR IS TO CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN FOR REFERENCE ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF THE EQUIPMENT.
4. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT IS TO BE FOLLOWED TO ENSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS ARE TO BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
5. ELECTRICAL DRAWINGS ARE DIAGRAMATIC IN NATURE. NO DIMENSIONS ARE TO BE SCALED OFF ELECTRICAL DRAWINGS. CONTRACTOR IS TO CONSULT ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LIGHTING FIXTURES, MISCELLANEOUS DEVICES AND OUTLETS.
6. COORDINATE WITH OTHER TRADES AND INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES. COORDINATE ALL CONDUIT ROUTES WITH OTHER TRADES AND AVOID INTERFERENCE.
7. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE PROJECT TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
8. CONDUIT RUNS SHOWN ON THE DRAWINGS ARE DIAGRAMATIC. ALL CONDUITS ARE TO RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY THE AUTHORITY.
9. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CHICAGO ELECTRICAL CODE REQUIREMENTS.
10. CONTRACTOR IS TO COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL DEVICES WITH THE ARCHITECTURAL PLANS, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL DETAILS, ELEVATIONS, AND MILLWORK/CASEWORK DETAILS.
11. ALL BRANCH CIRCUITS ARE TO BE GROUPED INTO PHASE BALANCED MULTIPLE CIRCUIT HOMERUNS. NOT MORE THAN 6 SINGLE PHASE CIRCUITS ARE ALLOWED IN ONE HOMERUN CONDUIT. ANY CONDUITS ARE NOT TO CONTAIN MORE THAN ONE 3-PHASE, 4-WIRE FEEDER. A GROUND WIRE IS TO BE INSTALLED IN EACH CIRCUIT AND FEEDER.
12. CONTRACTOR IS TO PROVIDE TEMPORARY "FOR CONSTRUCTION" POWER AND LIGHTING IN AREAS OF WORK ACTIVITES DURING CONSTRUCTION AND AS REQUIRED BY OSHA.
13. PROVIDE ALL BRANCH CIRCUITING FROM EACH WIRING DEVICE, FIXTURE, MOTOR, UTILIZATION EQUIPMENT, OR APPLIANCE TO CIRCUIT AND PANEL/ SOURCE INDICATED ON THE DRAWINGS. UNLESS NOTED OTHERWISE, 15 AND 20 AMPERE 120 VOLT BRANCH CIRCUITS ARE TO UTILIZE MINIMUM #12 AWG FOR CIRCUITS UP TO 100 FEET IN LENGTH, #10 AWG FOR CIRCUITS 101 FEET TO 150 FEET IN LENGTH, AND #8 AWG FOR CIRCUITS OVER 150 FEET IN LENGTH. THE LENGTH OF EACH CIRCUIT IS TO BE MEASURED FROM THE LAST DEVICE OR OUTLET ON THE CIRCUIT TO THE PANEL/SOURCE. A GROUND WIRE IS TO BE INSTALLED IN EVERY CONDUIT CONTAINING BRANCH CIRCUITS. A GROUND WIRE IS TO BE EXTENDED TO EACH DEVICE. A 2 PERCENT VOLTAGE DROP IS TO BE MAINTAINED FOR LIGHTING CIRCUITS AND A 3 PERCENT VOLTAGE DROP FOR ALL OTHERS. VOLTAGE READINGS ARE TO BE TAKEN FROM SERVICE PANEL TO FARTHEST DEVICE.
14. ALL ALARM CONTACTS ARE TO BE ROUTED TO RELAY CONTROL PANEL THROUGH THE ITC (LOCATED IN THE ELECTRIC ROOM).
15. REFER TO PLUMBING DRAWINGS FOR EXACT SUMP PUMP CONTROL PANELS LOCATIONS.
16. ALL EXHAUST FANS LOCATED IN VARIOUS ROOMS ARE TO BE CONTROLLED PER SCHEMATICS SHOWN ON THE DRAWINGS. PROVIDE AND INSTALL ALL DEVICES (SELECTOR SWITCHES, THERMOSTAT, RELAYS AND NEMA TYPE 12 BOXES). CONDUITS ARE TO BE TERMINATED IN WIREWAYS LOCATED IN THE ELECTRICAL ROOM OR COMMUNICATION ROOM. THE CONTRACTOR IS TO FURNISH DETAIL SHOP DRAWINGS INDICATING ROUTING OF ALL CONDUITS FOR AUTHORITY'S REVIEW.
17. CONTRACTOR IS TO RECEIVE CTA APPROVAL FOR ALL INTERRUPTION OF POWER ON SERVICE TO ALL SYSTEMS.
18. FOR CLARITY NOT ALL JUNCTION BOXES, WHIP CONNECTIONS, FEEDERS, AND CABLES SHOWN ON THE DRAWINGS. FOR FEEDER SIZES REFER TO E-600 SERIES SCHEDULES.
19. PROVIDE PHOTOCELLS TO CONTROL THE PUBLIC AREA LIGHTING. COORDINATE LOCATION OF PHOTOCELLS WITH ARCHITECTURAL DRAWINGS. REFER TO PLAN DRAWINGS FOR EXACT LOCATIONS OF PHOTOCELLS.
20. ALL ELECTRIC HEATERS ARE TO BE CONTROLLED AS SHOWN ON THE DRAWINGS. PROVIDE ALL CONTROL DEVICES AS REQUIRED.
21. ALL CONDUIT CROSSING STRUCTURAL EXPANSION JOINTS ARE TO BE PROVIDED WITH EXPANSION JOINT FITTINGS.
22. THE CONTRACTOR IS TO PREPARE SHOP DRAWINGS INDICATING ROUTING OF ALL CONDUITS (POINT A TO POINT B). ALL CONDUITS ARE TO BE RIGIDLY SUPPORTED UNDER CTA STRUCTURE. THE RACEWAYS ROUTED UNDER THE PLATFORM ARE TO BE INSTALLED BETWEEN THE UNDERSIDE OF PLATFORM CONCRETE SLAB AND ABOVE THE TOP OF BENT STRUCTURE. PULL BOXES LOCATED IN ALONG PLATFORM ARE NOT TO BE INSTALLED OUTBOARD OF THE FARTHEST OUTSIDE GIRDER. RACEWAYS ROUTED OVER UNPAID AREA ARE TO BE KEPT MINIMUM 3 FEET FROM OUTER EDGE. RACEWAYS CROSSING STREET PERPENDICULAR TO TRACK ARE TO USE AREA ABOVE DRIP PAN LOCATIONS IN ORDER TO CONCEAL FROM PEDESTRIAN VIEW. CDOT AND CTA TO REVIEW AND APPROVE FINAL RACEWAY INSTALLATION DRAWINGS AND CHANGES RESULTING FROM THE REVIEW ARE TO BE PROVIDED AT NO ADDITIONAL COSTS TO THE CITY.
23. CABLE INSTALLED TO FEED THE LIGHTING FIXTURES ARE TO UTILIZE #12 AWG. CONTRACTOR TO SPLICE FEEDS AT CLOSEST POINT AVAILABLE.
24. MECHANICAL EQUIPMENT MIGHT HAVE SHIFTED TO ACCOMMODATE CLARITY OF DRAWINGS. CONTRACTOR TO COORDINATE EXACT LOCATIONS WITH MECHANICAL TRADE.
25. ELECTRIC UNIT HEATERS (EUH'S), ELECTRIC WALL HEATERS (EWH'S) AND EXHAUST FANS ARE TO BE PROVIDED WITH INTERNAL DISCONNECTING MEANS. THE CONTRACTOR TO PROVIDE EXTERNAL LOCAL DISCONNECT SWITCH IF INTERNAL DISCONNECT SWITCH IS NOT ACCESSIBLE.
26. CABLE/WIRE TO ITC, RCP, AND FIRE ALARM ARE TO BE #14 AWG.
27. NORMAL POWER, EMERGENCY POWER, AND FIRE ALARM SYSTEMS ARE TO BE INSTALLED IN SEPARATE RACEWAYS, THROUGHOUT THE PROJECT.
28. CONTRACTOR TO HAVE A PRE-INSTALLATION MEETING TO COORDINATE CEILING ACCESS POINTS AND FIXTURE MOUNTING.
29. GRS AND RGS ARE ABBREVIATIONS AND ARE TO BE THE SAME TYPE OF CONDUIT.
30. REFER TO SPECIFICATION SECTION 26 03 00 - ELECTRICAL DEMOLITION FOR REMOVAL AND SALVAGE OF EXISTING ELECTRICAL ITEMS.
31. SEE COMMUNICATION DRAWINGS FOR COMMUNICATION WORK. COMMUNICATION WORK IS TO FOLLOW ELECTRICAL SPECIFICATIONS AS IT RELATES TO MEANS AND METHODS OF INSTALLATION.
32. SEE ARCHITECTURAL DRAWINGS FOR FIXTURE AND SIGNAGE MOUNTING INFORMATION. CONTRACTOR IS RESPONSIBLE FOR ALL ASPECTS OF ALL FIXTURES AND SIGNS, AND THEIR INSTALLATION. COORDINATE WITHARCHITECTURAL DETAILS OF MOUNTING OF SIGNS.
33. RECEPTACLES ARE TO BE PROVIDED WITH WEATHERPROOF VANDAL RESISTANT, GFCI AND UL LISTED FOR WET LOCATIONS. PLATFORM LEVEL COVERPLATES TO BE HUBBEL RAYNTITE MODEL 5028-0 OR APPROVED EQUAL. ALL OTHER COVERPLATES TO BE HUBBEL TAYMAC MODEL MX4280S OR APPROVED EQUAL.
34. REMOVE ALL CABLING, CONDUIT AND DEVICES IN THE BUILDING THAT ARE NOT BEING REUSED. MAKE SUFFICIENT ALLOWANCE IN PRICING. NO CHANGE ORDERS WILL BE APPROVED FOR REMOVAL OF THESE ITEMS.
35. PROVIDE MAXIMUM OF 3' FLEXIBLE CONDUIT FROM JUNCTION BOXES TO EQUIPMENT.
36. REFER TO EQUIPMENT SCHEDULE ON E-600 SERIES DRAWINGS FOR EQUIPMENT SIZES AND REQUIREMENTS.
37. MAINTENANCE CONDITIONS FOR ALL LIGHTING FIXTURES SUPPLIED BY 277V TO GROUND SHALL COMPLY WITH REQUIREMENTS OF CEC ARTICLE 210, PARAGRAPH 18-27-210.6(c) "PREMISES IS UNDER THE SUPERVISION OF A SUPERVISING ELECTRICIAN EMPLOYED BY COMPANY OR BY A CONTRACT WITH A REGISTERED ELECTRICAL CONTRACTOR". INSTALLATION OF LIGHTING FIXTURES HAVE TO COMPLY WITH REQUIREMENTS OF 18-27-210.6(c).(1) SUBPOINTS (a) TO (f).
38. SWITCHBOARD DRAWINGS SUBMITTAL SHALL COMPLY WITH CEC REQUIREMENTS IN ARTICLE 383, PARAGRAPH 18-27-384.11(b) DRAWING SUBMITTAL.
39. CONDUIT SIZE SHALL BE 3/4" MINIMUM, UNLESS NOTED OTHERWISE. PROVIDE CONDUIT TYPE PER SPECIFICATIONS.
40. UNDERGROUND CONDUITS SHALL BE ENCASED IN 3" CONCRETE ENVELOPE FOR ENTIRE RUN.
41. MINIMUM BRANCH CIRCUIT WIRING SHALL BE AS FOLLOWS WITH ASSOCIATED BRANCH CIRCUIT PROTECTION (INCREASE WIRE SIZE TO COMPLY WITH VOLTAGE DROP REQUIREMENTS):
    A. 15A TO 20A - #12 AWG CU + 1 #12 AWG CU GRD
    B. 25A TO 30A - #10 AWG CU + 1 #10 AWG CU GRD
    C. 35A TO 50A - #8 AWG CU + 1 #10 AWG CU GRD
    D. 60A - #6 AWG CU + 1 #10 AWG CU GRD
    E. 100A - #3 AWG CU + 1 #8 AWG CU GRD
    F. 150A - #1/0 AWG CU + 1 #6 AWG CU GRD
42. ALL TRENCHING DUE TO ELECTRICAL WORK SHALL BE BACKFILLED USING CLSM AND FINISHED TO MATCH EXISTING.
43. ALL EMPTY CONDUITS (SPARES) SHALL BE PROVIDED WITH PULL CORD WITH 4'-0" PIGTAIL AT BOTH ENDS.
44. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING COMED UTLITY RELOCATIONS AND INSTALLATION WORK.
45. FIRE ALARM SYSTEM SHALL BE CERTIFIED BY STATE OF ILLINOIS LICENSED FIRE ALARM CONTRACTOR SUCH AS HIGH RISE SECURITY SYSTEMS OR APPROVED EQUAL. THE CONTRACTOR SHALL SUBMIT TO CITY FOR APPROVAL PRIOR TO START OF WORK COMPLETE AND DETAILED PLANS AND SPECIFICATIONS OF THE PROPOSED INSTALLATION PER CEC 760.181. PLANS SHALL INCLUDE:
    A. COMPLETE LEGIBLE RACEWAY DIAGRAMS (LATERAL/HORIZONTAL) AND TWO CORRESPONDING CIRCUIT DIAGRAMS.
    B. LOCATION AND DETAILS OF THE CIRCUITS OF THE CONTROL PANEL ALARM SENDING STATIONS, AUTOMATIC DETECTORS, ALARM SOUNDING DEVICES, SUPERVISORY TEST SWITCHES, TROUBLE SOUNDING DEVICES, AND PILOT LIGHT SWITCH.
    C. DETAILS OF SEPARATE CONDUCTORS IN EACH RACEWAY AND THEIR CONNECTION TO RESPECTIVE TERMINALS.
    D. ONE LINE WIRING DIAGRAM SHOWING THE SERVICE ENTRANCE CONDUCTORS, EQUIPMENT AND FIRE ALARM SUPPLY SOURCE.
    E. FULL LOAD CALCULATIONS FOR ALL INITIATING AND SIGNALING CIRCUITS. FIRE ALARM AND EMERGENCY COMMUNICATION CIRCUIT CONDUCTORS SHALL COMPLY TO CEC SECTION 760.183 IN ITS ENTIRETY.

ABBREVIATIONS:

A,	AMP AMPERE
A/C	AIR CONDITIONER
AC	ALTERNATING CURRENT
ACCU	AIR COOLED CONDENSER UNIT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AVAILABLE INTERRUPTING CURRENT
APS	AUDIO POWER SUPPLY
ARCH	ARCHITECTURAL
ATC	AUTOMATIC THROW-OUT CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AVM	AUTOMATIC VENDING MACHINE
AWG	AMERICAN WIRE GAUGE
B	BOILER
BE	ELECTRONIC BALLAST (RELIABLE POWER)
BKR	BREAKER
BN	ELECTRONIC BALLAST (NORMAL POWER)
BP	BOOSTER PUMP
BPS	BOLTED PRESSURE SWITCH
BU	ELECTRONIC BALLAST (EMERGENCY)
C	CONDUIT
CA	CUSTOMER ASSISTANCE CALL CENTER
CAK	CUSTOMER ASSISTANCE KIOSK
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CM	COIN CHANGER MACHINE
COL	COLUMN
COMED	COMMONWEALTH EDISON CO.
CONFIG	CONFIGURATION
CONN	CONNECTION
CONT.	CONTINUATION
CP	CONTROL PANEL
CR	CARD READER
CT	CURRENT TRANSFORMER
CTA	CHICAGO TRANSIT AUTHORITY
CU	COPPER
CUH	ELECTRIC CABINET UNIT HEATER
DAS	DIGITAL ADVERTISING SIGN
DC	DIRECT CURRENT
DCC	DC CONTROLLER
DET	DETAIL
DIA	DIAMETER
DISC SW	DISCONNECT SWITCH
DMS	DIGITAL MESSAGE SIGN
DN	DOWN
DS	DISCONNECT SWITCH
DTS	MANUAL OPERATED DOUBLE THROW SWITCH
DWG	DRAWING
EA	EACH
EC	END CABINET
ECH	ELECTRIC CABINET HEATER
EF	EXHAUST FAN
EH	ELECTRIC HEATER
EIH	ELECTRIC INFRARED HEATER
ELEC	ELECTRIC
ELEV	ELEVATION
EM, E	EMERGENCY
EO	ELECTRICALLY OPERATED
EQUIP	EQUIPMENT
ER	EXISTING TO BE REMOVED
ES	ELECTRIC STRIKE
EUH	ELECTRIC UNIT HEATER
EVM	EXPRESS VENDING MACHINE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WALL HEATER
EXIST	EXISTING
EXP	EXPOSED
F	FUSE
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FL	FLOOR
FLA	FULL LOAD AMPERES
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
FO	FIBER OPTIC
FOE	FIBER OPTIC EQUIPMENT
FPB	FAN POWER BOX
FRE	FIBER REINFORCED CONDUIT
FS	FLOW SWITCH
FT	FEET, FOOT
GFI, GFCI	GROUND FAULT INTERRUPTER
GA	GAUGE
GAP	GENERATOR ANNUNCIATOR PANEL
GEN	GENERATOR
GRD	GROUND
GRS	GALVANIZED RIGID STEEL
H	HOT WIRE
HD	HAND DRYER
HDG	HOT DIPPED GALVANIZED
HOA	HAND-OFF-AUTO
HP	HORSEPOWER, HEATING PANEL
HT	HEIGHT
HTC	HEAT TRACE CABINET
HTR	HEATER
HWPP	HOT WATER PRIMARY PUMP
HWSP	HOT WATER SECONDARY PUMP
IC	INTERCOM
IH	INFRARED HEATER
IG	ISOLATED GROUND
IRH	INFRARED HEATER
ITC	INTERFACE TERMINAL CABINET
JB, J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATT
LAM	LAMINATED
LED	LIGHT EMITTING DIODE
LP	LIGHTING PANEL
LTG	LIGHTING
M	METER
MCC	MOTOR CONTROL CENTER
MCP	MAXIMUM CIRCUIT PROTECTION
MH	MOUNTING HEIGHT, MANHOLE
MECH	MECHANICAL
MISC	MISCELLANEOUS
MLO	MAIN LUG ONLY
MM	MULTI-MODE
MS	MOTION SENSOR
MT	METER FOR TENANT
MTG	MOUNTING
MTR	MOTOR
N	NEUTRAL WIRE
NA, N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NTS	NOT TO SCALE
NB	NORTH BOUND
NDP	NORMAL DISTRIBUTION PANEL
OH	OVERHEAD
OL	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS SYSTEM
PB	PULL BOX, PUSH BUTTON
PC	PORTABLE COMPUTER
PDP	POWER DISTRIBUTION PANEL
PLTF	PLATFORM
PNL	PANEL
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PWR	POWER
RCP	ALARM RELAY CONTROL PANEL
RDP	RELIABLE DISTRIBUTION PANEL
RECPT	RECEPTACLE
REL	RELIABLE TRANSPORTATION SYSTEM
REV	REVISION
RF	RETURN FAN
RG	ROTO GATE
RGS	RIGID GALVANIZED STEEL
RLP	RELIABLE LIGHT PANEL
RM	ROOM
RP	RECIRCULATING PUMP
RR	EXISTING TO BE RELOCATED
RTU	REMOTE TELEMETRY UNIT, ROOF TOP UNIT
RV	ROOF VENTILATOR
SAN	SANITARY
SB	SOUTH BOUND
SCADA	SUPERVIORY CONTROL AND DATA ACQUISITION
SE, SEP	SEWAGE EJECTOR PUMP
SEC	SECONDARY
SF	SUPPLY FAN
SHT	SHEET
SP	SUMP PUMP
SPD	SURGE PROTECTION DEVICE
STL	STEEL
SVM	SODA VENDING MACHINE
SW	SWITCH
SWBD	SWITCHBOARD
T, TEL	TELEPHONE
TB-"E"	TERMINAL STRIP
	R - DENOTES RELIABLE POWER
	N - DENOTES NORMAL POWER
	E - DENOTES EMERGENCY POWER
T-NR	TIE CIRCUIT BREAKER NORMAL-RELIABLE
TCP	TEMPERATURE CONTROL PANEL
TE	TOILET EXHAUST
TR, TRANS	TRANSFORMER
TS	TRANSFER SWITCH
TTC	TELEPHONE TERMINAL CABINET
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TWP	TWISTED PAIR
UNO	UNLESS NOTED OTHERWISE
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY SYSTEM
UV	UNDER VOLTAGE
UVR	UNDER VOLTAGE RELAY
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VAV	VARIABLE AIR VOLUME
VF	VENTILATION FAN
W	WATTS
WHE	WATER HEATER ELECTRIC
WP	WEATHERPROOF
W/	WITH
X	EXISTING TO BE REMOVED

DESIGN BY:									
DRAWN BY:									
CHECKED BY:									
APPROVED BY:		5	2/12/2024	BID ADDENDUM 1	JM	EM	OS		
CDOT/APPROVED BY:		4	7/3/2023	ISSUED FOR BID	JM	EM	OS		
		NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

FACET ENGINEERING
DBE/MBE CERTIFIED
Mechanical • Electrical • Communication • SCADA • Traction Power
Performance • Respect • Initiation • Dedication • Experience
FACET ENGINEERING
4316 NORTH ELSTON AVENUE
CHICAGO, ILLINOIS 60641

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

SPEC. NO.

GENERAL NOTES AND ABBREVIATIONS

DRAWING NO. E-002

CDOT PROJECT D-1-209

DATE: 9/9/2022

REVISION NO.

SYMBOLS LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ELBOW DOWN		ANGLE GATE VALVE
	ELBOW UP		GLOBE VALVE
	TEE DN		ANGLE GLOBE VALVE
	TEE UP		OS&Y WITH TAMPER SWITCH
	FIXTURE TRAP		FLOW ARROW
	CHECK VALVE		PUMP
	DELUGE VALVE		MIXING VALVE
	OS&Y VALVE		WALL SLEEVE
	ALARM CHECK VALVE		UNION
	DETECTOR CHECK VALVE WITH BY-PASS METER		PIPE CAP
	FIRE DEPARTMENT VALVE		CLEANOUT (CO)
FEC-R/S	FIRE EXTINGUISHER RECESSED OR SURFACE		WALL/PIPE CLEAN OUT (WCO)
NS	NON SPRINKLED AREA		NEW CONNECTION
	SIAMESE FIRE DEPT. CONNECTION		STRAINER
	FIRE ALARM BELL		THERMOMETER (TH)
	WALL FIRE PUMP TEST HEADER		PRESSURE GAUGE WITH BALL VALVE
	DRY PIPE VALVE	BF	INLINE BACK FLOW PREVENTOR
FS	FLOW SWITCH		BALL VALVE / ISOLATION VALVE (FULL PORT)
TS	TAMPER SWITCH		BALANCING COCK
	FLOOR CLEAN OUT		BALANCING VALVE (ASSEMBLY)
	HOSE BIB, EXTERIOR WITH BOX & KEY		HOSE BIB, SPECIAL USE
	HOSE BIB, EXTERIOR		HOSE BIB (HB-X)

PIPE SYMBOLS

UNDERGROUND LINE STYLES	DESCRIPTION
	SANITARY, OR WASTE PIPE
	STORM SEWER PIPE
UCW	DOMESTIC COLD WATER
	SANITARY VENT PIPE
	DRAIN TILE

ABOVEGROUND LINE STYLES	DESCRIPTION
	DOMESTIC COLD WATER PIPE
	DOMESTIC HOT WATER PIPE
	DOMESTIC HOT WATER RECIRC. PIPE
	SANITARY, SOIL OR WASTE PIPE
	STORM SEWER PIPE
	SANITARY VENT PIPE

DEMOLITION PIPE SYMBOLS

DEMOLITION LINE STYLES	DESCRIPTION
	GENERAL

ATTACHMENT CC

SYSTEMS ABBREVIATIONS

CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
SAN/S	SANITARY/SOIL
W	WASTE
DS	DOWNSPOUT
V	SANITARY VENT
WCO	WALL CLEAN OUT
FCO	FLOOR CLEANOUT
CO	CLEANOUT
EWH	ELECTRIC WATER HEATER
FD	FLOOR DRAIN
AD	AREA DRAIN
ST	STORM
EWH	ELECTRIC WATER HEATER
WC	WATERCLOSET
LAV	LAVATORY
MB	MOP BASIN
HB	HOSE BIB
S.S.	STAINLESS STEEL
VIF	VERIFY IN FIELD
PD	PUMP DISCHARGE
P-SL	PIPE SLEEVE
PS / X	PLUMBING STACK W/NUMBER
WR / X	WATER RISER W/NUMBER
SP / X	SUMP PUMP W/NUMBER
OSD	OPEN SIDE DRAIN
HD	HUB DRAIN
DBP	DOMESTIC BOOSTER PUMP
TMV	THERMOSTATIC MIXING VALVE
RD	ROOF DRAIN
TD	TRENCH DRAIN
PG	PRESSURE GAUGE
BOP	BOTTOM OF PIPE

GENERAL PLUMBING NOTES:

1. ALL PLUMBING SHALL BE INSTALLED IN ACCORDANCE WITH THE ILLINOIS PLUMBING CODE, THE LATEST EDITION OF THE CHICAGO BUILDING CODE, THE LATEST EDITION OF THE CITY OF CHICAGO PLUMBING CODE (NFPA NO. 13) AND ALL RELATIVE AMENDMENTS.
2. CONTRACTOR SHALL PAY FOR ALL PERMITS AND INSPECTION FEES AS REQUIRED FOR THIS WORK.
3. CONTRACTOR SHALL VISIT THE SITE TO VERIFY THE FULL EXTENT OF THE WORK AND THE EXACT LOCATION, ELEVATION, ETC, OF PIPING. COORDINATE ALL WORK WITH THE RESPECTIVE TRADES.
4. CONTRACTOR SHALL PROVIDE ALL REQUIRED CUTTING, DRILLING AND PATCHING. NO STRUCTURAL WORK TO BE CUT WITHOUT PREVIOUS APPROVAL OF THE ARCHITECT. PATCH ALL DISTURBED WALLS, CEILINGS AND FLOORS TO MATCH ADJACENT SURFACES AS NECESSARY.
5. DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING, DUCTWORK, CONDUITS, RACEWAYS, ETC. AS SHOWN ON THE DRAWINGS DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. PLUMBING.
6. CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS, OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING.
7. CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN THE COMPLETION DATE OF THE PROJECT.
8. COORDINATE & VERIFY WITH GENERAL CONTRACTOR AND RELATED DISCIPLINES, PRIOR TO START OF ANY WORK, ALL WORK TO BE PERFORMED INSIDE OF THE 5'-0" BUILDING PERIMETER LIMITS OF CONSTRUCTION AND COORDINATED WITH OTHER TRADES TO MATCH WORK OUTSIDE.
9. ALL PIPING PASSING THRU FLOORS, WALLS, CEILINGS OR ROOF SHALL HAVE A DUCTILE IRON PIPE SLEEVE INSTALLED AROUND THE PIPE AND/OR INSULATION.
10. SLEEVES THROUGH FOUNDATION WALLS SHALL BE AT LEAST 2 PIPE SIZES LARGER THAN THE SERVICE PIPE. PROVIDE AN ESCUTCHEON PLATE AROUND PENETRATIONS EXPOSED TO VIEW. ESCUTCHEON PLATES SHALL BE LARGE ENOUGH TO COVER THE ENTIRE HOLE. ALL PENETRATIONS SHALL BE SEALED TO MAINTAIN THE WALL/FLOOR/ROOF FIRE & INSULATION RATINGS.
11. ALL FLOOR MOUNTED EQUIPMENT NOT PROVIDED ON A SKID IS TO BE INSTALLED ON 4" THICK CONCRETE HOUSEKEEPING PAD.
12. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR FINISHED CEILING HEIGHTS AND LOCATION OF WALL, ROOF AND FLOOR OPENINGS.
13. PROVIDE HANGERS AND SUPPLEMENTAL SUPPORT STEEL FOR ALL EQUIPMENT AND PIPING. ALL WATER SUPPLY PIPING SHALL BE SUSPENDED WITH CLEVIS AND / OR TRAPEZE PIPE HANGERS WITH PIPE COVERING PROTECTION SADDLES OR SHEET METAL INSULATION SHIELDS.
14. THE HOT WATER SUPPLY FOR EACH LAVATORY AND SINK IS TO BE INSULATED. THE P-TRAP AND WASTE DRAIN PIPE FOR EACH ADA ACCESSIBLE LAVATORY AND SINK IS TO BE INSULATED.
15. CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID OR DOING ANY WORK. CONTRACTOR SHALL NOTIFY ARCHITECT / ENGINEER OF ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS.
16. PROVIDE ACCESS TO ALL VALVES AND SYSTEM COMPONENTS REQUIRING ACCESS. ALL PIPING ACCESSORIES AND EQUIPMENT IN MECHANICAL ROOMS SUCH AS ISOLATION VALVES, RECIRCULATION PUMPS, ETC. SHALL BE INSTALLED AT A REASONABLE HEIGHT IN ORDER TO FACILITATE MAINTENANCE.
17. EXCEPT FOR PIPING ASSOCIATED WITH THE SUMP PUMPS, PLUMBING PIPING SHALL NOT BE ROUTED THROUGH OR OVER ANY ELEVATOR SHAFTS, ELEVATOR EQUIPMENT AREAS, ELECTRICAL ROOMS / EQUIPMENT AREAS OR COMMUNICATIONS AREAS.
18. PLUMBING CONTRACTOR TO GIVE ALL LOCATIONS AND DIMENSIONS OF ALL REQUIRED ACCESS PANELS TO THE GENERAL CONTRACTOR. GENERAL CONTRACTOR WILL SUBMIT TO THE ARCHITECT / ENGINEER FOR APPROVAL ALL FINISH REQUIREMENTS PRIOR TO INSTALLATION.
19. TRENCHING, EXCAVATION AND BACKFILL OPERATIONS SHALL BE IN ACCORDANCE WITH ARTICLE 3, SECTION 306 OF THE CHICAGO BUILDING CODE.
20. IN ANY CASE WHERE NEW EQUIPMENT IS INSTALLED AND HAS TO BE CONNECTED TO EXISTING SYSTEMS, THE CONTRACTOR SHALL VERIFY THE CAPACITIES AT THE INDICATED POINT OF CONNECTION. SHOULD THE EXISTING CONDITION REQUIRE THE NEW BRANCH TO BE ROUTED TO ANOTHER LOCATION, THE CONTRACTOR SHALL PERFORM THIS WORK AS PART OF HIS CONTRACT.
21. WATER PRESSURE AND SUPPLY INFORMATION: FIELD VERIFY ALL PRESSURES AND CAPACITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FLOW TEST INFORMATION. CONTRACTOR SHALL VERIFY FIRE PUMP SIZE UPON COMPLETION OF FLOW TEST.
22. ALL PIPING, VALVES AND DEVICES SHALL BE INSTALLED SO AS NOT TO OBSTRUCT ANY PORTION OF A WINDOW, DOORWAY, STAIRWAY OR PASSAGEWAY OR ANY PIECE OF MECHANICAL OR ELECTRICAL EQUIPMENT.
23. FACTORY MUTUAL RESEARCH CORPORATION APPROVED EQUIPMENT SHALL BE PROVIDED WHERE APPLICABLE AND DETAILS OF THE INSTALLATIONS SHALL CONFORM TO FACTORY MUTUAL'S RECOMMENDED PRACTICES REFER TO SPECIFICATIONS FOR COMPLIANCE REQUIREMENTS.
24. DO NOT INSTALL PIPING OR SPRINKLER HEADS IN HIGH VOLTAGE (OVER 480 V) ELECTRICAL CLOSETS, TRANSFORMER ROOMS, OR ELEVATOR EQUIPMENT ROOMS. THESE AREAS SHALL HAVE HEAT DETECTORS FURNISHED AND INSTALLED BY ELECTRIC CONTRACTOR.
25. ALL FLOOR CONTROL VALVE ASSEMBLIES ARE TO BE LOCATED WITHIN THE STAIR ENCLOSURE. CONTROL VALVES ARE TO BE SUPERVISED AND LOCKED IN THE OPEN POSITION.
26. PIPES, DUCTS, CONDUITS AND ELECTRICAL CABLE TRAYS WHICH PASS THROUGH EXISTING AND NEW FIRE-RESISTIVE BARRIERS, INCLUDING FLOOR SLABS AND WALLS, SHALL BE FIRE SEALED TO MAINTAIN THE INTEGRITY OF THE FIRE RESISTIVE BARRIER. ALL EXPOSED PIPES PASSING THROUGH A WALL, CEILING OR FLOOR SHALL HAVE CHROME ESCUTCHEON PLATES.

2

27. ALL UNDER-PLATFORM PLUMBING PIPING MUST BE INSTALLED AS CLOSE TO THE UNDERSIDE OF PLATFORM CONCRETE AS POSSIBLE, PER CODE REQUIREMENTS. THE SANITARY PIPING ASSOCIATED WITH THE FLYOVER ELEVATORS AND ASSOCIATED JANITOR CLOSET DISCHARGES SHALL BE INSTALLED HIGH ENOUGH THAT IT WILL BE CONCEALED IN THE PLATFORM/STRUCTURAL STEEL; THESE SANITARY PLUMBING PIPES SHOULD NOT BE SIGNIFICANTLY LOWER THAT IT IS OBVIOUSLY VISIBLE AND OBTRUSIVE WHEN LOOKING UP FROM THIS SIDEWALK BELOW.

DOMESTIC WATER

1. ALL WATER SUPPLIED TO EQUIPMENT BY OTHER TRADES SHALL HAVE AN ISOLATION VALVE AND AN APPROVED BACKFLOW PREVENTER WHICH SHALL BE SUPPLIED AND INSTALLED BY PLUMBING CONTRACTOR.
2. ALL DOMESTIC WATER SUPPLIES TO FIXTURES AND EQUIPMENT SHALL HAVE AIR CHAMBERS.
3. ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, IN PIPE CHASES, AND IN WALLS. REFER TO SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION. PROVIDE VALVE HANDLE EXTENSIONS ON ALL INSULATED PIPING.
4. ALL HOT WATER SUPPLY PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OFT THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS, PIPE OFFSETS, OR LOOPS. EXPANSION JOINTS ARE TO ACCOMMODATE THREE AXIS OF MOVEMENT.
5. ALL INTERIOR AND EXTERIOR HOSE BIBS / WALL HYDRANTS SHALL RECEIVE THE WATER SUPPLY DOWNSTREAM OF A STRAINER AND DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER INSTALLED INSIDE THE BUILDING AT NO MORE THAN 48" ABOVE THE FLOOR AND ACCESSIBLE TO MAINTENANCE.
6. MOP SINKS ONLY WITH HOSE THREADED FAUCETS SHALL HAVE A VACUUM BREAKER ON THE SUPPLY AFTER THE VALVE, LOCATED 7'-6" ABOVE FINISHED FLOOR.
7. EACH GROUP OF FIXTURES SUPPLIED WITH A BRANCH FROM THE MAIN SHALL HAVE AN ISOLATION VALVE NEAR THE POINT OF CONNECTION TO THE MAIN. ALL EQUIPMENT SUPPLIED BY COLD AND / OR HOT WATER SHALL HAVE AN ISOLATION VALVE ON THE WATER SUPPLY.
8. PITCH ALL SUPPLY AND RETURN LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, FIXTURES, UNIONS, AND DRAIN VALVES.
9. INSTALL A 1/2" DRAIN VALVE WITH 3/4"HOSE THREAD AND VACUUM BREAKER OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT.
10. ALL WATER DISTRIBUTION SYSTEMS, POTABLE AND NONPOTABLE, SHALL BE IDENTIFIED BY COLOR MARKING OR METAL TAGS AS REQUIRED BY ASME A13.1.
11. COPPER PIPE ABOVE GROUND SHALL BE (TYPE L) MINIMUM, SWEAT WITH WROUGHT FITTINGS.
12. PROVIDE UNIONS AND/OR FLANGES TO DISCONNECT ALL PERTINENT EQUIPMENT INCLUDING BUT NOT LIMITED TO PUMPS, WATER HEATERS, TANKS, FILTERS AND VALVE TRAINS.

SANITARY, STORM & VENT

1. ALL SANITARY AND STORM PIPING SHALL SLOPE AT 1/4" PER FOOT FOR 2-1/2" AND SMALLER, AT 1/8" PER FOOT FOR 3" TO 6", AND 1/16" FOR 8" AND LARGER PIPING UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. ALL HORIZONTAL DRAINS SHALL BE PROVIDED WITH CLEANOUTS LOCATED NO MORE THAN 100 FEET APART, EXCEPT THAT THE MAXIMUM SHALL BE 40 FEET FOR DRAINS 4" OR LESS 150 FEET FOR DRAINS 10" OR LARGER.
3. ALL SOIL STACKS SHALL RUN FULL SIZE THROUGH THE ROOF.
4. THE DIAMETER OF ALL VENTS SHALL BE AT LEAST ONE-HALF THE DIAMETER OF THE DRAIN LINE SERVED BUT NOT LESS THAN 1-1/2".
5. CATCH BASINS AND MANHOLES ARE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
6. IN AREAS SUCH AS MECHANICAL / ELECTRICAL ROOMS, WHERE A TRAP SEAL IS SUBJECT TO LOSS BY EVAPORATION, PROVIDE A DEEP SEAL TRAP (CONSISTING OF A 4-INCH SEAL), A TRAP FILLED WITH MINERAL OIL, OR A TRAP PRIMER PER MANUFACTURERS REQUIREMENTS

INSULATION AND HEAT TRACING

1. DOMESTIC HOT & COLD WATER-SUSPENDED PIPING: HEAVY DENSITY, FIBERGLASS PIPE INSULATION 2" THICK, WITH FLAME RETARDANT VAPOR BARRIER JACKET. ALL SUPPLY PIPING SHALL BE INSULATED.
2. STORM DRAIN - SUSPENDED PIPING: HEAVY DENSITY, FIBERGLASS PIPE INSULATION 1" THICK, WITH FLAME RETARDANT VAPOR BARRIER JACKET, INSULATE ALL INTERIOR HORIZONTAL & VERTICAL LEADERS FROM ROOF DRAINS, AS WELL AS ROOF DRAIN BODY, TO PREVENT CONDENSATION.
3. ALL PIPING OUTSIDE SHOULD BE HEAT TRACED. PROVIDE METAL REMOVABLE JACKETS. REFER TO DIVISION 22 SPECIFICATIONS.

MATERIALS

1. UNDERGROUND STORM, DRAINAGE AND VENT PIPE SHALL BE: CAST-IRON PIPE, HUB SPIGOT: ASTM A-74; ASTM A-888; CISPI 301
2. ABOVE-GROUND STORM, DRAINAGE AND VENT PIPE SHALL BE: CAST-IRON PIPE, HUB & SPIGOT: ASTM A-74; CISPI 301; ASTM A888 COPPER OR COPPER-ALLOY PIPE: ASTM B-42; ASTM B-302 COPPER OR COPPER-ALLOY TUBING (TYPE K OR L): ASTM 75; ASTM B-88; ASTM B-251; ASTM B-306 GALVANIZED STEEL PIPE: ASTM A-53
3. UNDERGROUND WATER SERVICE PIPE SHALL BE: COPPER OR COPPER - ALLOY TUBING (TYPE K); ASTM B-74; ASTM B-88; ASTM B-251; ASTM B-447 DUCTILE IRON WATER PIPE (CEMENT LINED); AWWA C-151; AWWA C-115
4. ABOVE - GROUND WATER DISTRIBUTION PIPE SHALL BE: ALL SIZES - COPPER OR COPPER - ALLOY TUBING (TYPE K OR L); ASTM B-74; ASTM B-88; ASTM B-251; ASTM B-4476".
5. ABOVE-GROUND SOLAR PIPE SHALL BE: ALL SIZES - BRAZED COPPER OR COPPER - ALLOY PIPING (TYPE K OR L).
6. GASKETED BELL AND SPIGOT C.I. PIPING IS RESERVED FOR UNDERGROUND USE. ABOVE GROUND SHALL BE CAULKED LEAD AND OAKUM JOINTS.

ACCESSIBILITY

1. PER ILLINOIS ACCESSIBILITY CODE, CURBS IN ACCESSIBLE SHOWER STALLS SHALL BE NO HIGHER THAN 1/2 INCH. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A RECESSED FLOOR, IF REQUIRED, IN ORDER TO MEET THIS REQUIREMENT. COORDINATE FLOOR/SHOWER BASE HEIGHT WITH ARCHITECTURAL.

PLUMBING PIPING MATERIALS & SCHEDULE

PIPING DIAGRAM	TYPE PIPING	JOINT TYPE	FITTING TYPE	REMARKS
UNDER GROUND SANITARY WASTE AND VENT SIZE: 3" AND LARGER	EXTRA HEAVY CAST IRON SOIL PIPE (ASTM A-74,888,C15P1-301)	HUB & SPIGOT W/NEOPRENE GASKET JOINTS PRESS-ON	HUB & SPIGOT EXTRA HEAVY CAST IRON DRAINAGE TYPE (AWWA C110/A21.10)	
ABOVE GROUND/SUSPENDED SANITARY WASTE AND VENT SIZE: 3" AND LARGER	SERVICE CLASS CAST IRON SOIL PIPE	HUB & SPIGOT LEAD AND OAKUM CAULKED JOINTS	HUB & SPIGOT SERVICE WEIGHT CAST IRON DRAINAGE TYPE (ASTM B16.4, ASTM B16.12, ASTM A74, ASTM A 888, C15P1301)	
ABOVE GROUND/SUSPENDED SANITARY WASTE AND VENT SIZE: 2 1/2" AND LESS	COPPER TYPE DWV TUBE (ASTM B75,88,251,306)	SOLDERED TYPE	COPPER DRAINAGE TYPE FITTINGS CAST OR WROUGHT (ASTM B16.15,18,22,23,26,29)	
UNDERGROUND STORM PIPING SIZE: 4" AND LARGER	EXTRA HEAVY CAST IRON SOIL PIPE (ASTM A-74,888,C15P1-301)	HUB & SPIGOT W/NEOPRENE GASKET JOINTS PRESS-ON	HUB & SPIGOT EXTRA HEAVY CAST IRON DRAINAGE TYPE	
ABOVE GROUND/SUSPENDED STORM PIPING SIZE: 3" AND LARGER	SERVICE CLASS CAST IRON SOIL PIPE	HUB & SPIGOT LEAD AND OAKUM CAULKED JOINTS	HUB & SPIGOT SERVICE WEIGHT CAST IRON DRAINAGE TYPE	
UNDERGROUND DOMESTIC COLD WATER SIZE: 3" AND LARGER	DUCTILE CAST IRON PIPE CLASS 2 TO 6 AS REQUIRED (CEMENT LINED)	MECHANICAL JOINT OR PUSH-ON TYPE JOINT WITH RUBBER GASKET	COMPOTIBLE DUCTILE IRON (AWWA C110, AWWA C153)	
UNDERGROUND DOMESTIC COLD WATER SIZE: 2" AND SMALLER	COPPER OR COPPER ALLOY TUBING (TYPE K,L)(ASTM B75, B88, B251, B447)	BRAZED JOINTS	WROT AND CAST PRESSURE PIPE FITTINGS (ASSE 1061, ASME B16.15,18,22,23,26,29)	
ABOVE GROUND/SUSPENDED DOMESTIC COLD WATER SIZE: 4" AND SMALLER	COPPER OR COPPER ALLOY TUBING (TYPE K,L)	SOLDERED JOINTS 95-5, TIN-ANTIMONY (ANSI/ASTM B32) ALLOY GRADE 95TA	WROT AND CAST PRESSURE PIPE SOCKET FITTINGS	
ABOVE GROUND/SUSPENDED DOMESTIC HOT WATER SIZE: 1/2" AND LARGER	COPPER OR COPPER ALLOY TUBING (TYPE K,L)	SOLDERED JOINTS 95-5, TIN-ANTIMONY (ANSI/ASTM B32) ALLOY GRADE 95TA	WROT AND CAST PRESSURE PIPE SOCKET FITTINGS	
ABOVE GROUND SUMP PUMP DISCHARGE SIZE: 1 1/4" AND LARGER	COPPER OR COPPER ALLOY TUBING (TYPE K,L)	BRAZED JOINTS	COPPER DRAINAGE TYPE FITTINGS CAST OR WROUGHT	

NOTE:

ALL SYMBOLS AND ABBREVIATIONS LISTED MAY NOT BE APPLICABLE TO PROJECT REQUIREMENTS.

NO.	DATE	REVISIONS	DES.	DRW.	CHK.	DCCO	CDOT
2	2/12/2024	BID ADDENDUM 1					
1	7/3/2023	ISSUED FOR BID	GS	KG	MC		

DESIGN BY: | DRAWN BY: | CHECKED BY: | APPROVED BY: | CDOT/APPROVED BY:

TRANSYSTEMS
222 SOUTH RIVERSIDE PLAZA SUITE 610
CHICAGO, ILLINOIS 60606

SKIDMORE, OWINGS & MERRILL LLP
224 SOUTH MICHIGAN AVENUE, SUITE 1000
CHICAGO, ILLINOIS 60604

MILHOUSE ENGINEERING & CONSTRUCTION INC
333 SOUTH WABASH AVENUE, SUITE 2901
CHICAGO, ILLINOIS 60604

EXP. 11/30/23
062-055291
GEORGE E. BOURIS
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

STATE / LAKE LOOP ELEVATED STATION

PLUMBING SYMBOLS, NOTES & ABBREVIATIONS

CDOT PROJECT D-1-209 | DATE: 9/9/2022

SPEC. NO.

DRAWING NO. P-000

REVISION NO.2

ATTACHMENT DD

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions, and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Work included: Schedule and administer project meetings throughout progress of the work.

B. Contractor's Responsibility: Excepting the General Conference to be conducted by the Commissioner, the Contractor shall prepare the agenda, conduct meetings, record proceedings, distribute recorded proceedings and decisions to participants in meeting and to parties affected by decisions made at meeting.

C. Notification: For meetings not regularly scheduled, give participants not less than three days prior notice.

D. Attendance: The Contractor shall have persons of authority in attendance to represent the Contractors' and the subcontractors' interests.

E. Related Sections:
1. Contract Closeout: Section 01 70 00.

1.03 DEFINITIONS

A. BIM: Building Information Modeling.

B. RFI: Request from Contractor seeking information or clarification of the Contract Documents.

1.04 INFORMATIONAL SUBf1ITTALS

A. Key Personnel Names: Within 10 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including office and cellular telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current.

1.05 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled or required for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Commissioner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Startup and adjustment of systems.
8. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.06 Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Commissioner's property.

1.07 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
f. Indicate required installation sequences.

g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Commissioner indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:
   a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
   b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
   c. Fire-rated enclosures around ductwork.
7. Electrical Work: Show the following:
   a. Runs of vertical and horizontal conduit 1-1/4 inch diameter and larger.
   b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire alarm locations.
   c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
   d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Under-Platform Areas: Show the following, even if also depicted in detail on Shop Drawings:
   a. All electrical, mechanical, and plumbing work as described above as well as runs of conduit smaller than 1-1/4".
   b. Structural beams, columns, bracing, angles, and supports.
   c. Hangers, trays, and other materials used to support these elements.
   d. The area covered by these drawings shall extend vertically from 1' below the bottom flange of track structure bents to the underside of the concrete platform and horizontally for the full width and length of the station structure, platforms, and enclosure horizontally.
   e. Dimensions to all non-conduit, non-piping elements from the nearest column grid lines.
   f. Plan (horizontal) view and Elevation (vertical) view. Sections (vertical) as needed to convey intent.
   g. If the contractor prepares a BIM model of this area, the Commissioner requests that it be submitted; however, BIM model submittal for this purpose is not required.
9. Review:
   a. Commissioner will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's

1 Revised 2-23-24

responsibility. If the Commissioner determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Commissioner will so inform the Contractor, who shall make changes as directed and resubmit.

~~c.~~b. The Commissioner's review of the under-platform areas will include aesthetic appearance to confirm that proposed layouts are well conceived and that station structure conceals the preponderance of under-platform elements. As such, the Commissioner reserves the ability to provide comments on these submittals which are based on the expected appearance of the elements.

1 Revised 2-23-24

~~8.~~10. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Section 01 33 00 Submittal Procedures.

C. Refer to individual Sections for additional Coordination Drawing requirements for Work in those Sections.

1.08 KEY PERSONNEL

A. Administrative And Supervisory Personnel: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
1. Include special personnel required for coordination of operations with other contractors.

1.09 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
2. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Commissioner of scheduled meeting dates and times.
3. Agenda: Prepare the meeting agenda. Distribute the agenda to invited attendees.

B. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Commissioner, within three days of the meeting.

C. General Conference: After award of the contract and prior to performance of any work, the Commissioner shall schedule Pre-Construction Conference to be held among Commissioner, the Contractor, and sub-contractors to review and discuss, though not limited to, the following items:
1. Construction procedures, coordination with public use and traffic.
2. Construction schedule submitted at Pre-Construction Conference and updating.
3. Cost breakdowns.
4. Bonds and certificates of insurance.
5. Pay application procedures and documentation required with the payment requests.
6. Submittal procedures.
7. Introduction of Contractor's and Commissioner's key personnel assigned to the project.
8. Scheduling time and dates for Field Progress Meetings.
9. Critical work sequencing and long-lead items.
10. Procedures for processing field decisions and Change Orders.
11. Procedures for RFIs.
12. Procedures for testing and inspecting.
13. Distribution of the Contract Documents.
14. Submittal procedures.
15. Preparation of Record Documents.
16. Responsibility for temporary facilities and controls.
17. Construction waste management and recycling.
18. Parking availability.

19. Office, work, and storage areas.
20. Equipment deliveries and priorities.
21. First aid.
22. Security.
23. Progress cleaning.
24. Working hours.
25. Minutes: Record and distribute meeting minutes.

D. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
   1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Commissioner of scheduled meeting dates.
   2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
      a. The Contract Documents.
      b. Related RFIs.
      c. Related Change Orders.
      d. Purchases.
      e. Deliveries.
      f. Submittals.
      g. Review of mockups.
      h. Possible conflicts.
      i. Compatibility problems.
      j. Time schedules.
      k. Weather limitations.
      l. Manufacturer's written recommendations.
      m. Warranty requirements.
      n. Compatibility of materials.
      o. Acceptability of substrates.
      p. Temporary facilities and controls.
      q. Space and access limitations.
      r. Regulations of authorities having jurisdiction.
      s. Testing and inspecting requirements.
      t. Installation procedures.
      u. Coordination with other work.
      v. Required performance results.
      vv. Protection of adjacent work.
      x. Protection of construction and personnel.
   3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
   4. Make a record of each conference and the Contractor's Quality Control Program as required by Section 01 40 00, QUALITY REQUIREMENTS.
   5. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
   6. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

E. Progress Meetings:
   1. General: Schedule progress meetings on a weekly basis for coordinating, expediting, and scheduling of Work. Contractors, sub-subcontractors, and suppliers whose presence is necessary must attend when requested by the Commissioner.
   2. Conduct separate coordination meetings with subcontractors. Commissioner will not be

present at such meetings.

3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
        1) Review schedule for next period.
    b. Review present and future needs of each entity present, including the following:
        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Off-site fabrication.
        5) Access.
        6) Temporary facilities and controls.
        7) Quality and work standards.
        8) Status of correction of deficient items.
        9) Field observations.
        10) RFIs.
        11) Status of proposal requests.
        12) Pending changes.
        13) Status of Change Orders.
        14) Pending claims and disputes.
        15) Documentation of information for payment requests.
4. Minutes: Record the meeting minutes.
5. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
    a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

F. Special Meetings: Called by the Commissioner when warranted and with frequency necessary. Place and time as mutually agreed by the Commissioner.

G. Project Closeout Conference: schedule and conduct a Project closeout conference, at a time convenient to Contractor and Commissioner, but no later than 90 days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Commissioner and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
    a. Preparation of record documents.
    b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    c. Submittal of written warranties.
    d. Requirements for preparing operations and maintenance data.
    e. Requirements for demonstration and training.
    f. Preparation of Contractor's punch list.

g. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
h. Submittal procedures.
i. Installation of Commissioner's furniture, fixtures, and equipment.
j. Responsibility for removing temporary facilities and controls.

4. Minutes: Record and distribute meeting minutes.

1.09 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
2. Date.
3. Name of Contractor.
4. Name of Commissioner.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

C. RFI Forms:
1. Software-generated form with substantially the same content as indicated above, acceptable to Commissioner.

D. Hard Copy RFIs: Identify each page of attachments with the RFI number and sequential page number.

E. Software Generated RFIs: Software generated form with substantially the same content as indicated above.
1. Provide attachments of electronic files in Adobe Acrobat PDF format.

F. Commissioner's Action: Commissioner will review each RFI, determine action required, and return it. Allow 15 working days for Commissioner's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following workday.
1. The following RFIs will be returned without action:
a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract

Documents.

d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for information of Commissioner's actions on submittals.
f. Incomplete RFIs or RFIs with numerous errors.

2. Commissioner's action may include a request for additional information, in which case Commissioner's time for response will start again.
3. Commissioner's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Special Conditions.
   a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Commissioner in writing within ten days of receipt of the RFI response.

G. On receipt of Commissioner's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Commissioner within seven working days if Contractor disagrees with response.

H. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly with not less than the following:
1. Project name.
2. Name and address of Contractor.
3. Name and address of Commissioner.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Commissioner's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.10 DIGITAL PROJECT NIANAGEMENT PROCEDURES

A. Use of Commissioner's Digital Data Files: Digital data files will be provided by Commissioner for Contractor's use during construction.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
2. Commissioner makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
3. Digital Drawing Software Program: Contract Drawings are available.
4. Contractor shall execute a data licensing agreement in the form of Agreement included in Project Manual.
   a. Subcontractors, and other parties granted access by Contractor to Commissioner's digital data files shall execute a data licensing agreement in the form of Agreement included in this Project Manual.

B. Upon completion of Project, provide one complete archive copy of Project files to Commissioner in a digital storage format acceptable to the Commissioner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of PROJECT MANAGEMENT AND COORDINATION will not be measured for payment.

4.02 PAYMENT

B. No separate payment will be made for the Work covered in this section. Payment for the Work of PROJECT MANAGEMENT AND COORDINATION shall be considered incidental to the contract.

END OF SECTION

SECTION 02 05 00
DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and Division 01 Specification sections, apply to this section.

1.02 SUMMARY

A. This Section includes the demolition, removal and proper disposal of the items indicated on the drawings to be removed and any other items to be removed as required to facilitate the installation of the new work; including not limited to the following:

1. Remove existing plumbing supply, drain and vent piping, etc. integral with the work, to the extent shown on the drawings, and as otherwise required. Cap piping as required.
2. Remove existing light fixtures, electrical outlets, wiring, conduit, etc. integral with the work, to the extent shown on the drawings, and as otherwise required. Cap wiring and conduit as required.
3. Remove all other items as shown, indicated, or as otherwise required to facilitate the new construction.

B. Any salvagable items to be reused are to be removed carefully to avoid damage to the items, including the following:

1. Light fixtures, speakers, and security devices
2. CTA signage and advertising (static and electronic)
3. Rotogates & Turnstiles
4. CTA Vending Machines & ATM Machines
5. Radiant heaters
6. Trash cans and other platform furniture
7. Any other salvagable items located by the Contractor shall be salvaged unless otherwise indicated by the Commissioner.

C. Work includes providing, installing, maintaining and removing temporary construction barriers as required during the course of the work. Construction barriers to be of plywood and wood framing unless approved otherwise.

D. Work includes providing, installing and removing foot traffic barricades and control devices and signage as required during the course of the work and as approved by the Authority.

E. Contractor is to schedule all work with the Authority. Contractor to submit a process plan and phasing plan for all the work, including demolition.

F. Contractor to protect the remainder of the existing building during demolition and construction. The building must be protected from moisture, the elements and extreme temperatures. The equipment within or inside the building must be protected from dust, debris, the elements and other damage during the demolition and construction. Coordinate all work with the Authority.

G. Work may require re-routing underground utility lines as required to avoid the new construction.

H. Work may require re-routing underground utility lines as required to clear the new construction.

I. Work includes patching and repairs to existing adjacent surfaces after removal or demolition. Patching and repairs to match existing materials and finishes.

J. Work includes coring and cutting existing surfaces for installation of new plumbing piping and electrical conduit. Patch upon completion.

K. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 01 Section "Summary of Work".
2. Division 01 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.
3. Division 02 Section "Structure Demolition"
4. Division 02 Section "Selective Structure Demolition"
5. Division 02 Section "Historic Removal and Dismantling"
6. Division 06 Section "Carpentry" for material and construction requirements for temporary enclosures.

1.03 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Authority's property.

B. Remove and Salvage for Recycling: Items indicated to be removed and recycled are to be separated and arranged for recycling. Construction debris from demolition and construction waste materials are to be picked up by recycling waste haulers for recycling to the greatest extent possible. As a minimum requirement, the Contractor to follow the City of Chicago Ordinance for recycling construction debris.

B. Remove and Salvage for Re-use: Items indicated to be removed and salvaged remain the Authority's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Authority's designated storage area.

C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.

D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Authority, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.04 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged for re-use, reinstalled, or otherwise indicated to remain the Authority's property, demolished materials shall

become the Contractor's property and shall be removed from the site and legally disposed of by the Contractor.

1.05 SUBMITTALS

A. General: Submit each item in this Article according to the conditions of the contract and Division 01 Specification Sections, for approval, unless otherwise indicated:

1. Proposed dust-control measures.
2. Proposed noise-control measures.
3. Schedule of demolition activities indicating the following:

   a. For each location: Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
   b. Interruption of utility services.
   c. Coordination for shutoff, capping, and continuation of utility services.
   d. Detailed sequence of selective demolition and removal work to ensure uninterrupted progress of Authority's on-site operations.
   e. Locations of temporary partitions, barriers and means of egress.
   f. Foot traffic control or interruption. Closing of areas.
   g. Shoring required.
   h. Indicate how demolition work will avoid interruption of Authority's on-site operations.
   i. Demolition plan.

4. Proposed recycling procedures.
5. Inventory of items to be removed and salvaged for re-use.

B. Contractor to submit a process plan and phasing plan for the demolition work.

C. Contractor to submit proposed barricades, control devices and signage as required during the demolition and other work; including the proposed location of the barricades, control devices and signage; and the materials proposed to be used for the barricades, control devices and signage; for the Authority's review and approval.

D. Provide the following, for information purposes:

1. Photographs or videotape for information purposes, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.

E. Provide the following at Project Closeout according to Division 01 Section "Project Closeout":

1. Record drawings; including identification and accurate locations of capped utilities and other subsurface structural, electrical, or mechanical conditions.

F. Provide written and dated documentation of the total amount of each different waste material, the amount of each sent to a recycling facility and the amount of each sent to a landfill. Documentation shall be done on a daily basis. Indicate when and who the materials were picked up by and the name of the recycling facility the materials were sent to.

G. A demolition plan is to be submitted to the Authority for approval. Demolition shall not commence until the contractor has received written approval from the Authority.

1.06 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction. Comply with City of Chicago Recycling Ordinance.

1.07 PROJECT CONDITIONS

A. Contractor required to survey existing conditions to verify all existing dimensions and conditions, locations of items and construction sizes of items and including conditions and limitations under which he is to do his work.

B. Contractor required to locate all existing utilities and other improvements, including utilities not exposed to view.

C. There will be no extras allowed to compensate Contractor for his failure to review and verify existing conditions and dimensions.

D. Demolition work to adhere to phasing plans for the project.

1.08 HAZARDOUS MATERIALS

A. The Authority has determined that various components to be removed or to be painted may contain lead paint. These components shall be removed according to all applicable federal, state and local regulations including. This shall include 29 CFR1926.62 and 29 CFR1910.1025 under the Occupational Safety and Health Act, Toxic Substance and Control Act, Resource Conservation and Recovery Act, Illinois Lead Poisoning Prevention Act (77 Illinois Adm. Code 845) and City of Chicago Code 11-4-2190 (Sandblasting, grinding and chemical washing of building, facilities or other structures; permit and notification requirements; performance standards for lead paint abatement; and disposal of debris.) Contractor shall submit removal or mitigation plan to the Authority for approval.

B. For structures noted to be re-painted; existing paint that is loose, flaking, or otherwise not recommended to remain under the new paint system; is to be removed and, unless determined otherwise, should be assumed to contain lead. The following lead paint removal procedures shall be followed:

1. Work is governed by OSHA Regulations (worker protection) and NESHAP Regulations (visible emissions).
2. City of Chicago Sandblasting, Grinding and Chemical Washing Ordinance is not applicable as long as hand scrapping removal method is used. Any mechanical methods or chemical removal would require City permits. CTA Facilities Maintenance shall coordinate with Environmental Affairs if Permits are required.
3. Employees conducting lead abatement shall be licensed by IDPH as a lead abatement worker and/or supervisor.
4. Lead paint work area shall be separated by caution tape or other appropriate barrier.

5. Work area shall be covered with appropriate non-skid (canvas) tarpaulin. This tarpaulin shall be cleaned with a HEPA vacuum after each shift or prior to moving tarpaulin. Paint chips and collected dust shall be bagged and disposed of as lead waste. Contact Environmental Affairs (312-681-3869) for disposal.
6. Employee shall wet impact surface to prevent dust during scraping activity.
7. Employees shall wear disposable coveralls during lead abatement activity. Coveralls shall be disposed as lead waste.
8. Employees shall wear appropriate respirators. CTA may conduit air sample (negative exposure assessment) to determine airborne lead dust exposure.
9. Employees shall maintain good personnel hygiene by washing their hands and face prior to eating, drinking, smoking, or leaving the site.

C. Other than the lead paint referred to above, the Contractor is not responsible to remove hazardous material that is encountered in the course of the work and not identified as hazardous material in the contract documents or otherwise addressed in the contract documents. If previously unidentified hazardous material is encountered, do not disturb the materials. Immediately notify the Authority for direction and arrangement for proper removal by licensed asbestos abatement workers and proper disposal.

D. Material containing lead based paint to be disposed of as hazardous waste, according to all applicable laws and regulations, unless approved otherwise, at Contractor's expense and at approved land fills. Do not allow lead dust to contaminate other surfaces. The Contractor shall be responsible for handling, transporting, and disposing of any hazardous materials generated during the course of the project in accordance with all applicable federal, state and local environmental regulations and codes.

PART 2 - PRODUCTS

2.01 REPAIR MATERIALS

A. Use repair materials identical to existing materials.

1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that those utilities indicated and approved to be disconnected and capped, have been properly done so.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required. All work indicated may vary based on actual field conditions and dimensions. Additional demolition and/or patching may be required depending on the condition of materials and construction upon opening up the existing construction and actual justification and/or attachment of the materials.

C. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and

extent of the conflict. Promptly submit a written report to the Authority.

D. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.

E. Perform surveys as the work progresses to detect hazards resulting from selective demolition activities.

3.02 UTILITY SERVICES

A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by Authority and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Authority and to governing authorities.

a. Provide not less than 72 hours' notice to Authority if shutdown of service is required during changeover.

B. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving building to be selectively demolished.

1. Arrange to shut off indicated utilities with utility companies.
2. Where utility services are required to be removed, relocated, or abandoned, provide bypass connections to maintain continuity of service to other parts of the building before proceeding with selective demolition.
3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit after bypassing.

C. Utility Requirements: Refer to their respective sections of these specifications for shutting off,

disconnecting, removing, and sealing or capping utility services. Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.03 PREPARATION

A. Conduct demolition operations and remove debris to ensure minimum interference with adjacent occupied and used facilities.

1. Do not close or obstruct adjacent occupied or used facilities without permission from Authority and authorities having jurisdiction. Provide alternate routes around closed or obstructed foot traffic ways.
2. Do not block required exits or stairways.

B. Conduct demolition operations to prevent injury to people and damage to adjacent facilities to remain. Ensure safe passage of people around selective demolition area.

1. Protect walls, ceilings, floors, and other existing finish work that are to remain and are exposed during selective demolition operations.
2. Cover and protect equipment that has not been removed.

C. Erect and maintain dust-proof partitions and temporary enclosures as required to limit dust and dirt migration and to separate areas from fumes and noise.

D. If required, provide and maintain shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of building components during selective demolition and until new support is installed.

3.04 POLLUTION CONTROLS

A. Use temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.

B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

3.05 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated on the drawings. Use methods required to complete work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Locate selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.
9. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

B. Demolish masonry in small sections. Cut masonry at junctures with construction to remain, using power-driven masonry saw or hand tools; do not use power-driven impact tools. Sawcut between existing masonry to be removed and to remain.

C. Demolish and remove existing construction according to the IDOT Standard Specifications for Road and Bridge Construction, Section 501, Removal of Existing Structures.

D. The Contractor is fully responsible for the means and method of demolition and the integrity and stability of the existing structure during demolition until the work is completed.

E. Do not remove more of the existing structure than indicated on the drawings or as required. Do not damage, mar, cut or deface the remaining structure to remain or material to be reused.

F. Verify all dimensions and existing conditions.

3.06 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused by demolition operations to match adjacent construction.

B. Patching is specified in Division 01 Section "Cutting and Patching."

C. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials. Patch to match existing, using materials to match existing.

1. Completely fill holes and depressions in existing masonry or concrete to remain with an approved masonry or concrete patching material, applied according to manufacturer's printed specifications.

D. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

E. Patch and repair floor, ceiling and wall surfaces in the new space where demolished walls or partitions extend one finished area into another. Provide a flush and even surface of uniform color and appearance.

1. Closely match texture and finish of existing adjacent surface.
2. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
3. Where patching smooth painted surfaces, extend final paint coat over entire unbroken surface containing the patch after the surface has received primer and second coat.
4. Where applicable, remove existing floor and wall finishes and replace with new materials, if necessary, to achieve uniform color and appearance.

F. Repairs, patching and replacements due to damage by the Contractor are the complete responsibility of the Contractor.

3.07 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials, accumulated debris, rubbish, and other materials resulting from demolition operations. Do not allow demolished materials to accumulate on-site except as required for recycling operations.

B. Recycle construction debris from demolition operations and construction waste to the greatest extent possible. Contractor must follow City of Chicago Recycling of Construction Debris Ordinance as a minimum requirement.

C. Concrete, masonry, steel, wood, glass, cardboard and other materials shall be separated at the construction site and pick up shall be arranged with their respective recycling waste haulers for recycling of the individual waste materials.

D. Provide written and dated documentation of the total amount of each different waste material, the amount of each sent to a recycling facility and the amount of each sent to a landfill. Documentation shall be done on a daily basis. Indicate when and who the materials were picked up by and the name of the recycling facility the materials were sent to.

E. Disposal of non-recyclable debris: Transport materials that are not suitable for recycling off Authority's property and legally dispose of them.

3.08 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.

B. Sweep the building broom clean on completion of selective demolition operation.

C. Change filters on air-handling equipment on completion of selective demolition operations.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of Section 02 05 00, Demolition shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the work of Section 02 05 00, Demolition shall be included in the contract lump sum price as shown in the Schedule of Prices for ~~Disposal of Regulated Substances~~ Structural Work, Architect Work, Plumbing Work, and Electrical Work.

4.03 PAY ITEM ACCOUNT NUMBER

A. Structural Work: 030000.~~Disposal of Regulated Substances: 026100~~

B. Architectural Work: 090000.

C. Plumbing Work: 220000.

D. Electrical Work: 260000.

1
Revised
4-2-24

END OF SECTION

ATTACHMENT FF

SECTION 02 61 00.10

SPECIAL WASTE HAULING AND DISPOSAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This work consists of hauling to a properly permitted landfill all material classified as special waste material as determined by the Commissioner or his representative. This item shall include all materials, labor, permits, licenses, and incidentals required to temporarily store, haul, and dispose of legally off site of all excavated material classified as special. For the purposes of these specifications the following definitions apply:
Special waste is defined as materials which are excavated from onsite which are determined to be contaminated and which are not reused onsite.

B. This work is in addition to, and not in lieu of earth excavation or excavation work included in sewer items. Price should reflect only the additional cost in handling, hauling, and disposing of special waste as compared to that of non-contaminated waste.

1.03 RELATED SECTIONS

1. Section 02 61 00.20: Special Waste Plans and Report
2. Section 02 61 00.40: Soil Disposal Analysis
3. Section 31 20 00: Earth Moving
4. Section 31 23 10: Excavation, Trenching & Backfilling (Utilities)

1.04 REFERENCES

A. Except as modified herein, the work must conform to the applicable requirements of Section 669 of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTAMINATED SOILS

A. Contaminated soils will be any soil determined by the Commissioner or his representatives to have a level of Volatile Organic Compounds (VOC's) in excess of 50 ppm or having suspect olfactory and/or visual indications of being contaminated.

B. The Contractor must separate contaminated material from non-contaminated material as directed by the Commissioner or his representatives. At the direction of the Commissioner, the Contractor may be required to stockpile contaminated material at locations onsite. Every effort must be made to reuse this material on site as approved by the Commissioner. The Commissioner will provide an on-site inspector to identify material which is suitable for reuse onsite.

C. Work under this item must be performed in accordance with the State RCRA land disposal requirements of 35 III. ADM. Code parts 721, 722, 724 and 728. Regulations require obtaining an IEPA generator number and transporting the contaminated soil as A Special Waste to an approved landfill for disposal following correct manifest procedures.

D. If the Commissioner or his agent suspects locations of contaminated soil, the contractor must not perform any excavation activities in the area without the presence of OSHA trained personnel equipped with Photo Ionization Detector (PID) and Flame Ionization Detector (FID) meters in order to distinguish contaminated soil from uncontaminated soil. The OSHA trained personnel must be provided by the contractor and considered included in the item SPECIAL WASTE HAULING AND DISPOSAL.

E. The contractor must provide a licensed special waste hauler to load, haul, and dispose of the special waste at a landfill properly permitted to dispose of special waste pursuant to the State RCRA land disposal requirements of 35 III. ADM. Code parts 721, 722, 724 and 728. F. The special waste must be separated from uncontaminated soil at all times.

G. Prior to transporting the special waste from the site, a special waste manifest must be completed and signed by the Commissioner (or his agent) and the hauler of the special waste as described in the State RCRA land disposal requirements of 35 III. ADM. Code parts 721, 722, 724 and 728.

H. In addition, the special waste manifest must be completed by the special waste hauler and the landfill owner upon arrival at the designated disposal site.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of SPECIAL WASTE HAULING AND DISPOSAL will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of SPECIAL WASTE HAULING AND DISPOSAL will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK for all applicable work performed with the CIVIL WORK pay item account and STRUCTURAL WORK for all applicable work performed with the STRUCTURAL WORK pay item account.

4.03 PAY ITEM ACCOUNT NUMBER

A. ~~Civil Work: 020000~~Disposal of Regulated Substances: 026100

~~B. Structural Work: 030000~~

1

Revised
4-2-24

END OF SECTION 02 61 00.10

SECTION 02 61 00.20

SPECIAL WASTE PLANS AND REPORT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Work under this item shall be in accordance with the Standard Specifications as indicated herein, as shown on the Plans, and as directed by the Commissioner. B. Related Sections:

1. Section 02 61 00.10: Special Waste Hauling and Disposal

2. Section 02 61 00.40: Soil Disposal Analysis

1.03 REFERENCES

A. Except as modified herein, the work must conform to the applicable requirements of Section 669 of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of SPECIAL WASTE PLANS AND REPORT will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of SPECIAL WASTE PLANS AND REPORT will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK for all applicable work performed with the CIVIL WORK pay item account and STRUCTURAL WORK for all applicable work performed with the STRUCTURAL WORK pay item account.

4.03 PAY ITEM ACCOUNT NUMBER

A. Disposal of Regulated Substances: 026100
~~Civil Work: 020000~~

~~Structural Work: 030000~~

1

END OF SECTION 02 61 00.20

Revised
4-2-24

ATTACHMENT HH

SECTION 02 61 00.30

NON-SPECIAL WASTE DISPOSAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Work under this item shall be in accordance with the Standard Specifications as indicated herein, as shown on the Plans, and as directed by the Commissioner.

1.03 RELATED SECTIONS

A. Section 02 61 00.40: Soil Disposal Analysis.

B. Section 31 20 00: Earth Moving

C. Section 31 23 10: Excavation, Trenching, and Backfilling (Utilities)

1.04 REFERENCES

A. Except as modified herein, the work must conform to the applicable requirements of Section 669 of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of NON-SPECIAL WASTE DISPOSAL will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of NON-SPECIAL WASTE DISPOSAL will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK for all applicable work performed with the CIVIL WORK pay item account and STRUCTURAL WORK for all applicable work performed with the STRUCTURAL WORK pay item account.

4.03 PAY ITEM ACCOUNT NUMBER

A. Disposal of Regulated Substances: 026100

~~A. Civil Work: 020000~~

~~B. Structural Work: 030000~~

1

END OF SECTION 02 61 00.30

Revised
4-2-24

ATTACHMENT II

SECTION 02 61 00.40

SOIL DISPOSAL ANALYSIS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Work under this item shall be in accordance with the Standard Specifications as indicated herein, as shown on the Plans, and as directed by the Commissioner.

1.03 RELATED SECTIONS

A. Section 02 61 00.10: Special Waste Hauling and Disposal.

B. Section 02 61 00.20: Special Waste Plans and Report.

C. Section 02 61 00.30: Non-Special Waste Disposal.

1.04 REFERENCES

A. Except as modified herein, the work must conform to the applicable requirements of Section 669 of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of SOIL DISPOSAL ANALYSIS will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the work of SOIL DISPOSAL ANALYSIS will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK for all applicable work performed with the CIVIL WORK pay item account and STRUCTURAL WORK for all applicable work performed with the STRUCTURAL WORK pay item account.

4.03 PAY ITEM ACCOUNT NUMBER

A. Disposal of Regulated Substances: 026100
~~Civil Work: 020000~~

~~Structural Work: 030000~~

1 Revised 4-2-24

END OF SECTION

ATTACHMENT JJ

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this section.

1.02 SUMMARY

A. This Section specifies requirements for cast-in-place concrete. The work under this Section shall consist of furnishing all labor, materials, and equipment required to provide and install the cast-in- place concrete structures shown on the drawings and including formwork, joint filler, isolation joint, water stops, embedded items, vapor retarder, concrete sealer and all other appurtenant work required to complete this work. The concrete work includes slabs on grade, structural slabs, concrete topping slab, concrete steps, concrete foundations, footings, piers and other concrete structures.

B. Furnish all sampling and testing as required for qualification of proposed materials and establishment of design mixes and performing field testing of all concrete by a qualified testing laboratory acceptable to the Authority and engaged by and at the expense of the Contractor.

C. Related Sections: The following sections contain requirements that relate to this Section.

1. Section 03 20 10 – Concrete Reinforcement Epoxy Coated
2. ~~Section 03 41 00 – Precast Concrete Platform~~
3. ~~3.~~2. Section 03 53 00 – Concrete Topping
4. ~~4.~~3. Section 03 74 00 – Concrete Repairs

1 Revised 4-2-24

1.03 STANDARDS

A. Comply with provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. American Concrete Institute (ACI).
2. American Society for Testing and Materials (ASTM).
3. CTA Structural Chapter of the Infrastructure Design Criteria Manual (IDCM), Effective February 2017.
4. American Railway Engineering and Maintenance of Way Association (AREMA) Manual of Railway Engineering 2020.
5. Illinois Department of Transportation (IDOT) Standard Specification for Road and Bridge Construction.

B. Where reference is made to one of the standards, the revision in effect at the time of bid opening shall apply.

1. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field.
2. ASTM C33 – Standard Specification for Concrete Aggregates.
3. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C42 – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
5. ASTM C94 – Standard Specification for Ready-Mixed Concrete.

6. ASTM C143 – Standard Test Method for Slump of Hydraulic Cement Concrete.
7. ASTM C150 – Standard Specification for Portland Cement.
8. ASTM C156 – Standard Test Method for Water Retention by Concrete Curing Materials.
9. ASTM C171 – Standard Specification for Sheet Materials for Curing Concrete.
10. ASTM C172 – Practice for Sampling Freshly Mixed Concrete.
11. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
12. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
13. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.
14. ASTM C309 – Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
15. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete.
15.16. ASTM C595 – Standard Specification for Blended Hydraulic Cements
16.17. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
17.18. ASTM C979 – Color Pigment for Concrete.
18.19. ASTM C1064 – Test Method for Temperature of Freshly Mixed Portland Cement Concrete.
19.20. ASTM E 303 – Standard Test Method for Measuring Surface Functional Properties Using the British Pendulum Tester.
20.21. ACI 117, "Standard Tolerances for Concrete Construction and Materials."
21.22. ACI 211.1, "Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete."
22.23. ACI 301, "Specifications for Structural Concrete for Buildings."
23.24. ACI 304, "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete."
24.25. ACI 305, "Hot Weather Concreting."
25.26. ACI 306, "Cold Weather Concreting."
26.27. ACI 308, "Standard Practice for Curing Concrete."
27.28. ACI 309, "Standard Practice for Consolidation of Concrete."
28.29. ACI 318, "Building Code Requirements for Reinforced Concrete."
29.30. ACI 347, "Guide to Formwork for Concrete".

1 Revised 4-2-24

C. American National Standards Institute. (ANSI)

1. ANSI B 101.1 – Test Method for Measuring Wet Static Coefficient of Friction of Common Hard-Surface Floor Materials.
2. ANSI B 101.3 – Test Method for Measuring Wet Dynamic Coefficient of Friction of Common Hard-Surface Floor Materials.
3. ANSI A 326.3 – American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.

1.04 PERFORMANCE REQUIREMENTS

A. Concrete paving or floor walking surface test on samples of concrete slab with specified finish for the project.

1. Slip resistance: Test each concrete surface finish to be used for walking surfaces. Slip resistance tests must be performed by a qualified independent testing agency approved by the Authority and the tests to be done according to ANSI B 101.3, Test Method for Measuring Wet DCOF (Dynamic Coefficient of Friction) of Common Hard Surface Floor Materials using the BOT-3000E digital tribometer measuring device and/or according to ASTM E303 using the British pendulum tester. The test device and method to be as selected by and approved by the Authority.

1.05 SUBMITTALS

A. Submit the following, in accordance with Section 01 33 00, Submittal Procedures:

1. Sources of cement and aggregates.
2. Material Safety Data Sheets (MSDS) for all concrete components and admixtures.
3. Air-entraining admixture. Product data including catalogue cut, technical data, storage requirements, product life, recommended dosage, temperature considerations, field testing methods and conformity to ASTM standards.
4. Water-reducing admixture (plasticizer). Product data including catalogue cut, technical data, storage requirements, product life, recommended dosage, temperature considerations and conformity to ASTM standards.
5. Accelerating/retarding admixtures. Product data including catalogue cut, technical data, storage requirements, product life, recommended dosage, temperature considerations and conformity to ASTM standards.
6. Concrete design mix for each formulation of concrete proposed for use including constituent quantities per cubic yard, water-cementitious materials ratio, concrete slump, type and manufacturer of cement. The mix design shall be signed and sealed by either an Illinois Professional Engineer or Structural Engineer. The mix designs shall specify weight and type of Portland Cement, fine aggregate, coarse aggregate, brand names and amounts of chemical admixtures, range of water content, range of slump and expected compressive strength for seven, fourteen and twenty-eight days. Provide the following for each mix proposed. Results are to be no older than 1 year from date of concrete pour.

    a. Compression test results for proposed mixes. Include standard deviation data for each proposed concrete mix based on statistical records where applicable.
    b. Curve of water-cementitious materials ratio versus concrete cylinder strength for each formulation of concrete proposed based on laboratory tests. The cylinder strength shall be the average of the 28 day cylinder strength test results for each mix. Provide results of 7 and 14 day tests if available.
    c. Fine aggregates – Test reports indicating conformity with ASTM standards, including sieve analysis, physical properties, and deleterious substance.
    d. Coarse aggregates – Test reports indicating conformity with ASTM standards, including sieve analysis, physical properties, and deleterious substances.
    e. Cements – Test reports indicating conformity with ASTM standards, including chemical analysis and physical properties for type.
    f. Contractor shall submit documentation from the concrete suppliers indicating previous experience with the proposed mix design.

7. Test report for coefficient of friction for concrete walking surface.
8. Sheet curing material. Product data including catalogue cut, technical data and conformity to ASTM standard.
9. Liquid curing compound. Product data including catalogue cut, technical data, storage requirements, product life, application rate and conformity to ASTM standards. Identify proposed locations of use.
10. Concrete sealer; sealer compound and slip resistant additive, if applicable; product data, specifications and instructions for application.
11. Concrete stain product data, specifications and instructions for application.

    a. Provide color charts for manufacturer's standard colors for Authority's selection and approval.

B. The Contractor shall provide the following for review and obtain approval: product data for materials and items including forming materials and accessories, form release agents, admixtures, patching compounds, bonding agents, joint systems, curing compounds and others as requested. Certify that each admixture is compatible with others used.

C. The Contractor shall submit formwork shop drawings and calculations for all structural concrete

to the Authority for review with the exception of footings, piers, pier caps, walls, etc. that are less than six (6) feet tall and not directly adjacent to the tracks. The shop drawings shall indicate the fabrication, erection and support procedures for the formwork. The formwork shop drawings and structural calculations for the design of the formwork and formwork support shall be signed and sealed by an Illinois licensed structural engineer. Show form construction including jointing, special form joints, location and pattern of form tie placement and other items that affect exposed concrete visually. The Contractor shall make modifications to the procedure if required, to obtain results that are satisfactory to the Authority, only after receiving approval in writing from the Authority.

1. Formwork design calculations are to have the following minimum requirements.

    a. All loads applied on the formwork must be identified and must have a load path thru the structure to a suitable foundation. All elements in the load path must be designed and detailed.
    b. Formwork to be designed per ACI 347-Guide to Formwork for Concrete.
    c. Tie splices are to have equal or greater capacity than the tie rods, i.e. coil ties splices are not to be used.
    d. Actual mix design needs to be used to calculate pressure on formwork.
    e. Actual concrete temperature (or colder temperature to be conservative) needs to be used to calculate pressure on formwork.
    f. Actual pour rate (or faster pour rate to be conservative) needs to be used to calculate pressure on formwork.
    g. In such case that the formwork is a prefabricated unit that has limits to the pressures it can support, the SE should provide the contractor with a maximum pour rate (or lower pour rate if dictated by the contractor) based on conservatively assumed temperature and mix design. Formwork system then to be designed based on a pour rate agreed to between the IL SE and the contractor.
    h. In such cases where formwork or accessories are proprietary, the design SE (or the independent SE as part of the independent review in part 4), as part of the calculation package shall provide documentation explaining that they have reviewed the analysis and/or testing verification done by the manufacturer and understand that they, by signing and sealing the calculation package with the proprietary products, are liable for any failures.

2. Formwork shop drawings are to have the following minimum requirements.

    a. They are to match the formwork calculations.
    b. Accessories not supplied by the formwork supplier and expected to be supplied by the Contractor need to be identified as such and called out with a product manufacturer, name and part number, or other such material specifications, to ensure the contractor purchases the same product that was designed by the formwork design Structural Engineer.
    c. Overlay rebar shop drawing information and other adjacent construction information at locations of potential conflict and coordinate a solution.
    d. If directly adjacent to tracks or road, show section to verify clearance with trains and/or vehicle traffic.
    e. Comply with Section 3.02.

3. The Contractor shall submit product data sheets, material certifications, etc. for accessories noted on the formwork shop drawings as not being supplied by the formwork supplier.

4. Formwork design calculations, shop drawings and product data submittals to be reviewed by an Independent Structural Engineer, hired by the Contractor, and the review

process is to have the following minimum requirements.

a. The Independent Structural Engineer reviewer, as a minimum, is to review the formwork calculations and shop drawings to ensure the formwork design Structural Engineer has addressed the minimum requirements for shop drawings and calculations as noted herein.
b. Formwork design Structural Engineer and Independent Structural Engineer to coordinate and come to a resolution on disagreements.
c. Once formwork design Structural Engineer and Independent Structural Engineer come to resolution on all disagreements, a final set of formwork shop drawings and calculations signed and sealed by the formwork design Structural Engineer are to be issued for construction to the Authority along with a signed and sealed letter from the Independent Structural Engineer noting that all of their concerns have been addressed with an attachment of itemized comments and resolution actions.

D. Provide material certificates in lieu of material laboratory test reports, when permitted. Certificates shall be signed by the manufacturer and Contractor, certifying that each material item complies with or exceeds specified requirements.

E. Provide delivery tickets for all ready-mixed concrete. Tickets to include the following information:

1. Significant times during the process such as start load, end load, leave plant, arrive job, begin pour and end pour.
2. Date
3. Truck number
4. Driver number
5. Total yards in truck
6. Total yards for order
7. Plant location
8. Delivery location
9. Department mMix number
10. Other items added to the mix prior to loading, during loading or after loading not already indicated in the approved mix design, including when it was added.

1 Revised 4-2-24

F. Provide batch reports for all ready-mixed concrete. Tickets to include the following information:

1. Significant times during the process such as batch time, start load, end load.
2. Date
3. Truck number
4. Driver number
5. Total yards in load
6. Plant location
7. Delivery location
8. Mix number
9. Description of all ingredients
10. Design quantities of all ingredients
11. Actual quantities of all ingredients
12. Total weight of load
13. Design w/c ratio
14 Actual w/c ratio
15. Percent moisture of aggregates

G. Provide product data, specifications, installation instructions, samples, shop drawings showing locations and installation details and other information for the following:

1. Cementitious materials.
2. Admixtures.

3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Fiber reinforcement.
6. Waterstops.
7. Curing compounds.
8. Floor and slab treatments.
9. Bonding agents.
10. Adhesives.
11. Vapor retarders.
12. Semirigid joint filler.
13. Joint-filler strips.
14. Repair materials.

H. Provide bonding agent product data including catalog cut, technical data and installation directions and recommendations.

I. Provide compatibility test results between adjacent sealants and curing and sealing materials.

J. As-Built requirements: Pursuant to Division One Section, Closeout Procedures, provide as-built drawings indicating actual locations and elevations of all foundations, foundation elements, openings and other features upon completion of the project.

K. Provide two copies of test reports from the Contractor's testing agency verifying concrete strength.

L. The Contractor shall submit a process plan for forming, placing, finishing and curing of all concrete to the Authority for review and approval. At a minimum, the process plan is to include the following:

1. A copy of all submittals associated with the process.
2. A copy of all checklists as noted in Section 3.13.

M. The Contractor shall coordinate the concrete slab work with the requirements for the installation of the specified finished floor for a complete adhered and warrantied floor system. The requirements shall be provided by the manufacturer and installer of the finish floor system.

1. Submit a process plan for installing and finishing the concrete slab in preparation for the installation of the specified finished floor.
2. Verify in writing that any additives to the concrete will not adversely affect the installation of the specified finished floor.
3. Verify in writing the type of finish (trowel, broom) is required for the specified finished floor.
4. Verify in writing the flatness ratio required for the specified finish floor and submit the actual flatness ratio upon completion.
5. Verify in writing the compatibility of using a floor sealer with the specified finish floor and the type of sealer recommended for use with the finished floor.
6. Verify in writing the maximum moisture content allowed for proper installation of the specified floor finish and provide test results indicating that the requirement has been met prior to beginning the finished floor installation.
7. Verify in writing the compatibility of any other bonding agent or topping proposed to be used in the floor system.

N. Submit the finished floor installer's written acceptance of the concrete floor slab prior to continuation of the floor system installation.

O. Concrete Finish Samples: Contractor to provide a 24" X 24" X 1.5" sample panel of concrete for each type of concrete finish to be provided for all vertical and horizontal surfaces.

1. Smooth concrete finish surfaces for vertical surfaces, interior floor slabs and other indicated exposed concrete surfaces.
2. Nonslip broom finish surfaces for walks, platforms, driveways, public areas of

stationhouse floors and other indicated exposed concrete surfaces. Certify that the nonslip finish will achieve the required coefficient of friction.

3. Contractor to cut a 12" X 12" portion of each approved sample for delivery to the Authority's office; remaining portion for each approved sample to remain at the project site.
   Sample shall be retained for comparison with the actual completed surfaces.

P. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Reinforced concrete shall comply with the latest ACI codes: ACI 301, Specification for Structural Concrete; ACI 304, Guide for Measuring, Mixing, Transporting, and Placing Concrete; ACI 311, ACI Concrete Inspection Manual; ACI 315, ACI Detailing Manual; ACI 318, Building Code and Commentary; and ACI 347, Guide to Formwork for Concrete. The most stringent requirement of the codes, standards, building codes and this Section shall apply when conflicts exist.

D. Only one source of cement and aggregates shall be used on any one structure. Concrete shall be uniform in color and appearance.

E. Testing of the following materials shall be furnished by Contractor to verify conformity with this Specification Section and the stated ASTM Standards.

1. Fine aggregates for conformity with ASTM C33 – sieve analysis, physical properties, and deleterious substances.
2. Coarse aggregates for conformity with ASTM C33 – sieve analysis, physical properties, and deleterious substances.
3. Cements for conformity with ASTM C150 or ASTM C595 – chemical analysis and physical properties.
4. ~~Pozzolans for conformity with ASTM C618 – chemical analysis and physical properties.~~

1 Revised 4-2-24

F. Proportion mixes by either laboratory trial batch or field experience methods, using materials to be employed on the job for each type of concrete required, in compliance with ACI 318 (Chapter 4). In addition, documentation shall be provided demonstrating that the proposed concrete proportions will produce an average compressive strength at least 15% higher than the herein specified compressive strengths.

G. Use ready-mix concrete, complying with ASTM C94 and supplied by a ready-mix source which is inspected yearly by the Illinois Department of Transportation. Delivery tickets shall note the mix designation, admixtures, time dispatched, date, project number and Contractor and shall be submitted for review by the Authority.

H. Testing: Contractor shall arrange for and pay for an independent testing laboratory, approved by the Authority, to perform the following tests; providing a copy of all reports to the Authority for approval:

1. Concrete sampling for design mix, air content and slump.
2. Concrete cylinders for compression strength.
3. Backfill compaction testing.
4. Conduct specified Source Quality Control and Field Quality Control and submit reports

for all concrete work.

I. Provide quality assurance according to IDOT SSRSP Check Sheet #23 "Quality Control / Quality Assurance of Concrete Mixes"~~Section 1020 of the IDOT Standard Specifications~~.

1.07 PROJECT CONDITIONS

1 Revised 4-2-24

A. Comply with manufacturer's written instructions for substrate temperature and moisture content, ambient temperature and humidity, ventilation, and other conditions affecting concrete performance.

B. Principal opening sizes and locations are indicated on the drawings. Additional smaller openings and sleeves may be required by other disciplines and shall be constructed according to details submitted to the Authority for approval.

1.08 COORDINATION

A. Coordinate work of this section with other subcontractors to verify required dimensions and locations including for inserts, anchors, anchor bolts, plates, conduit, and other items to be embedded in the concrete or installed with the concrete.

B. Coordinate the delivery of embedded items or items to be installed with the concrete so as to avoid delays to the installation of the new concrete work.

1.09 DELIVERY, STORAGE AND HANDLING

A. Cement: Store weathertight to provide protection from dampness and contamination.

B. Aggregate: Arrange and use stockpiles to avoid excessive segregation or contamination with other materials or with other sizes of like aggregates. Do not use frozen or partially frozen aggregate.

C. Sand: Arrange and use stockpiles to avoid contamination. Allow sand to drain to a uniform moisture content before using. Do not use frozen or partially frozen sand.

D. Admixtures: Store in closed containers to avoid contamination, evaporation or damage. Provide suitable agitating equipment to assure uniform dispersion of ingredients in admixture solutions which tend to separate. Protect liquid admixtures from freezing and other temperature changes which could adversely affect their characteristics.

E. Sheet Curing Materials: Store in weathertight buildings or off the ground and under cover.

F. Liquid Curing Compounds: Store in closed containers.

G. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 – PRODUCTS

2.01 CLASS SI CONCRETE

1 Revised 4-2-24

A. All concrete defined by this specification shall be Class SI Concrete having a compressive strength as shown on the drawings, or if not shown, as indicated herein, and conform to the requirements of Sections 503 and 1020 of the IDOT Standard Specifications.

B. Cement: Domestic Portland cement, Type I, IL or II (Type III used only when high early strength is needed and as approved by CTA), complying with ASTM C150 or ASTM C595 as

applicable.

1 Revised 4-2-24

C. Fine Aggregate: Washed inert natural sand conforming to the requirements of ASTM C33.

D. Coarse Aggregate: Maximum size aggregate shall be ¾ inch. Well-graded crushed stone or washed gravel conforming to the requirements of ASTM C33. Grading requirements shall be as listed in ASTM C33 for the specified coarse aggregate size number.

E. Water: Potable water free from injurious amounts of oils, acids, alkalis, salts, organic matter, or other deleterious substances.

F. Admixtures: Admixtures shall be free of chlorides and alkalis (except for those attributable to water). Each admixture shall be compatible with all of the components in the concrete mix and shall be suitable when it is required to use more than one admixture in a concrete mix. Admixtures shall be compatible with the concrete mix including other admixtures potable water after 30 days.

1. Air-Entraining Admixture: The admixture shall comply with ASTM C260. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
2. Water-Reducing Agent: The admixture shall comply with ASTM C494, Type A. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
3. Admixtures causing retarded or accelerated setting of concrete shall not be used without written approval from the Authority. When allowed, the admixtures shall be retarding or accelerating water reducing or high range water reducing admixtures.

G. The use of calcium chloride and other chloride containing agents is prohibited.

2.02 MIXES

A. Select proportions of ingredients to meet the design strength and materials limits specified and to produce concrete having proper placability, durability, strength, appearance and other required properties. Proportion ingredients to produce a homogenous mixture which will readily work into corners and angles of forms and around reinforcement without permitting materials to segregate or allowing excessive free water to collect on the surface.

B. Slump of the concrete shall be as measured by ASTM C143. If a high-range water reducer (plasticizer) is used, the slump indicated shall be that measured before plasticizer is added. Plasticized concrete shall have a slump ranging from 6- to 8-in.

C. Proportion admixtures according to the manufacturer's recommendations. Two or more admixtures specified may be used in the same mix provided that the admixtures in combination retain full efficiency and have no deleterious effect on the concrete or on the properties of each other.

D. Design mixes, when tested according to ASTM C 330, to be as indicated on the drawings, or if not indicated, provide normal weight structural concrete with 4000 psi at 28-day compressive strength, 0.44 maximum water-cement ratio for non-air-entrained concrete and 0.40 maximum for air-entrained concrete.

E. Slump Limits for Normal Weight Concrete: Proportion and design mixes to result in a concrete slump at point of placement of 4” to 6”; with superplasticizer the maximum concrete slump at point of deposit to be 6” to 8”,

F. Normal weight aggregates to conform to ASTM C 33 unless specified otherwise. Maximum aggregate size to be 3/4 inch.

G. Air Entraining Admixture: ASTM C 260; provide for exterior exposed concrete and as otherwise

required: 4-7%.

H. Water Reducing Admixture (Superplasticizer): ASTM C 494; provide for exterior exposed concrete and concrete with a water-cement ratio of 0.50 or less. Type as specified or approved by Authority. Type “A” water-reducing admixture, added in compliance with the manufacturer’s recommendations - with no reduction in the specified cement content. (Type “D” water-reducing admixture may be used in lieu of Type “A” during hot weather concreting).

I. ~~Admixtures containing chlorides shall not be used in the concrete.~~

J. Finely Divided Minerals ~~ly ash~~ shall be used ~~conforming~~ according to Sections 1010 and 1020.05(c) of the IDOT Standard Specifications. ~~When used, the fly content shall be no less than 15 percent nor more than 25 percent of the total cement, by weight~~

K. Adjustments to Concrete Mixes: Mix design adjustments may be requested when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as accepted by the Authority. Laboratory test data for revised mix design and strength results must be submitted to and accepted by the Authority.

L. No other admixtures shall be added without written approval from the Authority. The use of calcium chloride and other chloride containing agents is prohibited. Additives such as high range water reducers, accelerators, retarders, anti washout agents (AWA) may be used if approved by the Authority.

M. Concrete Stain: Apply stain to concrete after installation of slab according to stain manufacturer’s written instructions and to create results in hardened concrete color consistent with approved mockup.

1 Revised 4-2-24

2.03 READY MIXED CONCRETE

A. Provide ready mixed concrete in accordance with ASTM C94 and as specified. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

1. If an approved high-range water-reducer (plasticizer) is used to produce plasticized concrete, the maximum time interval shall not exceed 90 minutes.
2. Do not use concrete in the work if it undergoes initial set or is not deposited within 90 minutes after the water is introduced. Do not add water to unworkable concrete at delivery end unless the testing laboratory accepts the procedure.

B. Provide an official ticket for each ready mix truck delivery indicating all pertinent data for that load.

2.04 FORMWORK MATERIAL

A. General: Forms to provide continuous, straight, smooth, exposed surfaces. Furnish forms in largest practicable sizes to minimize number of joints.

1. Where shown as “Architectural Finish” or where concrete will be exposed to view, provide only new MDO plywood faces.

B. Forms:

1. Either steel or wood, of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use forms that are straight and free to distortion and defects.

C. Wall Forms: Plywood, metal, or metal-framed plywood-faced to provide continuous, straight, smooth as-cast surfaces. Furnish in largest practicable sizes to minimize number of joints. Provide

form material with sufficient thickness to withstand pressure of newly placed without bow or deflection.

D. Wood Forms:

1. Finish No. 1 (for concealed below-grade concrete) exterior plywood B-B concrete form Class II PS-1-74.
2. Finish No. 2 (for smooth exposed concrete) exterior type, resin coated plywood, high density concrete form overlay, Class I, PS-I-74.

E. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties designed to prevent form deflection and to prevent spalling of concrete upon removal. Provide units that will leave no metal closer than 1-1/2 inches to the plane of the exposed concrete surface. Provide ties that, when removed, will leave holes not larger than 1 inch in diameter in the concrete surface.

F. Form release agent: A non-staining form release agent shall be used on all form work. Form release agent used shall not damage form liner.

2.05 WATERSTOP

A. Waterstop to be one of the following as shown on the drawings or as selected by the Authority,

B. Flexible Rubber Waterstops: CE CRD-C 513, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.

1. Profile: Flat dumbbell with center bulb, Flat dumbbell without center bulb, Ribbed with center bulb, Ribbed without center bulb or as indicated.
2. Dimensions: 4 inches by 3/16 inch thick, 6 inches by 3/8 inch thick or 9 inches by 3/8 inch thick; nontapered.

C. Chemically Resistant Flexible Waterstops: Thermoplastic elastomer rubber waterstops, for embedding in concrete to prevent passage of fluids through joints; resistant to oils, solvents, and chemicals. Factory fabricate corners, intersections, and directional changes.

1. Profile: Flat dumbbell with center bulb, Flat dumbbell without center bulb, Ribbed with center bulb, Ribbed without center bulb or as indicated.
2. Dimensions: 4 inches by 3/16 inch thick, 6 inches by 3/16 inch thick, 6 inches by 3/8 inch thick, 9 inches by 3/16 inch thick or 9 inches by 3/8 inch thick;nontapered.

D. Flexible PVC Waterstops: CE CRD-C 572, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.

1. Profile: Flat dumbbell with center bulb, Flat dumbbell without center bulb, Ribbed with center bulb, Ribbed without center bulb or as indicated.

2. Dimensions: 4 inches by 3/16 inch thick, 6 inches by 3/8 inch thick, 9 inches by 3/8 inch thick; nontapered.

E. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.

F. Self-Expanding Rubber Strip Waterstops: Manufactured rectangular or trapezoidal strip, bentonite-free hydrophilic polymer-modified chloroprene rubber, for adhesive bonding to concrete, 3/8 by 3/4 inch.

G. Manufacturers, provide a waterstop manufactured by one of the following, subject to the requirements specified herein:

1. Durajoint.
2. JP Specialties, Inc.
3. Sika Greenstreak, Inc.
4. Warco.
5. Williams Products, Inc.
6. Approved equal.

2.06 JOINT FILLER

A. Expansion Joint Filler: Bituminous preformed joint filler conforming to ASTM D 1751. Strips to be full depth of concrete and 3/4" thick unless noted otherwise.

2.07 ISOLATION JOINT

A. Isolation joints are to be ½ inch wide.

B. Isolation joint material to be BASF expansion joint filler and Sonolastic SL-2 (or approved equal).

2.08 REINFORCING MATERIALS

A. Refer to Section 03 20 10, Concrete Reinforcement Epoxy Coated, of these specifications for concrete reinforcing materials.

2.09 CURING AND SEALING COMPOUNDS

A. Liquid Curing Compound: Liquid membrane-forming curing compound shall comply with the requirements of ASTM C309, Type 1-D (clear or translucent with fugitive dye) and shall contain no wax, paraffin, or oil. Curing compounds shall have a minimum of 18 percent solids, be non-yellowing and have a unit moisture loss no greater than 0.55 kg/m^2 in 72 hours as measured by ASTM C156.

B. Concrete Sealer: Silane based, odorless, colorless; that penetrates, hardens and densifies concrete surfaces and leaves a non-darkening film that protects the concrete surface from moisture, water, oil, grease, dirt, deicing salts and other contaminant penetration. Sealer must be compatible with any concrete admixtures, color stains, curing compounds, hardeners, and any other concrete treatments used. Sealer must meet current local VOC restrictions and be non-flammable.

1. Manufacturers of concrete sealers, concrete sealer compound and slip resistant additive that may be used for this project include, but not limited to, the following:
    a. BASF Chemical Company.
    b. ChemMasters.
    c. Custm Building Products, Aqua Mix Sealer's Choice Gold.
    d. H & C Concrete Coatings.
    e. Sika.
    f. SpecChem.
    g. TK Products.
    h. Approved Equal.

2. Concrete sealer for concrete that has been thoroughly cured and concrete has obtained a minimum of 80% its design strength (14-28 days):

    a. Provide Sikagard 705 L as manufactured by Sika or approved equal.

3. Slip Resistant Additive:

    a. Provide Surface Grip Slip Resistant Additive as manufactured by Spec Chem or an approved equal where indicated or as required to achieve the required

coefficient of friction.

2.10 MISCELLANEOUS CONCRETE PRODUCTS

A. Nonshrink Grout

1. ASTM C 1107, Grade B
2. Acceptable Product: Master Builders “MASTERFLOW 928”
3. Acceptable Product: Euclid Chemical’s “HI-FLOW GROUT”
4. Acceptable Product: Five Star Products “Five Star Grout”
5. Provide pre-packaged natural aggregate grout, high-precision, nonshrink, ready-to-use, complying with the following requirements:

a. Grout shall have minimum compressive strength of 6,000 psi at 7 days and 7,500 psi at 28 days.
b. Grout shall conform to most current version of ASTM C 1107, Grade B when tested at a fluid consistency of 25-30 seconds per ASTM C 939 at temperature extremes of 45°F and 90°F and an extended working time of 30 minutes.
c. All material used including water, mixer and pre-packaged grout must be initially at the 45°F and 90°F limits when testing is initiated.

2.11 RELATED MATERIALS

A. Flexible Polyurethane Grout (for insulating column at ground)

1. Acceptable Products include but are not limited to: Sika Chemical Corporation “Icosit KC 340”

a. Sole Source: HJ Skelton (Canada) Ltd. (519) 679-9180, www.skelton-metals.com

B. Vapor Retarder: Provide vapor retarder that is resistant to deterioration when tested according to ASTM E154 such as polyethylene sheet not less than 6 mils thick.

C. Moisture Retaining Cover: One of the following:

1. Waterproof Paper: ASTM C 171
2. Polythene Sheeting: ASTM C 171
3. Polythene-coated Burlap: ASTM C 171

D. Slip resistant Additive: Slip resistant additive for the concrete sealer to improve the slip resistance of the sealer; for interior and exterior applications where indicated on the drawings, as required to achieve the required coefficient of friction and as approved by the Authority.

E. Aggregate for Non-Slip Finish: Fused aluminum oxide grits, or crushed emery, as abrasive aggregate for non-slip finish, with emery aggregate containing not less than 40% aluminum oxide and not less than 25% ferric oxide; for interior and exterior applications where indicated on the drawings, as required to achieve the required coefficient of friction and as approved by the Authority. Use material that is factory-graded, packaged, rustproof and non-glazing, and is unaffected by freezing, moisture and cleaning materials

F. Latex Bonding Agent: Provide Bonding Agent per manufacturer’s recommendations when placing new cast-in-place concrete against existing concrete. Bonding Agent shall comply with ASTM C1059, Type II – exterior use.

G. Insulation: Extruded Polystyrene Board Insulation: Rigid cellular polystyrene thermal insulation with closed cells and integral high-density skin, formed by the expansion of polystyrene base resin in an extrusion process to comply with ASTM C 578, Type IV; in manufacturer's standard lengths and widths; thicknesses as indicated on drawings, or if not indicated, 1½”.

1. Adhesive: Type recommended by insulation board manufacturer for application indicated.

PART 3 – EXECUTION

3.01 PREPARATION

A. Determine that subgrades, excavations, and other surfaces where concrete is to be placed are of proper bearing capacity, of solid material, undisturbed, of proper compaction if filled.

B. Determine that excavations are of proper size, at proper depth, and properly located.

C. Excavations and subgrades where concrete is to be placed must be clean and dry.

3.02 FORM CONSTRUCTION

A. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 and per approved submittals.

B. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class B, 1/4 inch for rough-formed finished surfaces.

C. Forms shall be constructed so that the completed concrete structures conform to the shape, lines and dimensions of the members as shown on the Drawings, within tolerances allowed by the Standard Specifications. They shall be properly braced or tied together to maintain position and shape. Forms shall be made sufficiently tight to prevent leakage of mortar. Provide for openings, offsets, recesses, chamfers, blocking, anchorages, inserts and other features required in the work. Provide for thickened slabs where shown or required of proper width and depth and provide required recesses in the slab. Maintain tolerances complying with ACI 347.

D. Design to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

E. Install sufficient lengths of forms to allow continuous progress of the Work and so forms can remain in place at least 24 hours after concrete placement.

F. Check completed formwork for grade and alignment to the following tolerances:

1. Top of Form Units: Not more than 1/8” in 10’.
2. Vertical Face: Longitudinal axis, not more than ¼” in 10’.

G. Clean forms after each use and re-coat as often as required to ensure separation from concrete without damage.

H. Place steel forms with ribs perpendicular to supports and secure with plug welds to each support using curved welding washers. Space welds at 12” o.c. Provide at least 2” for end laps occurring over supports and lap sides at least one corrugation.

I. Forms for Exposed Concrete:

1. Drill forms to suit ties used and to prevent leakage of concrete mortar around tie holes. Do not splinter forms by driving ties through improperly prepared holes.
2. Do not use metal cover plates for patching holes or defects in forms.
3. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or grits to maintain true, square intersections.

4. Use extra studs, walers and bracing to prevent bowing of forms between studs and to avoid bowed appearance in concrete. Do not use narrow strips of form material which will produce a bow.
5. Assemble forms so they may be readily removed without damage to exposed concrete surfaces.
6. Form molding shapes, recesses and projections with smooth-finish materials and install in forms with sealed joints to prevent displacement.

J. Provide openings in concrete formwork to accommodate work of other trades. Coordinate with all other trades.

K. Forms and adjacent surfaces to receive concrete to be clean and free of old concrete, grease and debris.

L. The formwork shall be removed when the concrete is strong enough to withstand any applied forces and permission has been obtained from the Authority.

M. Form ties shall be non-exposed cone type and shall be spaced as shown on the drawings or as approved by the Authority. All cones shall be filled with concrete after removal of the formwork.

N. The Contractor is required to use a surveyor to properly locate the formwork, including elevations.

O. The Contractor shall use smooth surfaced forms with tight joints for any concrete work that will remain exposed to view, either partially or fully; as determined prior to installation of the forms.

P. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.03 PLACING REINFORCEMENT

A. See Section 03 20 10, Concrete Reinforcement Epoxy Coated. Reinforcement to be clean and free of rust, scale, dirt, and ice. Accurately position, support, and secure reinforcement. Place reinforcement to maintain minimum coverages for concrete protection. Install bars and welded fabric in longest lengths practicable, lapping at all splices. Offset laps to prevent continuous laps in either direction.

B. Reinforcement shall have the following minimum cover, unless noted otherwise:

1. Surfaces not formed: 3 inches.
2. Formed surfaces in contact with soil or water: 3 inches.
3. Formed surfaces not in contact with soil or water: 2 inches.

C. Corner bars matching interior and exterior wall face horizontal bars shall be provided at all wall intersections. See drawings.

D. Grouted reinforcing anchors shall be Hilti HY-150 Max. Adhesive or an equal system approved by the Authority.

E. The Contractor is to notify the Authority when reinforcement bars are installed. Placement of concrete shall not commence until the Authority has inspected and approved the reinforcement placement.

3.04 JOINTS

A. Construction Joints: Locate and install construction joints as shown on the drawings or so they do not impair the strength or appearance of the structure, as acceptable to the Authority.

B. Provide keyways at least 1-1/2 inches deep in construction joints between walls and footings.

Bulkheads designed and accepted for this purpose may be used for slabs.

C. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints except as indicated otherwise. Do not continue reinforcement through sides of strip placements.

D. Use bonding agent on existing concrete surfaces that will be joined with fresh concrete.

E. Isolation joints between new concrete and existing concrete, shall be filled with a premolded joint filler and sealing compound.

F. Only those construction joints shown on the drawings will be allowed unless approved otherwise by the Authority.

G. Control Joints. Depth to be T/4, min 1", spaced at 15' o.c. max. with a max aspect ratio of 1.5:1, unless otherwise noted on the drawings.

3.05 EXPANSION JOINTS

A. Provide expansion joints at all intersections with other slabs, at existing elements, vertical surfaces, at abutments with other structures, and at other locations where indicated or required. Expansion joints to be 3/4" unless noted otherwise. Expansion joints to be continuous and for the full depth of the concrete except for space for sealant.

3.06 ISOLATION JOINTS

A. Provide isolation joints where shown or required. Isolation joints to be 1/2" unless noted otherwise. Isolation joints to be continuous and for the full depth of the concrete except for a ¼" space for sealant.

3.07 WATERSTOPS

A. Install waterstops where shown or required to form a continuous diaphragm. Install in longest lengths practical. Support and protect exposed waterstops during progress of the work. Field fabricate joints in waterstops by sealing according to manufacturer's written instructions.

B. Waterstops shall be secured in place by splitting the concrete form. The center bulb shall be centered in the joint. While concrete is being placed the concrete shall be thoroughly vibrated to insure complete embedment of the ribbed flanges.

3.08 VAPOR RETARDER

A. Place vapor retarder under concrete slabs and other at- or below-grade applications. Use largest available sheets. Overlap edges and seal as recommended by manufacturer.

3.09 INSTALLING EMBEDDED ITEMS

A. General: Set and build into formwork anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.

B. All exposed concrete corners shall be broken with a 3/4" x 3/4" chamfer or should match existing or adjacent work.

C. Place steel plates, angles, anchor bolts, plate and nelson stud assemblies, etc. as shown into concrete before it sets. Position embedded anchor bolts using templates.

D. Unless otherwise shown or approved, conduits and pipes embedded within a slab, wall or beam shall have a maximum outside dimension no greater than one third the overall thickness of the

slab, wall or beam; and spacing shall be greater than or equal to three diameters or widths on center.

E. Provide continuous water stops at each construction joint of any concrete element exposed to soil or water below grade. Provide a 1 ½ inch by 3 ½ inch continuous key at each joint requiring water stops.

F. Electrical and communication conduits shall not be placed in concrete without prior approval by the Authority.

3.10 PREPARING FORM SURFACES

A. General: Coat contact surfaces of forms with an approved, nonresidual, low-VOC, form-coating compound before placing reinforcement.

B. Do not allow excess form-coating material to accumulate in forms or come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply according to manufacturer's instructions.

C. All exposed concrete edges shall have a ¾ inch chamfer.

3.11 MEASURING MATERIALS

A. Concrete shall be composed of portland cement, fine aggregate, coarse aggregate, water and admixtures as specified and shall be produced by a concrete mixing plant acceptable to the Authority. All constituents, including admixtures, shall be batched at the plant.

B. Measure materials for batching concrete by weighing in conformity with and within the tolerances given in ASTM C94 except as otherwise specified.

C. Measure the amount of free water in fine aggregates within 0.3 percent with a moisture meter. Compensate for varying moisture contents of fine aggregates. Record the number of gallons of water as-batched on printed batching tickets.

3.12 MIXING AND TRANSPORTING

A. Concrete shall be ready-mixed concrete; no hand-mixing will be permitted. Clean each transit mix truck drum and reverse drum rotation before the truck proceeds under the batching plant. Equip each transit-mix truck with a continuous, nonreversible, revolution counter showing the number of revolutions at mixing speeds.

B. Ready-mix concrete shall be transported to the site in watertight agitator or mixer trucks loaded not in excess of their rated capacities as stated on the name plate.

C. Keep the water tank valve on each transit truck locked at all times. Any addition of water must be directed by the Authority. Added water shall be incorporated by additional mixing of at least 35 revolutions. All added water shall be metered and the amount of water added shall be shown on each delivery ticket.

D. All central plant and rolling stock equipment and methods shall comply with ACI 318 and ASTM C94.

E. Select equipment of size and design to ensure continuous flow of concrete at the delivery end. Metal or metal-lined non-aluminum discharge chutes shall be used and shall have slopes not exceeding 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20 feet long and chutes not meeting slope requirements may be used if concrete is discharged into a hopper before distribution.

F. Retempering (mixing with or without additional cement, aggregate, or water) of concrete or mortar which has reached initial set will not be permitted.

G. Handle concrete from mixer to placement as quickly as practicable while providing concrete of required quality in the placement area. Dispatch trucks from the batching plant so they arrive at the work site just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms.

H. Furnish a delivery ticket for ready mixed concrete to the Authority as each truck arrives. Each ticket shall provide a printed record of the weight of cement and each aggregate as batched individually. Use the type of indicator that returns to zero after a batch is discharged. Clearly indicate the weight of fine and coarse aggregate, cement and water in each batch, the quantity delivered, the time any water is added, and the numerical sequence of the delivery. Show the time of day batched and time of discharge from the truck. Indicate the number of revolutions of the truck mixer.

I. Temperature and Mixing Time Control:

1. In cold weather, do not allow the as-mixed temperature of the concrete and concrete temperatures at the time of placement in the forms to drop below 40 degrees F.
2. If water or aggregate has been heated, combine water with aggregate in the mixer before cement is added. Do not add cement to mixtures of water and aggregate when the temperature of the mixture is greater than 90 degrees F.
3. In hot weather, cool ingredients before mixing to maintain temperature of the concrete below the maximum placing temperature of 90 degrees F. If necessary, substitute well-crushed ice for all or part of the mixing water.

J. The maximum time interval between the addition of mixing water and/or cement to the batch and the placing of concrete in the forms with concrete agitated shall not exceed the following:

1. If the air or concrete temperature (whichever is higher) is between 80 to 90 Degree F, the maximum time shall not exceed 45 minutes.
2. If the air or concrete temperature (whichever is higher) is between 70 to 79 Degree F, the maximum time shall not exceed 60 minutes.
3. If the air or concrete temperature (whichever is higher) is between 40 to 69 Degree F, the maximum time shall not exceed 90 minutes.

If an approved high-range water-reducer (plasticizer) is used to produce plasticized concrete, the maximum time interval shall not exceed 90 minutes.

K. Concrete Stain: Apply concrete stain to installed cured concrete according to manufacturer's written instructions for areas to receive stained concrete. Verify locations for color concrete. Concrete to be stained to be clean, dry and cured. Mix stain and apply as directed by manufacturer. Follow manufacturer's recommendations for installation

3.13 CONCRETE PLACEMENT

A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work. Concrete shall not be placed until Contractor and Construction Manager complete each of their checklists.

1. Formwork inspection check list to have the following minimum requirements.

a. Formwork is installed per most recent shop drawings and Section 3.02.
b. If formwork was modified, verify it was approved by formwork design structural engineer and 3rd party structural engineer.
c. Concrete temperature is at or above design temperature.

d. Concrete crew is to be notified of the maximum pour rate that is allowed per design.
e. Concrete mix being used matches design mix.
f. Verify maximum pour rate is not exceeded.

2. Concrete inspection check list to have the following minimum requirements:

a. Rebar sizes and quantities are verified with most recently approved shops.
b. Rebar spacing, clearances and concrete cover is verified with most recently approved shop drawings and design drawings.
c. All defects in epoxy coating have been repaired per specifications.
d. All steel and miscellaneous structural embeds are verified installed per most recently approved shop drawings and design drawings.
e. All MEP and all other non-structural embeds are verified installed per most recently approved shop drawings and design drawings.
f. Verify that dowels extending out of formwork will not interfere with future work, i.e., pipe sleeves or other formwork.
g. Hot/cold weather measures are in place per specifications.
h. Verify all items inside of pour area are supported adequately to avoid displacement during concrete placement.
i. Equipment and accessories are in place for proper finishing, curing and jointing.

B. No concrete shall be placed without 24-hour advance notice to the Authority nor before the formwork and setting of reinforcement has been inspected and approved by the Authority.

C. General: Comply with ACI 304,"Guide for Measuring, Mixing, Transporting, and Placing Concrete," and as specified.

D. Verify that all formwork completely encloses concrete to be placed and is securely braced prior to concrete placement. Remove ice, excess water, dirt and other foreign materials from forms and exposed concrete joints. Voids in sleeves, inserts, etc., shall be filled temporarily with readily removable material to prevent entry of concrete. Confirm that reinforcement and other embedded items are securely in place. Have a competent workman at the location of the placement who can assure that reinforcing steel and embedded items remain in designated locations while concrete is being placed. Sprinkle semi-porous subgrades or forms to eliminate suction of water from the mix. Seal extremely porous subgrades in an approved manner.

E. Deposit concrete as near its final position as possible to avoid segregation due to rehandling or flowing. Place concrete continuously at a rate which ensures the concrete is being integrated with fresh plastic concrete. Do not deposit concrete which has partially hardened or has been contaminated by foreign materials or on concrete which has hardened sufficiently to cause formation of seams or planes of weakness within the section. If the section cannot be placed continuously, place construction joints as specified or as approved.

F. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete complying with ACI 309.
2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to

set. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix to segregate.

G. Pumping of concrete will be permitted. Use a mix design and aggregate sizes suitable for pumping and submit for approval.

H. Remove temporary spreaders from forms when the spreader is no longer useful. Temporary spreaders may remain embedded in concrete only when made of galvanized metal or concrete and if prior approval has been obtained.

I. Do not place concrete for supported elements until concrete previously placed in the supporting element (columns, slabs and/or walls) has reached adequate strength.

J. Where surface mortar is to form the base of a finish, especially surfaces designated to be painted, work coarse aggregate back from forms with a suitable tool to bring the full surface of the mortar against the form. Prevent the formation of excessive surface voids.

K. All exposed concrete edges shall have a ¾ inch chamfer.

L. Provide concrete footings, walls, slabs, steps, pits, thickened slabs, piers for light poles and bollards, and other concrete installations as shown on the drawings. Form and provide for pockets for rails, trench drains, and drop concrete at doors as shown on the drawings. Provide dowels where new concrete meets existing as detailed on the drawings.

3.14 COLD WEATHER CONCRETING:

A. "Cold weather" is defined as a period when for more than 3 successive days, the average daily outdoor temperature drops below 40 degrees F. The average daily temperature shall be calculated as the average of the highest and the lowest temperature during the period from midnight to midnight.

B. Cold weather concreting shall conform to ACI 306.1 and with the applicable provisions of the Standard Specifications. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

C. Discuss a cold weather work plan with the Authority. The discussion shall encompass the methods and procedures proposed for use during cold weather including the production, transportation, placement, protection, curing and temperature monitoring of the concrete. The procedures to be implemented upon abrupt changes in weather conditions or equipment failures shall also be discussed. Cold weather concreting shall not begin until the work plan is acceptable to the Authority.

D. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.

1. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
2. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.

E. During periods of cold weather, concrete shall be protected to provide continuous warm, moist curing (with supplementary heat when required) for a total of at least 350 degree-days of curing.

1. Degree-days are defined as the total number of 24 hour periods multiplied by the

weighted average daily air temperature at the surface of the concrete (e.g., 5 days at an average 70 degrees F = 350 degree-days).

2. To calculate the weighted average daily air temperature, sum hourly measurements of the air temperature in the shade at the surface of the concrete taking any measurement less than 50 degrees F as 0 degrees F. Divide the sum thus calculated by 24 to obtain the weighted average temperature for that day.

F. Salt, manure or other chemicals shall not be used for protection.

G. The protection period for concrete being water cured shall not be terminated during cold weather until at least 24 hours after water curing has been terminated.

3.15 HOT WEATHER CONCRETING

A. "Hot weather" is defined as any combination of high air temperatures, low relative humidity and wind velocity which produces a rate of evaporation estimated in accordance with ACI 305R, approaching or exceeding 0.2 lbs/sqft/hr.

B. Concrete placed during hot weather, shall be batched, delivered, placed, cured and protected in compliance with the recommendations of ACI 305 and the additional requirements specified herein.

C. Temperature of concrete being placed shall not exceed 90 degrees F and every effort shall be made to maintain a uniform concrete mix temperature below this level. The temperature of the concrete shall be such that it will cause no difficulties from loss of slump, flash set or cold joints.

D. All necessary precautions shall be taken to promptly deliver, to promptly place the concrete upon its arrival at the site and to provide vibration immediately after placement.

E. The Authority may direct the Contractor to immediately cover plastic concrete with sheet material.

F. Discuss with the Authority a work plan describing the methods and procedures proposed to use for concrete placement and curing during hot weather periods. Hot weather concreting shall not begin until the work plan is acceptable to the Authority.

G. Hot-Weather Placement:

1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg F (32 deg C). Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
3. Fog spray forms, reinforcing steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without puddles or dry areas.
4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to Authority.

H. Do not apply unbalanced loads, such as hydrostatic pressure or backfill against structural components until the concrete has attained its design strength.

3.16 CONCRETE STAIRS

A. Pitch stair treads and landings for drainage purposes. Use minimum slope of 0.1% without reducing the thickness of the stair slabs and landings.

3.17 SLABS

A. After suitable bulkheads, screeds and jointing materials have been positioned, the concrete shall be placed continuously between construction joints beginning at a bulkhead, edge form, or corner. Each batch shall be placed into the edge of the previously placed concrete to avoid stone pockets and segregation.

B. Avoid delays in casting. If there is a delay in casting, the concrete placed after the delay shall be thoroughly spaded and consolidated at the edge of that previously placed to avoid cold joints. Concrete shall then be brought to correct level and struck off with a straightedge. Bullfloats or darbies shall be used to smooth the surface, leaving it free of humps or hollows.

C. Provide tape or other approved means to separate between concrete slab that is to be stained and concrete slab that is to remain natural. Lay out straight and even joints. Verify and set dimensions and locations for extent of stained concrete.

D. All new slabs shall be placed on minimum 6" engineered fill compacted to 95% relative density.

3.18 COMPACTING FORMED CONCRETE

A. Consolidate concrete by mechanical vibration, puddling, spading, rodding or forking so that concrete is thoroughly worked around reinforcement, embedded items and openings and into corners of forms. Puddling, spading, etc., shall be continuously performed along with vibration of the placement to eliminate air or stone pockets which may cause honeycombing, pitting or planes of weakness.

B. Vibrators are to be used to consolidate properly placed concrete but shall not be used to move or transport concrete in the forms. Vibration shall continue until:

1. Frequency returns to normal.
2. Surface appears liquefied, flattened and glistening.
3. Trapped air ceases to rise.
4. Coarse aggregate has blended into surface, but has not disappeared.

3.19 FINISHING FORMED SURFACES

A. Rough-Formed Finish:

1. Provide as-cast rough-formed finish to formed concrete surfaces that are not exposed to view in the finished work or to be concealed in the finished work by other construction.
2. Standard rough-formed finish shall be the concrete surface having the texture impated by the form facing material used, with tie holes and defective areas repaired and patched and all fins and other projections exceeding ¼" in height rubbed down or chipped off.

B. Smooth-Formed Finish:

1. Provide as-cast smooth form finish for formed concrete surfaces that are to receive further finishing or that are to be covered with a coating material applied directly to the concrete, or a covering material bonded to the concrete (such as waterproofing).
2. Produce smooth form finish by selecting form material to impact a smooth, hard, uniform texture and arranging them orderly and symmetrical with a minimum of seams. Fill tie holes, repair and patch defective areas and rub down fins.

C. Smooth Rubbed Finish:

1. Provide smooth rubbed finish on exposed to view concrete surfaces not later than the day after form removal.
2. Produce smooth form finish by selecting form material to impart a smooth, hard, uniform texture and arranging them orderly and symmetrical with a minimum of seams. Fill the holes, repair and patch defective areas and rub down fins.

3. Moisten concrete surfaces and rub with carborundum brick or other abrasive until a uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

D. Architectural Finish: Brush off abrasive blast smooth form finish to obtain uniform light exposure or aggregate.

E. Related Unformed Surfaces: At tops of walls, horizontal offsets and similar unformed surfaces occurring adjacent to formed surfaces, strike off smooth and finish with a texture matching the adjacent formed surfaces. Continue the final surface treatment of formed surfaces uniformly across the adjacent unformed surfaces.

3.20 MONOLITHIC SLAB FINISHES

A. Unless noted otherwise, concrete slabs to be 6” thick and reinforced with wire mesh. Provide vapor barrier under slab unless indicated otherwise.

B. Pitch slabs to drains where drains are indicated without reducing the thickness of the slab. Minimum slope is 0.1%. Provide recesses or drop top of slab as required for finish floor materials. Verify locations.

C. Scratch Finish: While still plastic, texture concrete surface that has been screeded or bull-floated or darbied. Use stiff brushes, brooms or rakes to produce a profile amplitude of ¼ inch in one direction.

1. Apply scratch finish to surfaces to receive concrete floor toppings, to receive mortar setting beds for bonded cementitious floor finishes or where otherwise indicated on the drawings.

D. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as specified.

1. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared and concrete has sufficiently stiffened. Finish surfaces to tolerances of F(F) 18 (floor flatness) and F(L) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
2. Water is never to be added to surface of concrete to assist in finishing process.

E. Trowel Finish: Apply a trowel finish to monolithic slab surfaces exposed to view.

1. After floating, begin troweling operation, free of trowel marks, uniform in texture and appearance, and finish surfaces to tolerances of F(F) 20 (floor flatness) and F(L) 17 (floor levelness) measured according to ASTM E 1155. Grind smooth any surface defects.

F. Coefficient of Friction: All interior and exterior floors or walking surfaces shall be finished or treated to provide the required slip resistant coefficient of friction:

1. Slip Resistance: Concrete walking surface to have a minimum value of 0.42 DCOF measured with the BOT-3000E and using a 0.05% SLS water solution per the specified test method.
2. Coefficient of friction shall be measured after the application of any sealants or other coatings.
3. Contractor to provide a sample panel of broom finish and/or non-slip aggregate finish for Authority’s review and approval in accordance with the requirements of the submittal section of these specifications.
4. Contractor to provide test results indicating that the required coefficient of friction has been achieved. Test to be paid for by the Contractor, testing agency and test method to be

approved by the Authority and test location(s) to be as directed by the Authority.

G. Nonslip Broom Finish: Apply a nonslip broom finish to concrete walks, platforms, stair treads, ramps, driveways, floors and elsewhere as indicated on the drawings.

1. Immediately after float finishing, slightly roughen concrete surface by brooming perpendicular to main traffic route.
2. Use a Marshall Town extra fine horse hair broom or a similar broom approved by the Authority.
3. Nonslip Broom Finish to match approved sample and provide the required slip resistant coefficient of friction.

H. Sawing of control joints shall commence as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling and no later than 12 hours after concrete is poured. All joints shall be a minimum of one inch deep and sawed to the length shown on the drawing before uncontrolled shrinkage cracking takes place.

3.21 NON-SLIP AGGREGATE FINISH

A. Apply non-slip aggregate finish to concrete stair treads, platforms, ramps, and elsewhere where shown on the drawings.

B. After completion of float finishing, and before starting trowel finish, uniformly spread 25 lbs. of dampened non-slip aggregate per 100 sq. ft. of surface. Tamp aggregate flush with the surface using a steel trowel, but do not force the non-slip aggregate particles below the surface. After broadcasting and tamping, apply trowel finishing as herein specified.

C. After curing, lightly work the surface with a steel wire brush, or an abrasive stone, and water to expose the non-slip aggregate.

D. Non-slip aggregate finish to match approved sample and provide the required slip resistant coefficient of friction.

3.22 CONCRETE CURING AND PROTECTION

A. Curing shall be in accordance with the applicable portions of Section 1020.13 of the IDOT Standard Specifications. Concrete floor slabs to be cured per IDOT Standard Specifications section 1020.13(-a)(-5) for 3 days.

B. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material.

C. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

D. Curing Methods: Cure concrete by curing compound, by moist curing, by moisture-retaining cover curing, or by combining these methods, as specified.

1. Water Curing: Provide water curing by continuous water-fog spray or cover concrete surface with approved absorptive cover and thoroughly saturate cover with water. Begin wet cure as soon as concrete attains an initial set and maintain wet cure 24 hours a day for 3 continuous days
2. Sheet Material Curing: Cover entire surface with sheet material. Securely anchor sheeting to prevent wind and air from lifting the sheeting or entrapping air under the sheet. Place and secure sheet as soon as initial concrete set occurs.
3. Liquid Membrane Curing: Apply over the entire concrete surface except for surfaces to receive additional concrete. Curing compound shall NOT be placed on any concrete surface where additional concrete is to be placed, where concrete sealers or surface

coatings are to be used, or where the concrete finish requires an integral floor product. Curing compound shall be applied as soon as the free water on the surface has disappeared and no water sheen is visible, but not after the concrete is dry or when the curing compound can be absorbed into the concrete. Application shall be in compliance with the manufacturer's recommendations. Apply curing compound on exposed interior slabs and on exterior slabs as soon as final finishing operations are complete (within 2 hours and after surface water sheen has disappeared). Apply uniformly in continuous operation according to manufacturer's directions.

E. Specified applications of curing methods.

1. Slabs for Water Containment Structures and Chemical Spill Basins: Water curing only.
2. Footings (not used to contain water): Water curing, sheet material curing or liquid membrane curing.
3. Slabs on Grade and Structural Slabs (other than water containment): Water curing.
4. Horizontal Surfaces which will Receive Additional Concrete, Coatings, Grout or Other Material that Requires Bond to the Substrate: Water curing.
5. Formed Surfaces: None if nonabsorbent forms are left in place 7 days. Water cure if absorbent forms are used. Sheet cure or liquid membrane cure if forms are removed prior to 7 days.
6. Concrete Joints: Water cured or sheet material cured.

F. Finished surfaces and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.

G. The Contractor shall provide all necessary measures to prevent any water, frost or ice from penetrating the concrete prior to and after placement of concrete and until the concrete has obtained required strength.

H. Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer’s written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.23 REMOVING FORMS

A. General: Formwork not supporting weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.

B. Forms shall not be removed before the concrete has attained a strength of at least 30 percent of its specified design strength. Shores shall not be removed until the concrete has attained at least 60 percent of its specified design strength and also sufficient strength to support safely its own weight and construction live loads.

3.24 SHORING AND RESHORING INSTALLATION

A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and reshoring.

1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.

B. In multistory construction, extend shoring or reshoring over a sufficient number of stories to distribute loads in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members without sufficient steel reinforcement.

C. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.25 CONCRETE SURFACE REPAIRS

A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removing forms, when acceptable to Authority.

1. Remove and replace cast-in-place concrete that cannot be repaired and cured to match the existing and to the Authority's satisfaction.

B. The external surface of all concrete shall be thoroughly worked during the operations of placing in such a manner as to work the mortar against the forms to produce a smooth finish free of honeycombs and with a minimum of water and air pockets.

C. Depressions resulting from the removal of ties, and holes left by attachments to rod or bolt anchorages, shall be carefully and neatly pointed with a mortar of sand and cement mixed in the proportions used in the concrete.

D. Air pockets or rough areas larger than 1/2 inch diameter occurring in any surface shall be pointed as specified in the foregoing paragraph. Honeycombed areas shall be chipped out by the Contractor and inspected by the Authority before being pointed. Pointed areas mentioned in this paragraph shall then be given a normal finish in accordance with the requirements of the Standard Specifications.

E. As soon as the forms have been stripped and the concrete surfaces exposed, fins and other projections shall be removed; clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to approval of the Authority.

F. When patching defects in exposed surfaces the same source of cement and sand as used in the parent concrete shall be employed. Adjust color if necessary by addition of proper amounts of white cement. Rub lightly with a fine Carborundum stone at an age of 1 to 5 days if necessary to bring the surface down with the parent concrete. Exercise care to avoid damaging or staining the virgin skin of the surrounding parent concrete. Wash thoroughly to remove all rubbed matter.

G. Remove and replace concrete that is not true to formed line, level, configuration, detail, location and finish as rejected.

H. Repair of Formed Surfaces:

1. Repair exposed-to-view formed concrete surfaces, where possible, that contain defects which adversely affect the appearance of the finish. Remove and replace the concrete having defective surfaces if the defects cannot be repaired to the satisfaction of the Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, and holes left by the rods and bolts; fins and other projections on the surface; and stains and other discolorations that cannot be removed by cleaning.

2. Repair concealed formed concrete surfaces, where possible, that contain defects that adversely affect the durability of the concrete. If defects cannot be repaired, remove and replace the concrete having defective surfaces. Surface defects, as such, include cracks in excess of 0.01" wide, cracks of any width and other surface deficiencies which penetrate to the reinforcement or completely through non-reinforced sections, honeycomb, rock pockets, holes left by tie rods and bolts, and spalls, except minor breakage at corner.

I. Patching Defective Formed Areas:

1. Repair and patch defective areas with cement mortar immediately after removal of forms, but only when acceptable by the Authority.

2. Cut out honeycomb, rock pockets, voids over 1/2" diameter, and holes left by tie rods and bolts, down to solid concrete but, in no case, to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Before placing the cement mortar, thoroughly clean, dampen with water, and brush-coat the area to be patched with neat cement grout.

J. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

K. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

L. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.26 CONCRETE TOPPING

A. See Section 03 53 00, Concrete Topping.

3.27 CONCRETE SEALER

A. Unless indicated otherwise on the drawings or approved shop drawings, all exposed concrete shall receive a coat of concrete sealer meeting requirements of IDOT Standard Specifications Article 1026, Concrete Sealer.

B. Penetrating Liquid Sealer: Prepare, apply and finish penetrating liquid sealer to all concrete surfaces according to manufacturer’s written instructions. Apply according to manufacturer’s recommended temperature range and when precipitation is not expected. Apply to all concrete floor slabs. Apply after concrete has been stained, where applicable, and stain has fully dried.

1. Apply sealer to sample areas prior to overall application to determine its effect to the concrete color and finish.
2. Remove non compatible curing compounds, old sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
3. Apply sealer to concrete that is 28 days old unless approved otherwise by the manufacturer of the sealer.
4. Apply sealer when the surface water has disappeared and the concrete surface will not be marred by the walking applicator.
5. Apply sealer with low-pressure spray, brush or roller. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Apply a uniform coat leaving no gaps. Apply subsequent coats wet on wet. Do not allow the material to puddle.

    a. Follow manufacturer's recommendations for coverage rates for fresh concrete and aged concrete. On broom or rough finished concrete, increase the coverage rate to compensate for the added surface area. Coverage to also vary based on the porosity and conditions of the concrete.

6. Apply a second coat in a similar manner for floors to remain exposed or if the surface is rough or porous.
7. Apply sealer to all surfaces, including edges and under sides of concrete platforms.
8. Allow sealer to dry according to manufacturer's recommendations. Protect freshly applied sealer from rain for at least three hours.

C. Slip Resistant Additive: Slip resistant additive must be compatible with sealer. Use materials from same manufacturer and follow all of the manufacturer's recommendations and instructions for use, preparation, mixing, environmental conditions and application.

3.28 QUALITY CONTROL TESTING DURING CONSTRUCTION

A. The Contractor will employ and pay for a testing laboratory to perform inspections and obtain sets of field control cylinder specimens during the progress of the work in compliance with ASTM C31, to perform tests and to submit test reports as directed by the Authority. The number of sets of concrete test cylinders taken of each class of concrete placed each day shall not be less than one set per day, nor less than one set for each 150 cu yds of concrete nor less than one set for each 5,000 sq ft of surface area for slabs or walls.

1. A "set" of 6 inch x 12 inch test cylinders consists of seven cylinders: two each to be tested and their strengths averaged at 7, 14, and 28 days, and the seventh may be used for a special test at 3 days or to verify strength after 28 days if 28-day test results are low.
2. When the average 28-day compressive strength of the cylinders in any set falls below the specified design strength or below proportional minimum 7-day strengths (where proper relation between seven and 28-day strengths have been established by tests), proportions, water content, or temperature conditions shall be changed to achieve the required strengths.

B. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed. If the slump is outside the specified range, the concrete shall be rejected.
2. Air Content: Test for air content shall be made daily on fresh concrete samples using test method ASTM C 173, volumetric method for lightweight or normal weight concrete or ASTM C 231, pressure method for normal weight concrete.
3. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4 deg C) and below, when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.
4. Compression Test Specimen: ASTM C 31; one set of four standard cylinders for each compressive-strength test, unless otherwise directed. Mold and store cylinders for

laboratory-cured test specimens except when field-cured test specimens are required.

5. Compressive-Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yd. plus additional sets for each 50 cu. yd. more than the first 25 cu. yd. of each concrete class placed in any one day; two specimens each tested at 7, 14 and 28 days, and one specimen retained in reserve for later testing if required.
6. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the concrete.
7. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.

C. Additional Tests: The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Authority. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

D. Should the strengths shown by the test specimens made and tested in compliance with the previous provisions fall below the required strengths, the Authority shall have the right to require changes in proportions outlined to apply to the remainder of the work. Furthermore, the Authority shall have the right to require additional curing on those portions of the structure represented by the test specimens which failed. The cost of such additional curing shall be at the Contractor's expense. In the event that such additional curing does not give the strength required, as evidenced by core and/or load tests, the Authority shall have the right to require strengthening or replacement of those portions of the structure which fail to develop the required strength. The cost of all such core borings and/or load tests and any strengthening or concrete replacement required because strengths of test specimens are below that specified, shall be entirely at the expense of the Contractor. In such cases of failure to meet strength requirements the Contractor and Authority shall confer to determine what adjustment, if any, can be made in compliance with Sections titled "Strength" and "Failure to Meet Strength Requirements" of ASTM C94. The "purchaser" referred to in ASTM C94 is the Contractor in this Section.

E. When the tests on control specimens of concrete fall below the specified strength, the Authority will order check tests for strengths to be made by means of typical cores drilled from the structure in compliance with ASTM C42 and C39. In the case of cores not indicating adequate strength, the Authority, in addition to other recourses, may require, at the Contractor's expense, load tests on any one of the concrete structures in which such concrete was used. Tests need not be made until concrete has aged 60 days.

F. Compression Test Reports: In addition to reporting as outlined in ASTM C39, present the following data in tabular form and distribute after recording test results:

1. Identity of project, Contractor, supplier.
2. Identity of mix and required strength.
3. Pour location of sampled concrete.
4. Slump, air content, truck number, time and date sampled, air temperature, concrete temperature, consistency.
5. Curing history.
6. Date tested.
7. Compressive strength.
8. Type of fracture.
9. Compliance with specification.

G. At the Authority’s direction, concrete shown by test not to meet the specified strength requirements shall be removed and replaced at no additional cost to the Authority.

H. Inspections:

1. Steel reinforcement placement.
2. Steel reinforcement welding.
3. Headed bolts and studs.
4. Verification of use of required design mixture.
5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.
7. Verification of concrete strength before removal of shores and forms from beams and slabs.

I. Formed Concrete Dimensional Tolerances:

1. Formed concrete having any dimension smaller or greater than required, and outside the specified tolerance limits, will be considered deficient in strength and subject to additional testing as herein specified.
2. Formed concrete having any dimension greater than required will be rejected if the appearance or function of the structure is adversely affected, or if the larger dimensions interfere with other construction. Repair, or remove and replace rejected concrete as required to meet the construction conditions. When permitted, accomplish the removal of excessive material in a manner to maintain the strength of the section without affecting function and appearance.

J. Defective Work: Concrete work which does not conform to the specified requirements, including strength, tolerances, and finishes, shall be corrected at the Contractor's expense, without extension of time thereafter. The Contractor shall also be responsible for the cost of corrections to any other work affected by or resulting from corrections to the concrete work.

PART 4 – MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of CAST-IN-PLACE CONCRETE shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the work of CAST-IN-PLACE CONCRETE shall be included in the contract lump sum price as shown in the Schedule of Prices for STRUCTURAL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. Structural Work: 030000

END OF SECTION

ATTACHMENT KK

SECTION 03 41 00

PRECAST CONCRETE PLATFORM

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. General Conditions, Special Conditions, Division One Specification Sections, other Specification Sections and the Drawings apply to this section.

1.02 SUMMARY

A. This Section specifies requirements for precast concrete platform system. The work under this Section shall consist of furnishing all labor, materials, and equipment required to provide and install the precast concrete platform system, including reinforced precast concrete platform panels with specified walking surface finish, hoisting and attachment plates and accessories, concrete sealer, expansion joints, joint sealant and backer rod, edge options, etc., as shown on the drawings, specified herein and as otherwise required for a complete installation including all accessories other appurtenant work required to complete this work.

B. Related Sections: The following sections contain requirements that relate to this Section.

~~1. Section 03 20 10 – Concrete Reinforcement Epoxy Coated~~
~~2. Section 03 30 00 – Cast-In-Place Concrete~~
~~3.~~2. ~~Section 07 90 00 – Joint Sealers~~
~~4.~~3. Section 07 95 13 – Expansion Joint Cover Assemblies
~~5.~~4. Section 09 30 10 – Tactile Tile

1
Revised
4-2-24

1.03 REFERENCES

A. Precast and Prestressed Concrete Institute PCI MNL 117 – Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products.

B. Testing: In compliance with applicable provisions of Prestressed Concrete Institute PCI MNL 117– Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products.

C. Requirements for regulatory agencies: All local codes plus the following specifications, standards and codes are a part of these specifications:

1. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.
2. ACI 318 – Building Code Requirements for Reinforced Concrete.
3. AWS D1.1 – Structural Welding Code.
4. ASTM Specifications as referenced in Part 2 – Products of this Specification.
5. Chicago Building Code.

D. American National Standards Institute. (ANSI)

1. ANSI B 101.1 – Test Method for Measuring Wet Static Coefficient of Friction of Common Hard-Surface Floor Materials.
2. ANSI B 101.3 – Test Method for Measuring Wet Dynamic Coefficient of Friction of Common Hard-Surface Floor Materials.
3. ANSI A 326.3 – American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.

E. ASTM E 303 – Standard Test Method for Measuring Surface Functional Properties Using the British Pendulum Tester.

1.04 PERFORMANCE REQUIREMENTS

A. Concrete platform walking surface test on samples of concrete platform with specified finish for the project.

1. Slip resistance: Test each concrete surface finish to be used for walking surfaces. Slip resistance tests must be performed by a qualified independent testing agency approved by the Authority and the tests to be done according to ANSI B 101.3, Test Method for Measuring Wet DCOF (Dynamic Coefficient of Friction) of Common Hard Surface Floor Materials using the BOT-3000E digital tribometer measuring device and/or according to ASTM E303 using the British pendulum tester. The test device and method to be as selected by and approved by the Authority.

1.05 PRECAST FABRICATOR, MATERIAL TESTING AND INSPECTION

A. Precast fabricator shall be on the IDOT "Certified Precast Concrete Producer" list and qualified to produce the precast item designated by the appropriate Products Key detailed at the bottom of the IDOT approved list.

B. All material inspection and testing shall be according to SSRBC Section 1042, and the IDOT Bureau of Materials Policy Memorandum "Quality Control / Quality Assurance Program for Precast Concrete Products".

1

~~1.05~~1.06 SUBMITTALS

Revised 4-2-24

A. Submit, in accordance with Section 01 33 00, Submittal Procedures, shop drawings, product data and samples as required below:

1. Erection Shop Drawings shall include:

a. Plans and/or elevations locating and defining all material to be furnished by the manufacturer.
b. Sections and details showing connections, cast-in items and their relationship to the structure.
c. Description of all loose, cast-in and field hardware.
d. Field installation and/or location drawings.
e. Erection sequences and handling requirements.
f. All dead, live and other applicable loads used in the design.

2. Production drawings shall include:

a. Elevation view of each member.
b. Sections and details indicating quantities and position of reinforcing steel, anchors, inserts, etc.
c. Erection and lifting inserts.
d. Dimensions and finishes.
e. Prestress for strand and concrete strengths.
f. Estimated Cambers.
g. Method of transportation.
h. Edge options.
i. Expansion joint details and materials.
j. Detail for tactile tiles.
k. Detail for edges between panels including backer rod and sealant.
l. Reinforcement layout, dimensions and spacings.
m. Form sizes, layout, details, type, inserts and projections.

3. Product Data:

a. The Contractor shall submit design calculations that indicate conformance with the following design requirements:

1) Initial handling and erection stresses.
2) 25 psf wind load, acting either inward or outward.
3) All other loads specified for member where they are applicable.

b. Provide product data and specifications for the concrete mix design and any additives.
c. Provide product data and specifications for reinforcing and any inserts.
d. Provide concrete pour requirements including environmental conditions and concrete curing requirements.
e. Provide product data, specifications and installation instructions for expansion joint system including cover, backer rod, sealant and other accessories.
f. Provide product data, specifications and installation instructions for concrete sealer.
g. Provide product data, specifications and installation instructions for sealant and backer rod to be used at joints between panels.

4. Design calculations of products not completed on the contract drawings shall be performed by a Licensed Structural Engineer in the State of Illinois, experienced in precast prestressed concrete design and submitted for approval upon request.

5. Samples:

a. Prior to fabrication of all the units, the Contractor shall provide a minimum of ten samples of precast concrete material as specified herein to determine an acceptable range of color and texture for the completed installed precast concrete platform deck, including the walking surface finish.

6. Mock ups:

a. Cast and finish two (2) four foot square (2 foot X 2 foot) panel samples to be reviewed and approved by the Authority. Casting and finishing methods shall be the same as those to be used for the actual platform deck panels.
b. Provide mock-up of expansion joint.
c. Provide mock-up of joint between panels with sealant and backer rod.
d. Include detail for tactile tiles.
e. Provide mock-up of any optional edge details.
f. Provide sample finish for precast concrete walking surface.

B. Test reports:

1. Reports of tests on concrete and other materials.
2. Test report for coefficient of friction for precast concrete walking surface.

C. Concrete Sealer: Provide product data, specifications and installation instructions for concrete sealer.

D. Provide specifications, installation instructions and manufacturer's recommendations for sealant, backer rod and expansion joint materials.

E. Certifications: Submit copies of current certifications in good standing from PCI for both the proposed fabricator of the precast concrete panels and the proposed erector of the precast concrete panels for the Authority's verification and approval prior to contracting with the respective subcontractor.

F. Expansion Joint Cover Installer: Provide certification from manufacturer of expansion joint system stating that installer of the system is approved to install the manufacturer's system.

G. Sealant Installer: Provide certification from manufacturer of sealant stating that installer of sealant is approved to install the manufacturer's sealant.

~~1.06~~1.07 ~~QUALITY ASSURANCE~~

A. Acceptable Manufacturers: A Company specializing in providing precast concrete products and services associated with the industry for at least five years and compliant with the requirements of Part 1.05 of this specification. Written evidence shall be submitted documenting experience and plant adequacy to fulfill the contract requirements. Precaster must be PCI certified.

1

Revised 4-2-24

B. Installer qualifications: An authorized representative who is trained and approved by the manufacturer.

1. Installer of the panels shall be regularly engaged for at least five years in the erection of precast structural concrete products similar to the requirements of this contract. Erector must be PCI certified.
2. Installer of the expansion joint cover assembly and the installer of the sealant and backer rod at joints between panels must be experienced in the installation of their respective systems and must be approved by the respective manufacturers for proper installation of the materials.

~~1.07~~1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery and Handling: Precast members shall be lifted and supported only at lifting or supporting points, or both, and with the approved lifting devices during manufacturing, stockpiling, transporting and erecting operations. All lifting devices shall have a minimum safety factor of 4.

B. Storage:

1. Minimize on-site storage of stockpiled materials.
2. Store all units off ground.
3. Place stored units so that identification marks are discernable.
4. Separate stacked members by battens across full width of each bearing point.
5. Stack so that lifting devices are accessible and undamaged.
6. Do not use upper member of stacked tier as storage area for shorter member or heavy equipment.

~~1.08~~1.09 COORDINATION

A. Coordinate work of this section with other subcontractors to verify required dimensions and locations including for inserts, anchors, anchor bolts, plates, conduit, and other items to be embedded in the concrete or installed with the concrete.

B. Coordinate the delivery of embedded items or items to be installed with the precast concrete so as to avoid delays to the installation of the new work.

~~1.09~~1.10 WARRANTY

A. Concrete Precast Platform Panels: Furnish a twenty year from date of final acceptance written warranty in form stipulated by the Authority, signed by the Contractor, agreeing to repair or replace work which has failed in resistance to abrasion, weather, discoloration or otherwise failed as a result in materials or workmanship. Failure includes deflection of the panels, cracking of the concrete and spalling at the concrete surface. Upon notice of such defects, within the warranty period, make necessary repairs or replacement as approved by the Authority and at no cost to the Authority.

~~B.~~ Expansion Joint Assemblies: Furnish a one year from date of final acceptance written warranty in form stipulated by the Authority, signed by the manufacturer and installer of the expansion joint assembly, agreeing to repair or replace work which has failed to provide airtight or watertight joints, failed in resistance to abrasion and weather or otherwise failed as a result in materials or

workmanship. Failures also include degradation of the finish, dislodging of the components, bending, denting, cracking and its attachment to the substrate failing or loosening. If applicable, the warranty shall also cover the elastomeric parts of the assembly. The manufacturer and

~~C.~~B. installer shall repair or replace the expansion joint cover assembly to the Authority's satisfaction and at no cost to the Authority.

~~D.~~C. Joint Sealant: Furnish a five year from date of final acceptance written warranty in form stipulated by the Authority, signed by the Contractor, Sealant Manufacturer and Sealant Installer; agreeing to repair or replace work which has failed to provide airtight or watertight joints, failed in adhesion or cohesion, failed in resistance to abrasion, weather, extrusion, migration, staining or otherwise failed as a result in materials or workmanship. Upon notice of such defects, within the warranty period, make necessary repairs or replacement as approved by the Authority and at no cost to the Authority.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Portland Cement: ASTM C150, domestic brand, Type 1, normal Portland Cement or ASTM C595, domestic brand, Type 1L Portland Cement.

B. Type III high early-strength Portland Cement may be used subject to approval of the Authority. All provisions of the specifications shall apply except that the 7 day compressive strength shall equal the 28 day strength required for normal concrete.

1 Revised 4-2-24

C. The same brand of Portland Cement shall be used for exposed concrete throughout the project unless approved otherwise in writing by the Authority. Air entraining cement is not acceptable.

D. Coarse Aggregate: ASTM C33.

E. Fine Aggregate: ASTM C33.

F. Water Reducing admixture: ASTM C494, Type A, "Pozzolith 322N" (Master Builders Co.) "WRDA" (W.R. Grace & Co.) or "Plastocrete 161" (Sika Chemical Corp.), or approved equal.

G. Fly Ash: Should be used conforming to Section 1010 and Article 1020.05 of the IDOT Standard Specifications.

H. Calcium Chloride: Shall not be used.

I. Water: Should be potable.

J. Reinforcing Steel: Shall be in accordance with Section 03 20 10, Concrete Reinforcement Epoxy Coated.

K. Strand: Uncoated 7-wire, Stress-Relieved Strand: ASTM A416 – Grade 270K.

L. Anchors and Inserts:

1. Materials:

   a. Structural Steel: ASTM A36.
   b. Malleable Irons: ASTM A47.
   c. Stainless Steel: ASTM A666.

2. Finish: Hot-Dipped Galvanized: ASTM A153.

M. Grout: Shall be non-metallic, non-gaseous, non-shrink type in accordance with ASTM C1107 and GRD-C 621, Corps of Engineers specification for non-shrink grout. Compressive strength of

grout shall be a minimum of 7500 psi in accordance with ASTM C109. Duragrout (L&M Construction Chemical), NS Grout (Euclid) or set grout (Master Builders Co.)

N. Expansion Joint Cover Assemblies: See Specification Section 07 95 13.

O. Joint Sealers: See Specification Section 07 90 00.

2.02 CONCRETE MIXES

A. 28-day compressive strength: Minimum of 6000 psi.

B. Release strength: Minimum of 5000 psi.

C. Use of calcium chloride, chloride ions or other salts will not be permitted.

D. Maximum concrete slump shall be 3 inches.

E. Air Entrainment Admixtures shall conform to ASTM C260 and all other admixtures shall conform to ASTM C494, and be approved by the Authority.

1
Revised
4-2-24

2.03 FABRICATION

A. Manufacturing procedures shall be in accordance with PCI MNL-117 and as necessary to fulfill the requirements specified herein.

B. Dimensional Tolerances of Finished Units: Comply with PCI MNL-117. Overall height and width measured at face adjacent to mold at time of casting:

1. 10 feet or under: plus or minus 1/8 inch.
2. 10 feet to 20 feet: plus 1/8 inch and minus 3/16 inch.
3. Out of square (difference in length of two diagonal measurements): 1/8 inch per 10 feet.
4. Thickness: plus or minus 1/8 inch.
5. Tolerances of other dimensions not otherwise indicated: plus or minus 1/16 inch per 10 feet.

C. Slope or Bow: Provide camber as required to allow panels to lay flat after installation compensating for deflection and depending upon actual span and loading. Provide any slope at top surface of panels shown on drawings for drainage in direction of drainage.

D. Position Tolerances: For cast-in items measured from datum line locations as shown on shop drawings.

1. Anchors and inserts: within 3/8 inch of centerline location.
2. Blackouts and reinforcements: within ¼ inch of position shown on the shop drawings.
3. Bearing Plates: within ¼ inch transverse (measured perpendicular to platform stringers) and 3/8 inch longitudinal (measured parallel to platform stringers) of position shown on the shop drawings.

E. Fabrication:

1. Fabricate units, smooth, and true to line, size and shape, with exposed edges and precise and square corners, unless otherwise indicated. Provide notches or box-outs in the precast concrete platform panels as required for the installation of the expansion joint systems according to recommendations and dimensions supplied by the expansion joint system manufacturer.
2. The finished surface shall be even in texture and uniform in color. Pointing or patching surfaces, lines or corners shall not be permitted. Precast units which are warped, cracked, broken, spalled, stained, badly formed, have surface imperfections or are otherwise defective will not be accepted.

F. Built-in Items: Provide slots, holes and other precast accessories in units to receive attachments and other similar work as indicated below and as required by the Drawings.

1. Provide stainless steel or galvanized steel inserts and sleeves cast into units for attachment of loose hardware, connection of structural members or installation of miscellaneous components.
2. Provide ASTM A36 steel bearing plates with welded studs cast into units for field attachment of the Precast Concrete Platform to the supporting members.

G. Anchorages: Provide loose stainless steel, galvanized steel or primed steel items such as plates, shims, clip angles, seat angles, anchors, dowels, clamps, hangers and other miscellaneous steel shapes not provided by other trades, as necessary to secure precast unit to supporting and adjacent members as required by the drawings.

H. The color and surface texture of the precast concrete platform shall be similar for the entire project. All panels for the station shall be supplied by the same precast manufacturer.

I. Finishes:

1. Exposed Walking Surfaces:

a. Precast concrete platform walking surface shall be aggressively sandblasted in the factory in accordance with PCI's "Heavy Blasting" and to match the sample approved by the Authority.
b. Slip Resistance: Concrete platform walking surface finish to have a minimum value of 0.42 DCOF (Dynamic Coefficient of Friction) measured with the BOT-3000E and using a 0.05% SLS water solution per the specified test method.

2. Non-walkable Surfaces: Result of casting against approved steel forms. Normal color variations permitted. Minor indentations, minor chips and spalls will not be permitted. No major imperfections, honeycombing or other defects will be permitted.
3. Exposed Vertical Ends: Strands shall be recessed and the corners of the members shall have ¾ inch chamfers as shown on the Drawings.

J. Openings: The manufacturer shall provide additional reinforcing for those openings 10 inches round or square or larger as shown on the drawings. The Contractor shall be responsible for providing and coordinating all openings necessary for all systems. Openings not shown to be provided in the casting process shall be field located and drilled or cut by the trade after the precast products have been erected.

K. Edge Recess: The manufacturer shall control the depth of the tactile edge strip recess as required to conform to tolerance requirements for finish installation.

L. Patching: Patching is not acceptable without the prior approval of the authority. In no case shall the Contractor install patching that compromises the structural performance or appearance of the installed product.

M. Fasteners: The manufacturer shall cast in structural inserts, bolts and plates as detailed or required by the drawings.

2.04 DECK JOINTS

A. Expansion Joints: The Contractor shall provide expansion joints between adjacent precast concrete platform panels and at locations shown on the drawings. The installed precast concrete platform or the installed expansion joint system shall not bridge or impede the expansion or contraction movements of the structural framing members.

1. See Section 07 95 13, Expansion Joint Cover Assemblies, for details and sizes, including

installation details and requirements, for expansion joints at concrete panels.

2. Verify sizes and details for block out or recess as required for flush installation of the actual expansion joint cover assembly submitted and approved by the Authority for this project.
3. Provide all required materials and accessories to insure a complete installation.

B. Control Joints: The Contractor shall provide all materials and accessories required for the installation of sealed control joints as detailed on the Drawings. Provide scored joints if indicated on the Drawings; at locations shown on the Drawings. Size to match actual joints between panels.

C. Joints between panels shall have a design width of 3/8". Provide a backer rod and sealant at joints between panels. Sealant shall be continuous and joint shall be water proof. Sealant shall be installed strictly in accordance with sealant and backer rod manufacturer's recommendations and instructions for conditions for installation, preparation of the materials, installation, depth of sealant in relation to width of joint and curing. See sealant specification section.

1. Recommended Sealants for Joints between Precast Concrete Platform Panels:

   a. Flexprene PSI-952 One-Part Self-leveling Urethane Sealant as manufactured by Polymeric Systems, Inc.
   b. MasterSeal SL 100 as manufactured by BASF Corporation.
   c. Approved equal.

2.05 TACTILE TILE

A. The manufacturer of the Precast Concrete Platform shall coordinate with the Tactile Tile supplier and installer to obtain the final tile dimensions and any other special conditions required by the Tactile Tile supplier for a successful installation of the tile.

B. The Tactile Tile shall conform to the requirements of the specification Section 09 30 10, Tactile Tile.

2.06 CONCRETE COATING

A. The Precast Concrete Platform shall be sealed with a clear, water-based penetrating sealer for protection against water, chloride ions and stains. Sealer to be VOC complaint and abrasion-resistant. Sealer to be "Enviroseal 20" as manufactured by Harris Specialty Chemicals, or approved equal.

PART 3 – EXECUTION

3.01 FABRICATION

A. Construction methods and testing shall be in accordance ~~with the applicable provisions of the specification Section 03 30 00, Cast-In-Place Concrete, and~~ with Section 504, Precast Concrete Structures of the Standard Specifications unless otherwise specified herein.

1. Precast concrete platform panels to be of dimensions and thickness as shown on Drawings and approved shop drawings.
2. Provide cut out for canopy columns and other construction. Size and location as shown on approved shop drawings. Depress surfaces as shown and detailed on the Drawings.
3. Provide block out or recess as required for flush installation of expansion joint cover assembly for those panels at either side of an expansion joint.

1 Revised 4-2-24

3.02 ARCHITECTURAL SURFACE TEXTURE

A. The architectural surface texture and finish of all precast members, including the walking surface, shall match the surface and texture of the approved test panels specified herein.

3.03 CURING

A. The Precast Concrete Platform panels shall be kept in their casting position until they are cured sufficiently to meet the handling stresses during installation. Cracked, spalled, chipped, bowed or damaged panels shall be replaced at the Contractor's own expense.

3.04 ERECTION

A. Preparation: The General Contractor shall be responsible for:

1. Providing true, level bearing surfaces on all field placed bearing walls and other field placed supporting members.
2. The placement and accurate alignment of anchor bolts, plates, stringers, required shim plates and other field placed supporting members. Coordinate with precast supplier.

B. Precast panel supplier shall inspect and approve support structure for precast panels. Verify dimensions and location and size of openings. Any discrepancies between approved shop drawings and actual installation shall be resolved prior to installation of the panels.

C. Installation: Installation of the precast concrete platform panels shall be performed by a competent erector approved by the manufacturer. Members shall be lifted by means of suitable lifting devices at points provided by the manufacturer. Temporary shoring and bracing, if necessary, shall comply with the manufacturer's recommendations.

D. Alignment: Precast Concrete Platform members must be properly aligned and leveled as required by the drawings and approved shop drawings. Variations between adjacent members must be within the tolerances specified in PCI MNL-117.

1. The edge of the platform from the centerline of the track and the height of the platform from the top of rail must be as shown on the drawings. These dimensions must be strictly and consistently maintained as they are critical to the gap between the platform and the train and to the vertical alignment with the train.

E. Panels shall create a continuous flush walking surface for the platform. There shall be no tripping hazard at the joints between panels. Panels that are excessively bowed or otherwise compromised in their dimensional tolerances shall not be used.

3.05 JOINTS BETWEEN PANELS

A. Joints between adjacent precast concrete panels shall be filled with backer rod and sealant as shown on the drawings.

B. The Contractor shall adjust the panels prior to the connection of the panels to the steel platform stringers such that the control joint tolerances are maintained.

C. Joints between panels shall have a backer rod and sealant installed. Sealant shall be continuous and joint shall be water proof. Sealant shall be installed strictly in accordance with sealant and backer rod manufacturer's recommendations and instructions for conditions for installation, preparation of the materials, installation, depth of sealant in relation to width of joint and curing. See sealant specification section.

3.06 EXPANSION JOINTS

A. Install expansion joints between adjacent precast concrete platform panels at all locations shown on the Drawings. Install expansion joints between panels set at clearances with the manufacturer's installation requirements to provide for a watertight seal.

B. The precast concrete platform panels shall be installed such that the expansion joint measurements (face to face of panel edges) match the clear dimensions shown on the Drawings, adjusted for temperature, and to the tolerances required by the expansion joint manufacturer. Contractor shall adjust the panels prior to the connection of the panels to the steel platform stringers such that the expansion joint tolerances are maintained.

3.07 FIELD WELDING

A. Field welding of the platform panel bearing plate to the steel stringer is to be performed by a qualified welder using equipment and materials compatible to the base material.

3.08 ATTACHMENTS AND PENETRATIONS

A. Subject to the approval of the Authority, precast concrete platform panels may be drilled or “shot” provided that no contact is made with the reinforcement bars. Should spalling occur, it shall be repaired by the Contractor to the satisfaction of the Authority or the panel shall be replaced.

3.09 TOLERANCES

A. The precast concrete platform deck shall be fabricated and erected such that when assembled the joints between panels shall be 3/8 inch in width within the tolerance of plus or minus 1/16 inch.

B. The precast concrete platform decks shall be fabricated and erected such that when assembled the inner edge of the platform, adjacent to the track, shall be in perfect alignment. The outer edge of the precast platform deck shall be in alignment, however, a deviation of plus or minus 1/8 inch at this location will be acceptable.

3.10 PLACEMENT

A. Placement of the precast concrete platform shall be coordinated with adjacent elements of construction to assure proper installation, bearing and conformance with the requirements for tolerances.

3.11 INSPECTION

A. The precast concrete platform will be shop and field inspected by the Authority. Units with spalled or cracked concrete will be rejected. Bowed or dimensionally incorrect panels will be rejected. Visible chips larger than 1/8 inch deep, ½ inch wide and ¾ inch long will be rejected. All panels with such spalling, cracks, chips, other surface defects, bowing, dimensional irregularities or other defects not meeting the approval of the Authority shall be replaced by the Contractor, at the direction of the Authority and at no expense to the Authority and no delay to the completion of the work.

3.12 CONCRETE COATING

A. The Concrete Sealer shall be applied in the field after the Precast Concrete Platform has been installed and according to the sealer manufacturer’s directions and recommendations. Sealer shall not reduce the coefficient of friction of the walking surface of the panels.

PART 4 – MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of PRECAST CONCRETE PLATFORM shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the work of PRECAST CONCRETE PLATFORM shall be included in the contract lump sum price as shown in the Schedule of Prices for STRUCTURAL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. Structural Work: 030000

END OF SECTION

ATTACHMENT LL

SECTION 31 23 13

SUBGRADE PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section specifies requirements for subgrade preparation. The work under this Section will include furnishing all labor, materials, tools, and equipment required for the preparation of subgrade under roadway pavements, sidewalks and curb and gutters.

B. Except as modified herein, the work must conform to the applicable portions of the Standard Specifications, Sections 212, 301, 420, 424, and 606.

C. Related Sections: Related work specified, measured, and paid for elsewhere includes:

1. Section 32 11 16: Sub-Base Granular Material, Type B
2. Section 31 20 00: Earth Moving
3. Section 32 13 13: Concrete Pavement
4. ~~3.~~ Section 32 16 21: Concrete Curbs, Gutters and Walks
5. ~~4.~~ Section 32 16 23: Portland Cement Concrete Sidewalk~~, 5-Inch~~

1
Revised
4-2-24

1.03 REFERENCES

A. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022 or latest edition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SUBGRADE PREPARATION

A. Conform to IDOT Standard Specifications for Road and Bridge Construction.

B. Refer to Section 312000 – Earth Moving

4.01 MEASUREMENT

A. The Work of SUBGRADE PREPARATION will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of SUBGRADE PREPARATION will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 31 23 13

ATTACHMENT MM

SECTION 31 64 00

DRILLED SHAFTS

1 Revised: March 22, 2024

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this section.

1 B. Except as modified herein, the work shall conform to the applicable portions of the IDOT Guide Bridge Special Provision 86 – Drilled Shafts, and the IDOT Standard Specifications. ~~Section 516.~~

C. CSL testing of drilled shafts shall conform to the applicable portions of the IDOT Guide Bridge Special Provision 91 – Crosshole Sonic Logging Testing of Drilled Shafts.

1.02 SUMMARY

A. This section specifies requirements for constructing drilled shafts foundation system. The work under this Section shall include furnishing all labor, material, tools, equipment and incidentals necessary to construct drilled shafts, including the excavation and disposal of all material encountered, both wet and dry, by machine drilling methods to the elevations and diameters as shown on the drawings or as determined by the Authority; the furnishing and installation of steel casings and liners, and the removal or grouting in place of same; the use of bentonite slurry to prevent caving, and the disposal of same; the pumping, bailing, removal and disposal of water and mud from the excavations; the removing of any abandoned utilities, wooden pilings, or other obstructions encountered; assisting the Authority in arriving at the final elevations and bell diameters; the furnishing and placing of concrete, reinforcement and attachment dowel rods in the shaft excavation; and all other related and collateral work necessary to construct the drilled shafts.

B. Related Sections: The following sections contain requirements that relate to this section.

1. Section 02 16 10 – Monitoring Adjacent Structures During Construction Activity
2. Section 03 20 10 – Concrete Reinforcement Epoxy Coated
3. Section 03 30 00 – Cast-in-Place Concrete
4. Section 31 20 00 – Earth Moving

1.03 QUALITY ASSURANCE

1 A. Drilled shafts shall be installed by a Contractor or Subcontractor who specializes in such work as specified in the IDOT Guide Bridge Special Provision 86 – Drilled Shafts. ~~Standard Specifications Section 516.~~

B. Do not install buckled, distorted, or otherwise damaged casings. Replace casings damaged during construction, casings that are not watertight, or casings that are otherwise not in accordance with the drawings or specifications, at no addition cost to the Authority.

1.04 SUBMITTALS

A. Forty-five (45) days prior to beginning any construction, the Contractor shall submit design calculations for the steel casing and permanent corrugated metal liner to be used and the proposed procedure for the installation of all drilled shafts on the project to the Authority. The calculation and plans shall be signed and sealed by an Illinois licensed Structural Engineer. The Contractor's procedures shall at all times be subject to the Authority's approval. The contractor’s

process plan shall at a minimum include the following:

1. Permanent and temporary casing and liner installation methods.
2. Drawing of Permanent and temporary casing and liner and elevations relative to soil strata elevations from soil borings.
3. Concrete pouring methods.
4. Water mitigation plan.
5. Equipment to be used and their load charts.
6. Staging of equipment and materials.
7. Independent testing lab testing procedures determining bearing capacity for both cohesive and granular subgrade soils.
8. Temporary casing grouting and extracting methods.
9. All other requirements as noted in the general requirements
10. A letter from the Contractor's Inspector, as noted in 3.09, confirming that they agree with construction methods.

B. The Contractor shall submit to the Authority the concrete mix design, reinforcement material and reinforcement shop drawings for the drilled shaft construction.

C. The Contractor shall maintain an excavation log during shaft excavation that includes the following and submit to the Authority:

1. Description and approximate top and bottom elevation of each soil or rock material encountered during shaft excavation.
2. Elevations at which seepage or groundwater flow are encountered, and remarks.
3. Changes in the type of tools used for excavation, if any.

D. The Contractor shall submit test reports from an Authority approved testing service for bearing capacity to the Authority.

E. The Contractor shall submit to the Authority the disposal location and proof of proper authority to dispose of excavated material for the drilled shaft construction.

F. The Contractor shall submit a copy of the gas test log kept during drilled shaft work to the Authority.

1 G. The Contractor shall submit a drilled shaft report for each drilled shaft to the Authority showing that the construction tolerances as indicated herein and in the IDOT Guide Bridge Special Provision 86 – Drilled Shafts, ~~Standard Specifications Section 516~~ have been met.

1.05 SPECIAL REQUIREMENTS

A. The elevations shown on the Drawings for the bottoms of the drilled shafts are approximate and may be raised or lowered as directed by the Authority to obtain satisfactory bearing pressure. This may require additional reinforcing steel, casings and liners, or it may require cutting of reinforcing steel. No separate payment will be made for this work if the bottoms of the drilled shafts are lowered within 5 feet. Any addition over 5 feet will be considered as an extra to the Contract. Contactor's field inspector shall retain all boring log documents and refer to the nearby borings to determine the potential soil conditions near the proposed drilled shaft locations. If competent soils that meet the required allowable design bearing pressure specified in the Drawings are encountered during the excavation process above the design elevation and after review of the boring logs to indicate that competent soils exist below the excavated depth, the Contractor shall confirm these findings with the Authority. The Contractor may base the drilled shaft at such elevation under the Approval of the Authority. However, the bottom of drilled shaft shall be no more than one (1) drilled shaft diameter above the design elevation shown on the Plans.

B. The use of explosives will not be permitted for the construction of drilled shafts.

C. In constructing the drilled shafts, the Contractor may encounter boulders, fill, wooden pilings, foundations, abandoned utilities, and other obstructions. No separate payment will be made for removal of any such obstructions and the cost for removing any such obstructions encountered shall be included in the Contract Price if the delay is within 2 hours. Any additional delay over 2 hours will be considered as an extra to the Contract.

D. The Contractor shall be responsible for positively identifying the location and extent of all existing utilities before the start of the excavation.

E. All materials and equipment necessary to perform the work required for successful completion of any drilled shaft work in accordance with these specifications shall be on the job site of this Contract before any work may be started.

F. The Contractor shall monitor settlement of adjacent structures during drilled shaft drilling operations per Specification Section 02 16 10, Monitoring Adjacent Structures During Construction Activity.

G. Where shown on the Drawings, permanent casing shall be provided.

H. Corrugated metal liners shall be provided for all drilled shafts. Corrugated liners may be delivered in any convenient sections with sections connected in accordance with manufacturer's instructions.

I. The Contractor shall inspect the project site for overhead clearance constraints and make appropriate adjustments in the work plan to accommodate any constraints.

PART 2 – PRODUCTS

2.01 CONCRETE

A. Concrete shall conform to Section 03 30 00, Cast-in-Place Concrete.

2.02 REINFORCEMENT BARS

A. Material for the reinforcement bars, Grade 60, shall conform to the requirements of Section 03 20 10, Concrete Reinforcement Epoxy Coated, or as modified herein. Reinforcement bars in the drilled shaft may be plain bars except bars from the drilled shaft to the pedestal shall be epoxy. Vertical reinforcement shall be full length of the drilled shafts as shown on the Drawings. If the bottoms of the drilled shafts are lowered, as directed by the Authority, additional reinforcement bars shall be added. The vertical reinforcement up to and including No. 11 bars may be extended by lapping or spliced with Class A tension splice. The cost of adding additional reinforcement will not be paid for separately if the bottom of the drilled shaft is lowered within 5 feet. Any addition over 5 feet will be considered as an extra to the Contract. In the event of over drill, the bottom of the reinforcement shall be no more than one shaft diameter of the drilled shaft above the bottom of the drilled shaft, but no more than 3 feet in any case.

2.03 TEMPORARY AND PERMANENT STEEL CASINGS

A. Temporary and permanent steel casings shall conform to the requirements of ASTM A 252 Grade 2, produced by electric seam, butt, or spiral welding.

2.04 PERMANENT CORRUGATED METAL LINERS

A. Corrugated metal liners shall conform to the requirements of ASTM A929.

PART 3 – EXECUTION

3.01 GENERAL CONSTRUCTION REQUIREMENTS

A. Each drilled shaft shall be constructed at the location shown on the Drawings or as directed by the Authority. The maximum allowable variation of the center at the top of any drilled shaft from required location shall not be greater than 2 inches. Any deviation greater than herein specified shall be corrected by the Contractor at no additional cost to the Authority.

B. The drilled shafts shall be plumb. Any deviation from the vertical at the bottom of the drilled shaft shall not exceed 1 percent of the drilled shaft length or 3 inches, whichever is the smaller value. Any deviation from the vertical greater than herein specified shall be corrected by the Contractor at no additional cost to the Authority before any reinforcement steel and concrete are placed.

C. No drilled shaft excavation shall be made in embankment material in an uncased condition.

D. The drilled shafts shall be excavated to the lines and limits shown on the Drawings or as directed by the Authority. Any unauthorized excavation made outside the established lines and limits shall be filled with concrete and abandoned at no additional cost to the Authority for either the unauthorized excavation or the concrete.

E. The bottoms of the drilled shafts shall be cut to a level firm surface, cleaned of any soft, loose or extraneous materials and maintained dry for inspection purposes and for the placing of reinforcement steel and concrete. Concrete shall not be placed in any excavation until the bottom has been inspected by an independent approved testing agency approved by the Authority and certified as being satisfactory for carrying the design loads. Testing shall be included in the Contractor’s bid price.

F. Once the excavation has started for any drilled shaft, the work of that drilled shaft shall be carried on continuously, 24 hours a day, including Saturdays, Sundays and Holidays, until the drilled shaft has been completed all at no additional cost to the Authority. If at any time, work on any drilled shaft is not continuous for any reason not approved by the Authority, any and all casings which have been installed in the drilled shaft for any reason shall be left in place and backgrouted immediately at the Contractor's expense.

G. Any drilled shaft found to be deficient and unsuitable shall be repaired or replaced in a manner satisfactory to the Authority at the Contractor's expense.

H. Excavated material shall be considered surplus and shall be removed and disposed of by the Contractor at the Contractor’s expense. The manner and location of disposal shall be determined by the Contractor and shall be subject to the approval of the Authority. The Contractor shall furnish to the Authority satisfactory evidence that he has proper authority for the disposal (See Section 31 20 00 – Earth Moving).

I. Drilled shafts shall be checked for eccentricity by the Contractor at the top and bottom prior to the placement of the reinforcement steel and concrete. Concrete shall not be placed until each excavation has been approved by the Authority or their appointed designee.

3.02 TEMPORARY CASINGS

A. The Contractor shall install a temporary steel casing at each drilled shaft location that extends from ground surface into sufficiently stable soils to prevent caving of soil into the excavation. The casing shall be of ample strength to withstand handling stresses, the pressure of the surrounding soil materials, and shall be water tight. The inside diameter of the steel casing used for this purpose shall be greater than the nominal diameter of the drilled shaft as shown on the drawings, and the wall thickness, diameter and length shall be approved by the Authority.

B. If additional casings are not required to prevent caving, the drilled shafts may be drilled without the use of additional casings. However, after drilling is completed, the Contractor shall install casings for the protection of personnel working in the drilled shafts or for use during the placement of reinforcement steel and concrete, if necessary. Whenever personnel are required to enter the drilled shaft, temporary protective casings shall be used and there shall be

adequate provisions for fresh air, light and protection from falling objects and toxic gases. Operation of harmful gas-producing equipment in the drilled shaft shall be prohibited.

C. When casing is to be removed during placement of grout or lean concrete, the lower end of the casing shall be at least 5 feet below the top surface of the concrete to insure that the concrete will have sufficient pressure at the bottom of the casing to prevent any earth from coming in from the sides and mixing with the concrete or reducing the diameter of the drilled shaft and to insure that the concrete will be pressed tightly against the earth.

D. Furthermore, if in the opinion of the Authority, the removal of temporary casings will endanger the excavation or the concrete or existing adjacent structures, or methane or other explosive or noxious gases are encountered, the entire temporary casing, or some portion thereof, shall be left in place. If this is the case, the annular space between the casing and the surrounding soil shall be pressure grouted or filled by a method approved by the Authority.

3.03 PERMANENT CASINGS

A. The Contractor shall install permanent casings where called for on the Drawings. Generally speaking, permanent casings are to be provided by the contractor when near adjacent tracks, properties, sidewalks, streets, utilities, shallow foundations, both temporary and permanent. If permanent casings are not called for on the Drawings, the Contractor shall determine if the proposed drilled shafts require permanent casings by assuming an influence envelope at a 1:1 slope from the top of the first clay layer to the bottom of an existing foundation, utility elevation, or bottom of track ties; if an existing foundation, major utility, or tracks falls within this envelope, the proposed drilled shaft shall be considered adjacent to an existing structure/utilities/track and permanent casings shall be provided. The casing shall extend from ground surface into sufficiently stable soils and be of ample strength to withstand handling and installation and dewatering stresses, the pressure of the surrounding soil materials, and shall be water tight. The liner shall be of ample strength to withstand handling and dewatering stresses, the pressure of the concrete, and shall be watertight.

B. The minimum wall thickness for the permanent casing shall be as required to resist the stresses, as determined by the Contractor, but shall be a minimum of ¼" thick or 0.0075 of the diameter of the drilled shaft, whichever is larger.

C. The wall thickness, diameter and length shall be approved by the Authority.

3.04 CONCRETE REINFORCEMENT

A. Reinforcement shall be installed as shown on the Drawings. The Contractor shall provide suitable supports or spacers for holding and aligning the reinforcement away from the walls of the drilled shaft excavation, so as to keep the reinforcement securely in proper position during concreting operations.

3.05 WATER CONTROL

A. The Contractor shall protect all drilled shaft excavations against surface and rain water and against water which may enter from sides or bottom of the excavation. In the event that quick sand, running material, water-bearing strata, or other materials are encountered which cannot be excluded by means of conventional lagging, lining or casing, the Contractor shall perform such work as necessary to seal off such material in a manner approved by the Authority at no additional cost to Authority.

B. Pumping of water is allowed and shall be limited to a total of approximately 900 gallons. Pumping of the water shall follow the requirements of Section 3.05 (C) and (D). Extreme caution shall be used to prevent an unbalanced water head from causing a "blowout", bottom heave, or "quick" condition that could disturb the proposed bearing stratum or surrounding soil strata. If the water to be pumped exceeds the stipulated 900 gallons and the standing water elevation is 6 inches above the bottom of the drilled shaft, concrete shall be placed under water using the

tremie method. The tremie pipe shall always be kept well below the water/concrete interface during concreting. The tremie pipe and hopper connections shall be watertight and in clean condition to permit free flow of the concrete.

C. When pumping, the Contractor shall provide a settling basin system which is capable of removing approximately 90% of the sediments. All pumping shall flow through the system prior to being disposed of into the sewer systems. The Contractor shall provide and operate all equipment necessary to pump and remove all water that may be encountered in the construction of the drilled shafts. No additional payment will be made for installing and operating the pumping and settling basin systems and equipment.

D. Immediately after the excavation has passed inspection and the installation of the reinforcement steel has been approved by the Authority or their appointed designee, any pumping of water from the excavation shall be stopped. If the flow of water into the excavation has stopped or is slight enough in the opinion of the Authority that no damage will be done to the concrete, the excavation shall be filled with concrete following the method described in concrete placement for dry excavation.

E. If in the opinion of the Authority the flow of water is considerable, the water shall be allowed to flow freely into the excavation. When the water level has ceased to rise, concrete shall be placed in the excavation by use of the tremie method.

F. Where water cannot be removed from drilled shaft excavation and water is permitted to rise in the drilled shaft and concrete is placed under water, the Contractor shall perform either core borings or other accepted method of exploration satisfactory to the Authority to insure that a satisfactory drilled shaft has been constructed. To insure that a satisfactory drilled shaft will be constructed the drilled soil shall be tested immediately upon removal as it approaches the bottom of drilled shaft elevation indicated in the Plans. Tests performed on soil that have been sitting under water for an extended period of time (> 30 min) are not allowed and shall not be deemed valid.

3.06 CONCRETE PLACEMENT FOR DRY EXCAVATION

1

A. Concrete shall be deposited in accordance with Articles 503.07 and 516.06 (a) of the IDOT Guide Bridge Special Provision 86 – Drilled Shafts. ~~Standard Specifications.~~

3.07 CONCRETE PLACEMENT TREMIE METHOD

A. Tremied concrete shall be placed in accordance with Articles 503.07 and 503.08 of the IDOT Standard Specifications, except as modified herein.

B. The bottom of the tremie shall extend to within a foot of the bottom of the excavation. The tremie shall be withdrawn as the concrete is placed, but the bottom of the tremie shall always be at least 2 feet below the top of the concrete. The method of placing the concrete shall be subject to the approval of the Authority at all times, and the method used shall be one that provides a continuous flow with no segregation of the concrete materials.

C. Wherever tremie concrete is necessary, casing shall not be removed. Once placing of the concrete has started, no pumping of any kind shall be allowed.

3.08 SAFETY

A. In the event that methane or other explosive or noxious gases are encountered, the Contractor shall make suitable tests for gases at each excavation at the start and end of each shift and at such other times as he deems necessary or as the Authority may direct. If the presence of a noxious or explosive gas is indicated, work shall be discontinued immediately, the Authority notified, and work shall not resume at said location until the necessary safety measures have been taken and further tests indicate the absence of any noxious or explosive gas. A log recording the location, date, time and findings of all gas tests shall be maintained by the

Contractor and copies in duplicate shall be furnished to the Authority. All such testing shall be done at the Contractor's expense.

B. The Contractor shall provide and operate an approved ventilation system for supplying fresh air and exhausting foul air and gases for the excavations. All safety equipment required by OSHA for the workmen, such as safety harnesses and gas detectors shall be on the job site at all times.

C. Suitable, safe, weather resistant, water and explosive proof electric lamps shall be provided by the Contractor for illumination of the excavation at all times.

D. The Contractor shall provide and operate an approved safety harness and protective temporary steel casings to be used in conjunction with the lowering of personnel into an excavation. A test for gas shall be made prior to lowering any personnel into the excavation. Personnel entering an excavation shall be confined space entry trained and qualified.

E. The Contractor shall provide a safety plan which includes rescue and extraction procedures.

3.09 SAMPLING AND TESTING

A. Contractor's soil testing laboratory shall conduct the following tests and inspections of drilled shaft operations, and interpret tests. Inspection shall take the form of full-time inspection of drilled shaft operations. In addition, review and comment on the construction methods, equipment, and other pertinent construction details as furnished by the Contractor. Determine if temporary liners are required for drilled shaft excavation and soil content in the pumped water from the drilled shaft excavation. Submit daily reports.

1. Review the Contractor's proposed drilled shaft installation methods, sequences, procedures and equipment.
2. On a full-time basis visually inspect the installation of each drilled shaft including visual inspection of the bottom of each drilled shaft.
3. Verify the specified bearing capacity of each drilled shaft with the following tests.

    a. Sampling and Testing: Take undisturbed sample and test utilizing unconfined compression test ASTM D2166, of bearing materials at the drilled shaft bottom for each drilled shaft.

4. Provide direction to Contractor as to specific final bearing elevation at each drilled shaft location and /or necessity for additional shaft excavation.
5. Visually inspect and test samples of water being pumped from drilled shaft as to solids content.
6. Observe, record, and report the Contractor's locational and plumb tolerance measurements, and the final elevations of the bottom and top of the completed drilled shafts.

B. Contractor's Concrete Testing Laboratory: Perform full-time inspection of drilled shaft concrete and reinforcing installation and conduct the following tests and inspections during construction.

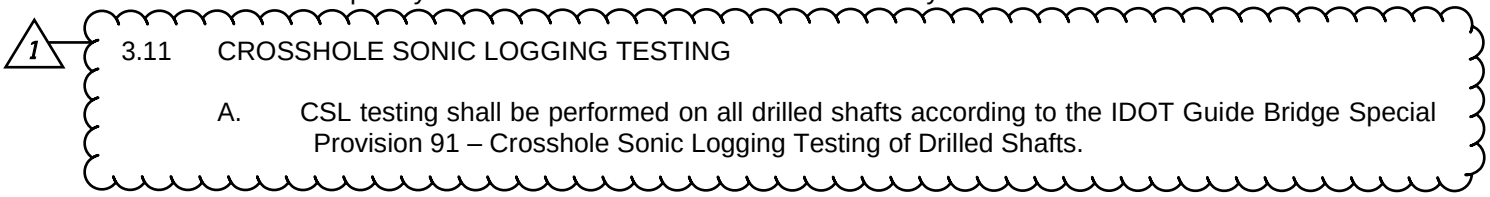
1. Inspection of Concrete and Reinforcing Placement: Provide continuous visual inspection of reinforcing site fabrication and installation, and concrete placement including verification of laitance removal at the top of the drilled shafts.
2. Compression Tests: Perform tests for each 50 cu.yd. of concrete, or fraction thereof, but not less than 1 set of cylinders for each drilled shaft. Make 4 standard 6" x 12" cylinders and test in accordance with ASTM C 31 and ASTM C 39. Test 1 cylinder at the age of 7 days and 2 cylinders at the age of 28 days. Keep 1 cylinder in reserve for 56-days test if 28 day test does not meet requirements. Only 1 set of tests shall be made from any one batch of concrete and all 4 cylinders shall be made from the same batch. All cylinders shall be cured in the laboratory. Reports of cylinder tests shall state the location of the pour in the drilled shaft, laboratory or site curing, compression

strength, type of fracture, age at testing, concrete supplier, mix specification strength and any other pertinent information, together with a statement as to whether this concrete complies with the specifications.

3. Slump Tests: ASTM C 143. Perform tests for every set of cylinders cast in accordance with Section 3.09 B (2).
4. Air Content Test: ASTM C 173. Perform tests for every set of cylinders cast in accordance with Section 3.09 B (2).

3.10 BELLS

A. Drilled shaft bells are to be excavated to the lines and limits shown on the Drawings or directed by the Authority. Any unauthorized excavation made outside the established lines and limits shall be filled with concrete at no additional cost to the Authority for either the unauthorized excavation or the concrete. The bottom of the bells shall be level and shall be cleaned immediately before concrete is poured. All mud, water, or any other loose material shall be completely removed to the satisfaction of the Authority.



3.11 CROSSHOLE SONIC LOGGING TESTING

A. CSL testing shall be performed on all drilled shafts according to the IDOT Guide Bridge Special Provision 91 – Crosshole Sonic Logging Testing of Drilled Shafts.

PART 4 – MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of DRILLED SHAFTS shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the work of DRILLED SHAFTS shall be included in the contract lump sum price as shown in the Schedule of Prices for STRUCTURAL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. Structural Work: 030000

END OF SECTION

ATTACHMENT NN

SECTION 32 11 16

SUB-BASE GRANULAR MATERIAL, TYPE B

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section specifies requirements for SUB-BASE GRANULAR MATERIAL, TYPE B. The work under this Section will include furnishing all labor, materials, tools, and equipment required to furnish, place and compact sub-base granular material, Type B on a prepared subgrade.

B. Except as modified herein, the work will conform to the applicable portions of the Standard Specifications (IDOT), Section 311, at locations shown on the Drawings and as directed by the Commissioner. C. Related Sections:

1. Section 31 23 13: Subgrade Preparation.
~~1.~~2. Section 32 13 13: Concrete Pavement
3. Section 32 16 21: Concrete Curbs, Gutters and Walks.
~~2.~~4. Section 32 16 23: Portland Cement Concrete Sidewalks

1
Revised
4-2-24

1.03 REFERENCES

A. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS:

A. The material must be coarse aggregate having a CA-6 gradation conforming to Article 1004 of the Standard Specifications except as herein modified.

PART 3 - EXECUTION

3.01 SUB-BASE GRANULAR MATERIAL

A. It is understood that a certain amount of sub-base granular material, may be displaced into the existing soil when the material is placed and compacted; however, any such material will not be measured for payment and the cost thereof considered incidental to this item Conform to IDOT Standard Specifications for Road and Bridge Construction.

B. The sub-base granular material must not be placed on a wet subgrade or a subgrade rutted by the Contractors equipment. The Contractor will be required to drain off all rainfall as rapidly as possible and maintain the subgrade in a dry, smooth, and compacted condition until the granular material is placed.

C. The sub-base granular material must be ~~placed and compacted~~constructed according to ~~Article 311.05~~Section 311 of the Standard Specifications.

1

Revised
4-2-24

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of SUB-BASE GRANULAR MATERIAL, TYPE B will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of SUB-BASE GRANULAR MATERIAL, TYPE B will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 11 16

ATTACHMENT OO

SECTION 32 12 16

ASPHALT PAVEMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes requirements for Hot Mix Asphalt (HMA) Pavements as required for proposed roadway binder and surface courses proposed with the project improvements.

1.03 RELATED SECTIONS

A. Section 01 55 26 – Traffic Control.

1.04 REFERENCES *

A. CDOT Rules and Regulations for Construction in the Public Way (CDOT Specifications), January 2019.

B. IDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.

*In the event of a conflict between CDOT and IDOT Specifications in this Section, CDOT Specifications shall govern.

1.05 MATERIAL TESTING, INSPECTIONS, AND SUBMITTALS

A. All materials and workmanship are subject to inspections, testing, and approval by the Commissioner.

B. Unless otherwise designated by the Commissioner, all tests must be conducted to current CDOT standards.

C. Provide ~~100% quality control (QC) independent of said contractor for all~~ inspection and~~field~~ testing in accordance with CDOT and IDOT Standards, and Part 1.06C. The contractor is responsible for notifying CDOT Commissioner no later than 2pm on the working day previous to the asphalt placement. Work on a Monday requires notifications by 2 p.m. the prior Friday. All City Holidays are non-working days and are not valid notification days. All provisions required for tests, samples and inspections are considered incidental to the Work and no additional payment is allowed.

1 Revised 4-2-24

D. Failure of the Contractor to pass required tests and inspections is grounds for rejection of the Work. All rejected Work is subject to removal or other corrective actions as directed by the Commissioner.

1.06 QUALITY ASSURANCE

C. Comply with CDOT Specifications for all work within public right-of-way, IDOT ~~Article 1030.05~~Section 1030 for QC/QA, ~~and~~ except as modified by IDOT Bureau of Local Roads and Streets LR1030-2, ~~—~~ Local Quality Assurance/Quality Management QC/QA included below. In the event that a conflict exists between this Section and the CDOT Specifications, CDOT Specifications govern. Work, which is not within CDOT jurisdiction, must be coordinated with the agency having jurisdiction to ensure compliance with applicable standards and permit requirements. The Contractor is responsible for forwarding copies of correspondence to the Commissioner for proof of coordination and compliance with CDOT and other agency regulations. 1 Revised 4-2-24

A. Material Tickets

1. Deliver to the Commissioner, at the time of delivery, a weight ticket for all material delivered signed by a Certified Public Weighmaster indicating the net weight or volume and mix or type of material being delivered.

D. LR1030-2, Note - Density Verification Method to be determined at the preconstruction meeting and approved by the CDOT QA Manager. 1 Revised 4-2-24

State of Illinois
DEPARTMENT OF TRANSPORTATION Bureau of Local Roads & Streets SPECIAL PROVISION FOR LOCAL QUALITY ASSURANCE/ QUALITY MANAGEMENT QC/QA Effective: January 1, 2022

Replace the first five paragraphs of Article 1030.06 of the Standard Specifications with the following:

" **1030.06 Quality Management Program.** The Quality Management Program (QMP) will be Quality Control / Quality Assurance (QC/QA) according to the following."

Delete Article 1030.06(d)(1) of the Standard Specifications.

Revise Article 1030.09(g)(3) of the Standard Specifications to read:

" (3) If core testing is the density verification method, the Contractor shall provide personnel and equipment to collect density verification cores for the Engineer. Core locations will be determined by the Engineer following the document "Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations" at density verification intervals defined in Article 1030.09(b). After the Engineer identifies a density verification location and prior to opening to traffic, the Contractor shall cut a 4 in. (100 mm) diameter core. With the approval of the Engineer, the cores may be cut at a later time."

Revise Article 1030.09(h)(2) of the Standard Specifications to read:

" (2) After final rolling and prior to paving subsequent lifts, the Engineer will identify the random density verification test locations. Cores or nuclear density gauge testing will be used for density verification. The method used for density verification will be as selected below.

Density Verification Method	
	Cores
X	Nuclear Density Gauge (Correlated when paving ≥ 3,000 tons per mixture)

1 Revised 4-2-24

Density verification test locations will be determined according to the document "Hot Mix Asphalt QC/QA Procedure for Determining Random Density Locations". The density testing interval for paving wider than or equal to 3 ft (1 m) will be 0.5 miles (800 m) for lift thicknesses of 3 in. (75 mm) or less and 0.2 miles (320 m) for lift thicknesses greater than 3 in. (75 mm). The density testing interval for paving less than 3 ft (1 m) wide will be 1 mile (1,600 m). If a day's paving will be less than the prescribed density testing interval, the length of the day's paving will be the interval for that day. The density testing interval for mixtures used for patching will be 50 patches with a minimum of one test per mixture per project.

If core testing is the density verification method, the Engineer will witness the Contractor coring, and secure and take possession of all density samples at the density verification locations. The Engineer will test the cores collected by the Contractor for density according to Illinois Modified AASHTO T 166 or AASHTO T 275.

If nuclear density gauge testing is the density verification method, the Engineer will conduct nuclear density gauge tests. The Engineer will follow the density testing procedure detailed in the document "Illinois Modified ASTM D 2950, Standard Test Method for Density of Bituminous Concrete In-Place by Nuclear Method".

A density verification test will be the result of a single core or the average of the nuclear density tests at one location. The results of each density test must be within acceptable limits. The Engineer will promptly notify the Contractor of observed deficiencies."

Revise the seventh paragraph and all subsequent paragraphs in Section D. of the document "Hot-Mix Asphalt QC/QA Initial Daily Plant and Random Samples" to read:

"Mixtures shall be sampled from the truck at the plant by the Contractor following the same procedure used to collect QC mixture samples (Section A). This process will be witnessed by the Engineer who will take custody of the verification sample. Each sample bag with a verification mixture sample will be secured by the Engineer using a locking ID tag. Sample boxes containing the verification mixture sample will be sealed/taped by the Engineer using a security ID label."

PART 2 - PRODUCTS

2.01 AGGREGATE

A. Aggregate materials must be coarse aggregate consisting of mechanically crushed stone or mechanically crushed concrete, and must meet the requirements of Section 1004 of the SSRBC. ~~Material must have a pH range between 7.5 and 10 and be non-corrosive.~~

~~The material shall be according to Section 1004.04 of the Standard Specifications except for the following:~~

1 Revised 4-2-24

~~Reclaimed Asphalt Pavement (RAP) may be blended with gravel, crushed gravel, crushed stone, crushed concrete, or crushed sand stone. The RAP materials shall be crushed and screened. Unprocessed RAP grindings will not be permitted. The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of + 2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.~~

B. Gradation of aggregates.

1. Aggregate for Sub-Base Course-Type B, Aggregate Base Course, and Temporary Stone Fill must be gradation CA-6.

~~2. Aggregate for Sub-Base Course-Type A must be gradation CA-6.~~

1
Revised
4-2-24

2.02 HOT MIX ASPHALT

A. All Hot Mix Asphalt (HMA) mixtures are to be CDOT approved and active as determined by CDOT QA Manager at the time of placement~~, Reclaimed Asphalt Pavement (RAP) (D-1), and Reclaimed Asphalt Shingles (RAS) (D-1) mix selections are to conform to mixes as described in the latest CDOT and IDOT requirements as noted on the drawings, or as directed by the Commissioner~~.

B. HMA materials are to conform to Section 406~~, 1030, and 1031~~ of the SSRBC.

~~C. HMA base course must conform to the requirements of Section 355 of the SSRBC.~~

~~D. Gradation: The fine aggregate gradation for all HMA shall be FA1, FA 2, FA 20, FA 21 or FA 22. When Reclaimed Asphalt Pavement (RAP) is incorporated in the HMA design, the use of FA 21 Gradation will not be permitted.~~

2.03 PRIME AND TACK COATS

A. ~~A.~~ Bituminous ~~material for prime and tack coat must conform to the requirements of Section 1032 of the SSRBC concerning Liquid Asphalt~~prime and tack coats shall be according to Article 406.05 of the SSRBC.

2.04 LONGITUDINAL JOINT SEALANT

B. Longitudinal joint sealant shall be according to Article 406.06(h)(2) of the SSRBC.

~~1. Prime coat material for application over aggregate base courses must be Grade MC30.~~
~~2. Tack coat for application over concrete or bituminous base courses must be Grade SS-1, unless directed otherwise by the Commissioner.~~
~~3. Aggregate materials for prime or tack coats for streets open to traffic must be limestone or granite screenings free from dust and conforming to the requirements of Section 1003.03 of the SSRBC. Aggregate materials for tack coat must be gradation FA-1, FA-2 or FA-3.~~

~~2.04 REFLECTIVE CRACK CONTROL TREATMENT~~

~~A. Reflective crack control materials must conform to the requirements of Section 443 of the SSRBC for System A.~~

PART 3 - EXECUTION

3.01 GENERAL

A. If the limits of excavation of the trench width and/or the edge of the cut lines are exceeded during excavation, the restoration limits must be extended to include the additional widths.

B. In order to assure a straight-line edge restoration, the Commissioner may extend the width of the pavement removal and restoration to the extent that may be deemed necessary to satisfy the intent of this Section.

C. Plating of Unattended Excavations

1. All unattended openings in streets, alleys, and driveways necessitated by the work under this contract, must be covered with steel plates of adequate thickness to provide protection to both vehicular and/or pedestrian traffic.
2. Steel plate(s) subjected to vehicular traffic must be of a sufficient thickness to support AASHTO HS-20 traffic loadings without movement, and be secured to the pavement surface to prevent rocking or movement which could expose the excavation. When steel plates are to be left in place beyond normal working hours and in areas subjected to pedestrian traffic, a bituminous ramp is to be provided around the perimeter of the plate(s), to provide a smooth transition between surface of the plate(s) and the surrounding pavement, unless directed otherwise by the Commissioner.
3. Plating of openings is not intended as a substitution for providing traffic control, which must be provided in accordance with Section 01 55 26.

3.02 TEMPORARY PAVEMENT

A. Provide temporary pavement where specified and as directed by the Commissioner. Temporary pavements must consist of HMA binder or crushed stone fill, as directed by the Commissioner.

B. In placing and compacting the crushed stone fill, the Contractor must conform to the applicable requirements of Section 351 of the SSRBC, except that the crushed stone surface fill must be compacted to the degree required to maintain the safe passage of vehicular and pedestrian traffic.

C. Maintain the temporary pavement in a passable and safe condition for traffic and surface drainage.

D. Fill sidewalk areas disturbed by construction with compacted crushed stone fill and grade to provide safe passage for pedestrian traffic. The thickness of the compacted crushed stone fill is to be 4-inches, unless otherwise directed by the Commissioner.

E. The Commissioner will be the sole judge as to when compaction densities, required herein, have been obtained.

F. Surface Treatment of Temporary Pavement

1. Apply prime coat to temporary aggregate surface in accordance with the requirements of Section 406.05 of the SSRBC, except as modified herein. Before placing the Bituminous Material Prime Coat, the base must be compacted and cleaned of all dirt and foreign material. The bituminous material for the tack coat must be applied uniformly at the rate

of 0.10 to 0.25 gal per sq. yd. The exact rate will be specified by the Commissioner. Bituminous material must not be placed on wet surfaces.

2. Apply ¼-inch thick uniform layer of aggregate screening over the asphalt treated surface.

G. HMA temporary surfacing will be placed only at locations as directed by the Commissioner. Temporary bituminous pavement must not exceed 3-inches in thickness, unless directed otherwise by the Commissioner.

3.03 SURFACE MILLING

A. Where restoration is shown on the Drawings, is specified, or is directed by the Commissioner, the existing pavement surface is to be removed to a sufficient depth to accommodate resurfacing the pavement with HMA Surface Course, HMA Binder Course and/or Leveling Binder Course, as specified in the pavement restoration note on the drawings, or as directed by the Commissioner. All pavement restoration including but not limited to HMA / final bituminous surface course and permanent pavement markings must be completed within seven (7) days of commencing milling operation.

1. When the vertical differential between the milled pavement surface and adjacent pavement exceeds 2¼-inches, a stepped milled wedge longitudinal joint must be provided. Each step is to be a minimum of 9-inches in width for each 1-inch in differential height.

B. The machine used for surface removal must be a self-propelled milling machine ~~capable of planning and cutting the existing surface and depositing the cuttings into a windrow or loading directly into trucks.~~ according to Article 1101.16 of the SSRBC.

~~C. The machine must be capable of removing, in one pass, a layer of bituminous or portland cement concrete material of at least 6 feet in width.~~

~~D. The machine must be capable of accurately and automatically establishing profile grades by referencing from either the existing pavement, or from an independent grade control to provide a milled surface with a tolerance of 3/16-inch in 10 feet when checked with a 10 feet straight edge.~~

~~E. Remove the excess material from the surface without permitting dust from the operation to escape into the air.~~

~~F.~~C. The temperature at which the Work is performed, the nature, the condition of the equipment, and the manner of performing the Work must be such that the milled surface must not be, gouged, shaved, or otherwise damaged by the milling operation.

1 Revised 4-2-24

~~G.~~D. Make sufficient cutting passes so that all irregularities or high spots are eliminated to the satisfaction of the Commissioner.

~~H.~~E. Remove the pavement to the required depth adjacent to structures such as drainage castings and utility covers using machine or hand methods in a manner satisfactory to the Commissioner.

1. Provide a temporary bituminous ramp around utility structures where directed by the Commissioner.

~~I.~~F. The Contractor is responsible for the disposal of all milled materials off of the Site, unless otherwise directed by the Commissioner.

1. After cold milling a traffic lane, the pavement must be swept by a mechanical broom to prevent re-compaction of the cuttings onto the pavement. All loose material must be removed from the roadway to the satisfaction of the Commissioner. Temporary ramps are to be provided at butt joints between milled and existing pavements on both the approach and departure ends.

~~I.~~G. Removed bituminous and Portland cement concrete materials are to be removed from the site and taken to a recycling facility.

3.04 HOT MIX ASPHALT PAVEMENT

A. Sub-base Preparation

1. Construct sub-base in accordance with the requirements of Section 311 of the SSRBC, to match the existing pavement cross-section, to the lines and grades shown on the Drawings, or as established by the Commissioner.

~~B. Aggregate Base Course~~

~~1. Add water to the material during compaction only when it is necessary to increase the percentage of moisture to obtain the required density.~~

~~C.~~B. Tack and Prime Coats

1. ~~Apply~~ Bituminous prime and tack coats shall be according to Article 406.05 of the SSRBC.

~~1. tack coat to all prepared aggregate base course in accordance with the requirements of Section 406.05(b) (2) of the SSRBC, except as modified herein. Before placing the Bituminous Material Tack Coat, the base must be compacted and cleaned of all dirt and foreign material. The bituminous material for the tack coat must be applied uniformly at the rate of 0.10 to 0.25 gal per sq. yd. The exact rate will be specified by the Commissioner. Bituminous material must not be placed on wet surfaces.~~

~~2. Apply prime coat to prepared bituminous or concrete base course in accordance with the requirements of Section 406.05(b) (1) of the SSRBC. Before placing the Bituminous Material Prime Coat, the base must be cleaned of all dust, dirt and foreign material. The bituminous material must be applied uniformly at the rate of~~

~~3. 0.05 to 0.10 gal per sq. yd. The exact rate will be specified by the Commissioner. Bituminous material must not be placed on wet surfaces.~~

~~3.~~2. When the road is to be kept open to traffic, the tack or prime coat (except emulsion type) must be placed not less than 1 hour in advance of the placement of HMA and no tack or prime coat may be placed more than 5 days in advance of the placement of HMA.

~~4.~~3. When the road is closed to thru traffic, non-Emulsion type prime may be placed no more than 5 days in advance of the placement of HMA.

~~5.~~4. When directed by the Commissioner, the tack or prime coat must be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lbs. per sq. yd.

~~6.~~5. "Fresh Oil" signs must be posted at all ingresses to primed surfaces.

C. Longitudinal Joint Sealant

1. Longitudinal Joint Sealant is required and shall be according to Article 406.06(h)(2) of the SSRBC.

D. Bituminous Wearing Course

1. Construct HMA binder course and HMA surface course as noted in the pavement restoration note on the Drawings, and HMA temporary surfacing as directed by the Commissioner, in accordance with the IDOT requirements of Section 406 of the SSRBC.
2. Unless otherwise directed by the Commissioner, where the existing bituminous thickness over a concrete or brick base is less than the combined proposed level binder and surface course thickness, reduce the thickness of the level binder course. If the reduced thickness of the level binder course is less than ¾-Inch omit the binder course and modify the thickness of the surface course.
3. Surface course and binder course mixtures must be placed on a dry, clean base and when weather conditions are suitable. In the event of a sudden rain, loading additional trucks must immediately stop whether it is from the plant or storage bins. Materials in transit will be permitted to be laid at the Contractor's risk providing the pavement is free of standing water and the proper temperature of the asphaltic mix is maintained. Approval to unload the trucks in transit in no way relaxes the requirements for quality, density or smoothness of the bituminous mixture being placed.
4. A preset grade reference device, i.e. 30 foot skid with electronic grading sensors, traveling on the adjacent pavement must be used for surface course placement.
5. Any foreign material on the existing surface must be removed to the satisfaction of the Commissioner before the surface course is placed.
6. ~~In no case may the speed of the paver exceed 35 feet per minute or as directed by the Commissioner.~~
7.6. "Flow Boys" must be used at all locations where vertical clearance precludes the use of normal dump trucks. The use of "Flow Boys" is considered incidental to the various HMA pay items and no additional payment will be made.
8.7. The Contractor must protect all sections of newly compacted surface courses from traffic until they have hardened to the satisfaction of the Commissioner.
9.8. Surface Tests must be made in accordance with applicable portions of 406.11 of the SSRBC. The Contractor must furnish a sixteen foot straight edge for use by the Commissioner. The Contractor will be responsible for straight edging the surface course before the surface course is opened to traffic.
10.9. The Contractor must furnish the name(s) of the QC manager and Level I Technician assigned to the project at the time of the Preconstruction meeting.

1 Revised 4-2-24

~~E. REFLECTIVE CRACK CONTROL~~

~~1. Reflective crack control treatment must be installed in accordance with requirements of Section 443.06 of the SSRBC. Locations for installing the reflective crack control treatment will be determined by the Commissioner or agency having jurisdiction over the roadway.~~

3.05 TRAFFIC CONTROL

A. The Contractor is responsible for traffic control and the protection of vehicular and pedestrian traffic from the work. For detailed requirements see Section 01 55 26.

3.06 FIELD QUALITY CONTROL

~~A.~~ Testing and Inspecting: Contractor must ~~provide an IDOT qualified Hot Mix Asphalt testing agency to perform tests and inspections and to submit reports for Work of this Section~~comply with CDOT Specifications for all work within public right-of-way, IDOT Section 1030 for QC/QA, except

1 Revised 4-2-24

as modified by IDOT Bureau of Local Roads and Streets LR1030-2 – Local Quality Assurance/Quality Management QC/QA included in Part 1.06.

~~B.~~A. ~~Coring must be conducted using procedures and equipment that will provide undamaged, undistorted cores of a diameter of no less than 3-5/8-Inches. The hole caused by the removal of the cores must be refilled immediately with a bituminous meeting these specifications, compacted and finished to the satisfaction of the Commissioner. The Contactor must transport obtained cores to the plant laboratory for density determination. Determination of bulk specific gravity of cores will be performed using procedures specified in IL 166-86 or, if applicable IL 275-86. No less than 4 or more than 20 cores per day will be required by the Commissioner for the purpose of acceptance and / or compaction with nuclear gage density measurements. The cost of this work will not be paid for separately, but will be considered incidental to the various HMA pay items.~~

~~C. Hot Mix Asphalt Tests: Testing of Hot Mix Asphalt must comply with Article 1030.05 of the SSRBC.~~

~~1. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.~~

1
Revised
4-2-24

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of ASPHALT PAVEMENT shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the Work of ASPHALT PAVEMENT shall be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 12 16

ATTACHMENT PP

SECTION 32 12 17

PROTECTIVE COAT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section specifies the requirements for applying a protective treatment to the permanently exposed surfaces of all Portland Cement Concrete placed in this project. The work under this Section must include all labor, materials, tools and equipment required for cleaning the concrete surface to be covered and applying a minimum of two coats of the protective surface treatment.

B. Except as modified herein, the work must be done in accordance with the applicable portions of ~~Section~~ Article 503.19 of the ~~IDOT Standard Specifications~~SSRBC.

C. Related Sections

1. Section 32 16 21: Concrete Curbs, Gutters and Walks.
2. Section 32 16 23: Portland Cement Concrete Sidewalk
~~2.~~3. Section 32 13 13: Concrete Pavement

1
Revised
4-2-24

1.03 REFERENCES

A. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction (SSRBC), Adopted January 1, 2022 or latest edition.

PART 2 - PRODUCTS ~~(NOT USED)~~

2.01 PROTECTIVE COAT

A. Linseed oil will not be allowed. All references to protective coat or concrete sealer shall be according to SSRBC Section 1026, Concrete Sealer.

~~A.~~B. The application must conform to the manufacturer recommendations.

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of PROTECTIVE COAT will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of PROTECTIVE COAT will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 12 17

ATTACHMENT QQ

SECTION 32 13 13

CONCRETE PAVEMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes requirements for Portland Cement Concrete Pavement as required for the roadway base courses proposed with the project improvements.

1.03 RELATED SECTIONS

A. Section 01 55 26 – Traffic Control.

1.04 REFERENCES*

A. CDOT Rules and Regulations for Construction in the Public Way (CDOT Specifications), January 2019.

B. IDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.

C. IDOT Supplemental Specifications and Recurring Special Provisions (SSRSP). latest edition.

*In the event of a conflict between CDOT and IDOT Specifications in this Section, CDOT Specifications shall govern.

1.05 MATERIAL TESTING, INSPECTIONS, AND SUBMITTALS

A. All materials and workmanship are subject to inspections, testing, and approval by the Commissioner.

B. Unless otherwise designated by the Commissioner, all tests must be conducted to current CDOT standards.

C. Contractor must provide an independent material testing agency to conduct testing and inspection. All provisions for test, samples and inspections are considered incidentals to the work and no additional payment is allowed.

D. Failure of the Contractor to pass required tests and inspections is grounds for rejection of the Work. All rejected Work is subject to removal or other corrective actions as directed by the Commissioner.

~~D.~~E. Quality Control / Quality Assurance inspection and testing shall be according IDOT SSRSP Check Sheet #23 "Quality Control / Quality Control / Quality Assurance of Concrete Mixes".

1

Revised 4-2-24

1.06 QUALITY ASSURANCE

A. Conformance with Specifications. Comply with this Section and CDOT Specifications for all work within public right-of-way. In the event that a conflict exists between this Section and the CDOT Specifications, CDOT Specifications govern. Work, which is not within CDOT jurisdiction, must be coordinated with the Commissioner to ensure compliance to all standards and permit requirements.

B. Material Tickets. Deliver to the Commissioner, at the time of delivery, a weight ticket for all material delivered signed by a Certified Public Weigh master indicating the net weight or volume and mix or type of material being delivered.

~~C. QC/QA. Provide quality control (QC) and quality assurance (QA) in accordance with the IDOT SSRSP Check Sheet #23 "Quality Control / Quality Assurance of Concrete Mixes".~~

1

Revised 4-2-24

PART 2 - PRODUCTS

~~2.01 AGGREGATE~~

A. Meet requirements of ~~Article~~ Section 1004 of the Standard Specifications for coarse aggregate with gradation of CA-6.

2.02 PORTLAND CEMENT CONCRETE

A. Meet requirements of ~~Article~~ Section 1020 of the Standard Specifications for Class PV Concrete.

2.03 DOWEL BARS AND PAVEMENT REINFORCING

A. Meet requirements of ~~Article~~ Section 1006 of the Standard Specifications.

2.04 JOINT FILLER

A. Meet requirements of ~~Articles~~ Sections 1050 or 1051 of the Standard Specifications.

1

Revised 4-2-24

2.05 PROTECTIVE COAT FOR CONCRETE SURFACES

A. Meet requirements of ~~Article~~ Section 10263 of the Standard Specifications.

1

Revised
4-2-24

PART 3 - EXECUTION

3.01 GENERAL

A. If the limits of excavation of the trench width and/or the edge of the cut lines are exceeded during excavation, the restoration limits must be extended to include the additional widths.

B. In order to assure a straight-line edge restoration, the Commissioner may extend the width of the pavement removal and restoration to the extent that may be deemed necessary to satisfy the intent of this Section.

C. Notification to CDOT

1. Notify the Commissioner and CDOT for inspection of work requiring CDOT approval by noon on the day prior to commencing additional work. If CDOT inspectors fail to perform the inspection within forty-eight (48) hours after notification, the Contractor may, after approval of the Commissioner, proceed with subsequent work.

D. Plating of Unattended Excavations

1. All unattended openings in streets, alleys, and driveways necessitated by the work under this contract, must be covered with steel plates of adequate thickness to provide protection to both vehicular and pedestrian traffic.
2. Steel plating subjected to vehicular traffic must be of a sufficient thickness to support AASHTO HS-20 traffic loadings. The size of the plating must be large enough to span the opening with sufficient overlap and must be firmly bedded and secured to the pavement surface to prevent rocking or movement. A bituminous ramp is to be provided around the perimeter of the plating as appropriate to provide a smooth transition between surface of the plate(s) and the surrounding pavement or walkway, unless authorized otherwise. The use of steel plating during winter construction must be approved by CDOT and conform to their applicable requirements.
3. The name of the Contractor must be marked on both sides of each plate.
4. Plating of openings is not intended as a substitution for providing traffic control. Traffic control is to be provided in accordance with Section 01 55 26 of these specifications.

3.02 PORTLAND CEMENT CONCRETE PAVEMENT

A. Pavement Base Course

1. Construct sub-base as shown on the Drawings, or as directed by the Commissioner. Work is to be in accordance with Section 311 of the SSRBC.
2. Construct Portland cement Concrete base as shown on the Drawings, or as directed by the Commissioner. Work is to be in accordance with Section 353 of the SSRBC after the sub-base has been placed and compacted. Provide dowel bars and tie bars for connections to the existing concrete pavement in accordance with the details in Appendix A ~~Chapter 6~~ of the CDOT Specifications.

1

Revised
4-2-24

3. Limits for restoration for concrete base course are to be the width of the trench neat lines plus one additional foot on each side of the trench unless noted otherwise on the Drawings. If the gutter line or edge of pavement is at a distance of 2-feet or less from the edge of excavation, the pavement is to be restored from the edge of the trench excavation to the gutter line or edge of pavement.

B. Portland Cement Concrete Pavement (Where Applicable)

1. Construct Portland cement concrete pavement as shown on the Drawings and in accordance with Section 420 of the SSRBC. Provide dowel bars and tie bars for connections to existing concrete pavement, and reinforce Portland cement concrete pavement with pavement fabric in accordance with the details in Appendix A ~~Chapter 6~~ of the CDOT Specifications, unless otherwise specified, or directed by the Commissioner.

C. Protective Coat for Concrete Surfaces

1. A Protective Coat must be applied to all concrete surfaces constructed and opened to traffic between October 15th and April 15th. The application of protective coat must conform to the manufacturer recommendations. ~~The application of the Protective Coating should be applied in accordance with the requirements of Article 420.18 of the SSRBC.~~

D. Cure and Protection and Temperature Control for Placement ~~from Extreme Temperatures~~

1. All means and methods utilized to cure and protect concrete and provide proper temperature control for placement are the responsibility of the contractor, at no cost to the City.
2. Cure and Protection of new concrete shall be in accordance with SSRBC Article 1020.13.
~~1. It is the responsibility of the contractor, at no cost to the City, to provide temperature controlled concrete during hot weather in accordance with SSRBC Article 1020.14(a) and 1020.14(c).~~
~~2.~~3. ~~It is the responsibility of the contractor to provide temperature controlled concrete during cold weather in accordance with SSRBC Article 1020.14(a) and 1020.14(~~Temperature Control for Placement shall be in accordance with SSRBC Article 1020.14~~c)~~.

~~3. Protect new concrete in accordance with SSRBC Article 1020.13(c) for protection.~~

1
Revised
4-2-24

3.03 TRAFFIC CONTROL

A. The Contractor is responsible for traffic control and the protection of vehicular and pedestrian traffic from the work. For detailed requirements see Section 01 55 26.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of CONCRETE PAVEMENT shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the Work of CONCRETE PAVEMENT shall be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 13 13

ATTACHMENT RR

SECTION 32 16 21

CONCRETE CURBS, GUTTERS & WALKS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes requirements for restoration of Portland Cement Concrete Walkways, ADA Ramps, Curbs and Gutters and Miscellaneous Concrete.

1.03 RELATED SECTIONS

~~A. Section 03 20 00 – Concrete Reinforcement.~~

~~B. Section 03 30 00 – Concrete.~~

1 Revised 4-2-24

~~C.~~A. Section 32 13 13 – Concrete Pavement.

~~D.~~B. Section 32 17 26 – Tactile/Detectable Warning Surface Tiles.

1.04 REFERENCES

A. CDOT Rules and Regulations for Construction in the Public Way (CDOT Specifications), January 2019.

B. CDOT Appendix B: Rules and Regulations for Construction in the Public Way (ADA Standards), January 2019.

C. IDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.

D. IDOT Supplemental Specifications and Recurring Special Provisions (SSRSP), latest edition.

E. Americans with Disabilities Act (ADA): Title 49 CFR Transportation, Part 37.9 ‘Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on Walking Surfaces,’ latest edition.

F. Illinois Administrative Code, Chapter 1, part 400.310 Subchapter B, latest edition.

G. California Code of Regulations (CCR): Title 24, Part 1, Articles 2, 3, and 4 and Part 2, Section 205, Section 1127B.5 and Section 1133B.8.5, latest edition.

1.05 MATERIAL TESTING, INSPECTIONS, AND SUBMITTALS

A. All materials and workmanship are subject to inspections, testing, and approval by the Commissioner.

B. Unless otherwise designated by the Commissioner, all tests must be conducted to current CDOT standards.

C. Refer to Book 1 for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.

1. Submit manufacturer's literature describing products, installation procedures and routine maintenance.
2. Submit two (2) samples minimum 8" square of the Detectable Warning Tiles proposed for use.
3. Submit layout drawings for products specified showing plans of placement including joints, sizes, types and quantity of tiles to be used at each ramp, and an outline of installation materials and procedures.

D. Failure of the Contractor to pass required tests and inspections is grounds for rejection of the Work. All rejected Work is subject to removal or other corrective actions as directed by the Commissioner.

~~D.~~E. Quality Control / Quality Assurance inspection and testing shall be according IDOT SSRSP Check Sheet #23 "Quality Control / Quality Assurance of Concrete Mixes".

1 Revised 4-2-24

1.06 QUALITY ASSURANCE

A. Installer's Qualifications: Engage an experienced Installer certified in writing by Detectable Warning Tile manufacturer as qualified for installation, who has successfully completed installation similar in material, design and extent to that indicated for the Project.

B. Detectable Warning Tiles must be guaranteed in writing for a period of five years from date of final completion. The guarantee includes defective work, breakage, deformation and loosening of tiles.

C. Remove and replace concrete which does not satisfy the performance requirements of this specification, which does not conform to grades and profiles shown on the Drawings, contains cracks, spalling or other defects which impairs the strength, safety or appearance of the work, or has been damaged or discolored during construction. Protect the Work from damage until accepted.

D. Meet the requirements of CDOT ADA Standards Appendix B.

~~E. Meet the requirements of quality control (QC) of Specification 033000 Concrete.~~

1 Revised 4-2-24

PART 2 - PRODUCTS

2.01 PORTLAND CEMENT CONCRETE

A. Meet requirements of Section 1020 of the Standard Specifications for Class SI Concrete.~~Meet requirements of Section 033000 – Concrete.~~

2.02 PROTECTIVE COAT FOR CONCRETE SURFACES

A. Meet requirements of Section 1026 of the Standard Specifications.~~Meet requirements of Section 033000 – Concrete.~~

2.03 DETECTABLE WARNING TILES

A. Provide detectable warning tiles from ~~manufacturers approved by CDOT in accordance with CDOT Standards and Specifications. These include but are not limited to the following:~~

~~1. East Jordan Iron Works~~
~~2. Neenah Foundry~~
~~Pioneer Detectable, LLC~~ the CDOT approved list of suppliers located at the bottom of the CDOT QA website login page under reference documents and the tab approved lists, select the file "CDOT Approved List of Detectable Warning Products". Go to www.cdotcmqa.com to navigate to the login page.

~~Advantage Cast Iron~~

2.04 JOINT FILLER

A. ~~Meet requirements of Section 033000 – Concrete~~According to the applicable sections of the SSRBC for the item of construction.

2.05 DOWEL BARS AND PAVEMENT REINFORCING

A. According to the applicable sections of the SSRBC for the item of construction.~~Meet requirements of Section 032000 – Concrete Reinforcement and Embedded Assemblies~~

PART 3 - EXECUTION

3.01 SIDEWALKS

A. Excavate, prepare and compact subgrade to 95% of maximum standard laboratory density and in accordance with SSRBC Section 424.

1
Revised
4-2-24

B. Construct Portland cement concrete sidewalk in accordance with Section 424 of the SSRBC. Construct Portland cement concrete sidewalk 5-inches thick in one (1) course where shown on the drawings, or as directed by the Commissioner.

C. Restore to the original conditions areas damaged by the contractor during the removal and/or installation of the new sidewalk. This includes all existing parkway including brick, grass and asphalt, sidewalk, concrete base, and pavement

D. Cross slopes of sidewalks must be a minimum to provide positive drainage to curb and a maximum of 2%.

3.02 ADA RAMPS / DETECTABLE WARNING TILES

A. The Contractor is solely responsible for the construction of the ramps in accordance with the American with Disabilities Act (ADA) and CDOT Appendix B Requirements for Openings, Construction, and Repair in the Public Way (ADA Standards)

B. Detectable Warning Tiles and Anchors must be installed in accordance with manufacturer's recommendations and CDOT requirements.

C. Transportation and Delivery

1. Deliver Detectable Warning Tiles to worksite in such quantities and at such times to assure continuity of installation. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses or damage.
2. Store units at worksite to prevent cracking, distorting, and warping, staining or other physical damage and so that markings are visible.
3. Keep panels under cover and protected until installed.
4. Deliver anchors in sufficient quantity for the work to be done before the start of construction.

D. Environmental Conditions and Protection: Maintain minimum temperature of forty (40) degrees Fahrenheit in spaces to receive Detectable Warning Tiles for at least forty-eight (48) hours prior to installation, during installation, and for not less than forty-eight (48) hours after installation. Maintain minimum temperature of forty (40) degrees Fahrenheit in storage spaces where tile material will be stored for at least forty-eight (48) hours before beginning installation.

E. Excavate, prepare and compact subgrade to 95% of maximum laboratory density and in accordance with SSRBC Section 424. When directed by the Commissioner, provide 3-Inch sand sub-base under new sidewalks in parkways or when a change in the subgrade elevation occurs.

F. Construct Portland cement concrete sidewalk in accordance with Section 424 of the SSRBC and the City of Chicago Department of Transportation's latest Standard Drawing for Curb Ramps for People with Disabilities. Construct curb ramps and side flares a uniform 8-Inch thick in one (1) course where shown on the drawings, or as directed by the Commissioner.

G. The concrete must be poured and finished, true and smooth to the required dimensions and slope prior to tile placement. Immediately after finishing the concrete, check that the required slope is achieved. Place the tile true and square to the curb edge in accordance with the

contract drawings. Tamp or vibrate the Cast-In-Place Tiles into the fresh concrete to ensure that the field level of tile is flush to the adjacent concrete surface. Ensure that the tile field level is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes. The tolerance for elevation differences between tile and adjacent surface is ±1/16". Place the second panel next to the first, leaving no gap. (tiles must be abutted to one another) and press into the wet concrete. Set adjacent panels even and level with each other and with the surrounding concrete.

H. Before the concrete has set, trowel the concrete flat around the tile perimeter to the field level of the tile. Remove any excess concrete, leaving no gap (tiles must be abutted to one another) between the panels. Apply broom finish to the area immediately surrounding the panels

I. Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets. Place a minimum of two (2) suitable weights of 25 lb each on each tile to ensure solid contact of tile underside to the concrete

J. Remove the protective plastic coating and insert one anchor into each of the preformed holes. The anchors must be set flush to the panel surface. Tap the top of each anchor to ensure contact of the concrete with the anchor.

K. During and after the tile installation and the concrete curing stage prevent exertion of external forces upon the tile.

L. Following the curing of the concrete, remove the protective plastic wrap from the tile face. Prevent damage to the tile surface while removing the plastic wrap and /or and concrete residue. Tile surface must be clean prior to final inspection and acceptance.

M. Protect tiles against damage during construction period to comply with tile manufacturer's specification. Tiles damaged prior to placement will not be acceptable for installation and must be replaced at the Contractor's cost.

N. Protect tiles against damage from rolling loads following installation.

O. Clean tiles not more than four days prior to date scheduled for inspection intended to establish date of substantial completion in each area of project. Clean tile by method specified by tile manufacturer.

3.03 CONCRETE CURB AND COMBINATION CURB AND GUTTER

A. Construct concrete curb and combination concrete curb and gutter as shown on the Drawings, or as directed by the Commissioner. Construction must be in conformance with Section 606 of the SSRBC.

3.04 PROTECTIVE COAT

A. Apply protective coats ~~of linseed oil and petroleum spirits~~ to concrete sidewalks, curbs and gutters constructed between October 15 and April 15. The application of protective coat must conform to the manufacturer ~~requirements of Article 420.18 of the SSRBC~~recommendations~~.~~ ~~Provide sand to prevent slipping on walking surfaces open to traffic~~.

1

Revised
4-2-24

3.05 CURE AND PROTECTION AND TEMPERATURE CONTROL FOR PLACEMENT ~~PROTECTION FROM EXTREME TEMPERATURES~~

A. ~~It is the responsibility of the contractor, at no additional cost to the City, to provide temperature controlled concrete during hot weather in accordance with SSRBC Article 1020.14(a) and 1020.14(c).~~ All means and methods utilized to cure and protect concrete and provide proper temperature control for placement are the responsibility of the contractor, at no cost to the City.

~~A.~~B. Cure and Protection of new concrete shall be in accordance with SSRBC Article 1020.13.

~~B.~~C. Temperature Control for Placement shall be in accordance with SSRBC Article 1020.14.~~It is the responsibility of the contractor, at no additional cost to the City, to provide temperature controlled concrete during cold weather in accordance with SSRBC Article 1020.14(a) and 1020.14(c).~~

~~C. Protect new concrete in accordance with CDOT and IDOT Standards.~~

1

Revised
4-2-24

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of CONCRETE CURBS, GUTTERS AND WALKS shall not be measured for payment.

4.02 PAYMENT

A. No separate payment shall be made for the work covered in this section. Payment for the Work of CONCRETE CURBS, GUTTERS AND WALKS shall be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 16 21

ATTACHMENT SS

SECTION 32 16 23

PORTLAND CEMENT CONCRETE SIDEWALK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section specifies requirements for sidewalk. The work under this Section will include furnishing all labor, materials, tools and equipment required to construct PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH and PORTLAND CEMENT CONCRETE SIDEWALK, 8-INCH, including, but not limited to, all joints, fillers, dowel bars, subgrade preparation, sub-base materials, protective coating and its application and other appurtenant items associated with construction of this item.

B. Except as modified herein, the work must conform to the applicable portions of the Standard Specifications (IDOT), Section 424. ~~and to the applicable portions of the CDOT QC/QA program which is in accordance with Check Sheet 23 of IDOT's Recurring Special Provisions and shall take precedence over all other specifications.~~

1
Revised
4-2-24

~~B.~~C. ~~C.~~ Related Sections:

1. Section 31 23 13: Subgrade Preparation.
2. Section 32 11 16: Sub-base Granular Material, Type B.
3. Section 32 12 17: Protective Coat.
4. Section 32 16 21: Concrete Curbs, Gutters and Walks.
5. Section 32 17 26: Tactile/Detectable Warning Surface Tiles

1.03 REFERENCES

A. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022 or latest edition.

B. IDOT Supplemental Specifications and Recurring Special Provisions (SSRSP), latest edition.

~~C~~B. Chicago Department of Transportation (CDOT) Rules and Regulations for Construction in the Public Way, Adopted January 2019 or latest edition.

~~D~~C. Americans with Disabilities Act, as amended

~~E~~D. U.S, Access Board Public Right-of-Way Accessibility Guidelines (PROWAG)

1
Revised
4-2-24

1.04 SUBMITTALS

A. The Contractor must submit the proposed concrete mix designs for the review and approval of the Commissioner. All mix designs shall be active CDOT approved mixtures at the time of placement.

1.05 MATERIAL TESTING AND INSPECTIONS

A. Quality Control / Quality Assurance inspection and testing shall be according IDOT SSRSP Check Sheet #23 “Quality Control / Quality Assurance of Concrete Mixes”.

1 Revised 4-2-24

PART 2 - PRODUCTS

2.01 PORTLAND CEMENT CONCRETE: SIDEWALK Concrete must conform to the applicable portions of Section 1020 of the Standard Specifications. Concrete must be Class SI Concrete, ~~compressive strength of 3500 psi at 14 days~~.

2.02 Concrete placing, strike off, consolidation, finishing, floating, and final finish shall be according to~~surface must receive a Brush Finish, as per~~ Article 424.06 of the SSRBC~~tandard Specifications~~.

1 Revised 4-2-24

2.03 Concrete control joints must be spaced between 4 to 6 feet on center, as per Article 424.06 of the Standard Specifications.

2.04 Expansion joint material must be bituminous preformed joint filler conforming to Article 1051.03 of the Standard Specifications.

2.05 Sidewalks replaced on State St must match the existing colors and patters of the State St sidewalk, unless indicated otherwise in the plans or directed by the Commissioner. Colored concrete mixes for these sidewalks, as prepared on a previous project by Ozinga are:

A. Beige - 71-PCC-Z394 BG WR FULL AE with limestone color added
B. Red - 4000 PSI REDGRNT 1974 aggregate with Santa Barbara Brown additive

PART 3 - EXECUTION

3.01 Apply protective coats to concrete sidewalks between October 15 and April 15. The application of protective coat must conform to the manufacturer recommendations.~~Protective coat must be applied on all sidewalk constructed herein, in accordance with Section 420.21 of the Standard Specifications regardless of time of year.~~

3.02 Concrete testing for PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH and PORTLAND CEMENT CONCRETE SIDEWALK, 8-INCH must be completed as specified in the standard CDOT QC/QA program which is covered in IDOT’s Recurring Special Provision Check Sheet 23.

1 Revised 4-2-24

3.03 Compacted Sub-base Granular Material, Type B as specified in Section 32_11_16 must be placed beneath all sidewalks on a prepared subgrade, placed and compacted to a minimum depth of five inches.

3.04 The Contractor must provide expansion joints at forty (40) foot intervals in long runs of sidewalks and wherever sidewalk abuts curbs, paving, structures or elsewhere as shown on the plans. Joint size must be as specified in Article 424.07 of the Standard Specifications (IDOT). Joint type, pattern, and spacing for State St sidewalks must match the existing layout.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The Work of PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH and PORTLAND CEMENT CONCRETE SIDEWALK, 8-INCH will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH and PORTLAND CEMENT CONCRETE SIDEWALK, 8-INCH will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 16 23

ATTACHMENT TT

SECTION 32 17 26

TACTILE/DETECTABLE WARNING SURFACE TILES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Book 1 Terms and Conditions for Construction, Book 2 Instructions and Execution Documents, Additional Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This work consists of providing all labor, materials, tools, and equipment necessary to install a TACTILE/DETECTABLE WARNING SURFACE TILES, of the specified type (linear or radial) having a surface color and a truncated dome pattern. Tactile/Detectable Warning Surface System will be installed on all Curb ramps. This work will be done in coordination with PCC Sidewalk, 5-Inch and PCC Sidewalk, 8-inch, where shown on the plans or as directed by the Commissioner. Tactile/ Detectable Warning Surface Systems must be installed across the entire width of the depressed curb, and per the latest CDOT ADA Standard details.

B. RELATED SECTIONS

1. Section 32 16 23: Portland Cement Concrete Sidewalk

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver tactile detectible warning surface system materials to the worksite in such quantities and at such times as to assure continuity of installation. Handle and transport material in a position consistent with their shape and design in order to avoid excessive stresses or damage.

B. Store material at worksite to prevent cracking, distorting, warping, staining or other physical damage and so that markings are visible.

C. Keep material under cover and protected until installed.

D. Deliver anchors in sufficient quantity for the work to be done before the start of construction.

1.04 REFERENCES

A. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, latest edition.

B. CDOT Rules and Regulations for Construction in the Public Way (including Appendix B – ADA Standards), latest edition.

C. Americans with Disabilities Act (Title 49 CFR TRANSPORTATION, Part 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES.

D. California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR). Title 24, Part 1, Articles 2, 3 and 4 and Part 2, Section 205 definition of "Detectable Warning". Section 1127B.5 for "Curb Ramps" and Section 1133B.8.5 for "Detectable Warnings at Hazardous Vehicle Areas".

PART 2 - PRODUCTS

2.01 SUBMITTALS

A. Submit manufacturer's specifications describing products, installation procedures and routine maintenance procedures.

B. Submit two (2) samples (minimum 8" square) of the tile type proposed for use.

C. Submit copies of manufacturer's specified maintenance practices for each type of tactile detectable warning system and accessory as required.

2.02 ~~APPROVED MANUFACTURERS~~

A. Provide detectable warning tiles from the CDOT approved list of suppliers located at the bottom of the CDOT QA website login page under reference documents and the tab approved lists, select the file "CDOT Approved List of Detectable Warning Products". Go to www.cdotcmqa.com to navigate to the login page.~~See approved detectable warning products in CDOT Rules and Regulations for Construction in the Public Way (Appendix B – ADA Standards), latest edition.~~

2.03 MATERIALS (NOT USED)

~~A. Polymer Concrete Replaceable Tile~~

~~1. Materials Requirements: Composite Polymer Concrete Detectable Warning tiles shall be manufactured using polymer concrete material. Polymer concrete material shall consist of calcareous and siliceous stone, glass fibers and thermo set polyester resin. The polymer concrete material shall be tested by an independent testing laboratory for chemical resistance and mechanical properties.~~

~~2. Chemical Resistance ASTM D-543~~
~~Simulated Sunlight ASTM D-1501~~

1
Revised
4-2-24

Accelerated Service Test ASTM D-756 Procedure "E" Water Absorption ASTM D-570

Material shall be determined to be acceptable if the following criteria are met. For chemical resistance, simulated sunlight, accelerated service test, and water absorption: retention of 75 percent of the control specimen values for load and deflection and no more than 2 percent change in weight. For flammability test, specimen should be self-extinguishing. For fungus resistance test the material should not allow any fungus growth. Smoke density shall be less than 0.5 at 1.5 minutes and less than 15 at 4 minutes. Surface flammability shall be less than 25.

3. Mechanical Properties: The mechanical properties of polymer concrete material shall be tested by an independent testing laboratory. Polymer concrete material shall have the following mechanical properties:

Mechanical Properties	Average Value	Test Method
Compressive Strength	11,430 PSI	ASTM C-170-99 Flexural
Strength	3,330 PSI	ASTM C-580-02
Tensile Strength	1,710 PSI	ASTM C307-99
Shear Strength	11,670 PSI	ASTM D-372-02
Modulus of Elasticity	1,776,400 PSI	ASTM C-580

4. Fabrication

a. For consistency, detectable warning tiles shall be manufactured using matched die molds under heat and pressure for superior material compaction, controlled chemical curing and uniform dimensions.
b. Polymer concrete detectable warning tiles shall have ¼" thick material sectional thickness excluding truncated domes height or reinforcement ribs.
c. Polymer concrete detectable warning tiles shall have a 1/8" tapered edges on the outside of the finished detectable warning tile.
d. Slip Resistance of Polymer concrete detectable warning tile when tested by ASTM-C 1028 shall not to be less than 0.80.
e. Chemical Resistance of Tile when tested by ASTM-D 543 to withstand without any degradation or discoloration 1% hydrochloric acid, Acetic Acid, Sulfuric Acid, Sodium Chloride Sodium Hydroxide, Sodium Sulfate, Sodium Carbonate, Kerosene and Oil.
f. The material shall be abrasive resistant and shall be warranted for 5 years against excessive wear.
g. The polymer concrete material shall not sustain burning and be self extinguishing when tested in accordance with ASTM D-635.
h. The polymer concrete material shall not promote fungus growth when tested in accordance with ASTM G21.
i. The polymer concrete material surface flammability shall be tested in accordance with ASTM E-162 and shall be less than 25.
j. Smoke density shall be tested in accordance with ASTM E-662-03 and shall be less than 0.5 at 1.5 minutes and less than 15 at 4 minutes.
k. Color: Federal Brick Red 30166 Color must be homogeneous throughout the tile.

1
Revised
4-2-24

~~5. Anchors and Subsystems: Each PC panel is to be attached to the supporting concrete with a minimum of 4-2" concrete anchor and bolt assemblies. Bolts are to be a nominal 3/8" stainless steel with lock washers. Bolts shall be also be installed through a 1x1 steel angle tightened snug to the underside of the tile panel.~~

~~6. Dimensions:~~
~~Tile Assemblies must be held within the following dimensions and tolerances:~~
~~Length and Width: 24"x 24" nominal square and triangle,~~
~~12" x 24" nominal, plus or minus 1/16".~~
~~Depth: 1.500" ± 5% max.~~
~~Face Thickness: 0.1875 ± 5% max. Warpage~~
~~of Edge: ± 0.5% max.~~

1

2.04 CLEANING AND PROTECTING

Revised 4-2-24

A. Protect the tactile detectable warning surface system against damage during the construction period to comply with tactile tile manufacturer's specification. Materials damaged prior to placement will be replaced at the Contractor's cost.

B. Protect the tactile detectable warning surface system against damage from rolling loads following installation by covering with plywood or hardwood.

C. Clean the tactile detectable warning surface system not more than four days prior to the scheduled inspection intended to establish date of completion of project. Clean tactile tile by methods specified by the manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Installation shall be per the manufacturer's recommendations.

B. Maintain a minimum temperature of 40 degrees F in spaces to receive tactile tiles for at least 48 hours prior to installations, during installation, and for not less than 48 hours after installation.

C. Store and protect tactile tile material in the area(s) where they will be installed for at least 48 hours before beginning installation.

D. The physical characteristics of the concrete must be consistent with the contract specifications.

E. PRIOR TO PLACEMENT OF THE TACTILE/DETECTABLE WARNING SURFACE SYSTEM, THE LAYOUT IS TO BE REVIEWED AND APPROVED BY THE RESIDENT ENGINEER. The concrete pouring and finishing operations require typical mason's tools, however, a 2' long level with electronic slope readout (SMART LEVEL), 25 lb. weights, vibrator and small sledgehammer with 2" x 6" x 20" wood tamping plate are specific to the installation of the TACTILE/DETECTABLE WARNING SURFACE SYSTEM. The concrete must be poured and finished, true and smooth to the required dimensions and slope prior to tile placement. Immediately after finishing the concrete, the electronic level should be used to check that the

required slope is achieved. The tile must be placed true and square to the ramp in accordance with the contract drawings. The TACTILE/ DETECTABLE WARNING SURFACE TILES must be tamped or vibrated into the fresh concrete to ensure that the field level of tile is flush to the adjacent concrete surface. The contract drawings indicate that the tile field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes. The tolerance for elevation differences between tile and adjacent surface is 1/16". Place the second panel next to the first, leaving no gap (tiles must be abutted to one another) and press into the wet concrete using a twisting back and forth motion. Be certain that the second panel is even and level with the first and with the surrounding concrete.

F. Immediately after tile placement, the tile elevation is to be checked to adjacent concrete. The tile elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates. While concrete is workable a steel trowel must be used to trowel the concrete around the tile perimeter to the field level of the tile. Trowel concrete flat, remove any excess concrete and leaving no gap (tiles must be abutted to one another) between the panels. Apply broom finish or other recommended finish to the area immediately surrounding the panels.

G. Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets, 2 suitable weights of 25 lb. each must be placed on each tile as necessary to ensure solid contact of tile underside of concrete.

H. During and after the tile installation and the concrete curing stage, it is imperative that there is no walking, leaning or external force placed on the tile to rock the tile, causing a void between the underside of tile and concrete.

I. Following the curing of the concrete, ~~the~~ any protective plastic wrap is to be removed from the tile face by cutting the plastic with a sharp knife tight to the concrete/tile interface.

3.02 QUALITY ASSURANCE

A. Provide tactile detectable warning system and accessories as produced by an approved manufacturer.

B. Installer's Qualifications: Engage an experienced Installer certified in writing by the tactile detectable warning system manufacturer as qualified for installation and who has successfully completed installations similar to that indicated for Project.

C. Americans with Disabilities Act (ADA): Provide a tactile detectable warning surface system which complies with the Americans with Disabilities Act (Title 49 CFR TRANSPORTATION, Part 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES.

D. California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR). Title 24, Part 1, Articles 2, 3 and 4 and Part 2, Section 205 definition of "Detectable Warning". Section 1127B.5 for "Curb Ramps" and Section 1133B.8.5 for "Detectable Warnings at Hazardous Vehicle Areas".

~~E. Tactile detectable warning surface system shall consist of a surface of truncated domes aligned in a square or radial grid pattern. Truncated domes in a detectable warning surface~~

1 Revised 4-2-24

~~shall have a base diameter of 0.9" minimum to 1.4" maximum, a top diameter of 50% of the base diameter minimum to 65% of the base diameter maximum, and a height of 0.2". Truncated domes in a detectable warning surface shall have a center to center spacing of 1.6" minimum and 2.4" maximum, and a base-to-base spacing of 0.65" minimum, measured between the most adjacent domes on a square grid. Detectable warning surface shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light and the field area must consist of a non-slip surface.~~

1

PART 4 - MEASUREMENT AND PAYMENT

Revised
4-2-24

4.01 MEASUREMENT

A. The Work of TACTILE/DETECTABLE WARNING SURFACE TILES will not be measured for payment.

4.02 PAYMENT

A. No separate payment will be made for the work covered in this section. Payment for the Work of TACTILE/DETECTABLE WARNING SURFACE TILES, will be included in the contract lump sum price as shown in the Schedule of Prices for CIVIL WORK.

4.03 PAY ITEM ACCOUNT NUMBER

A. CIVIL WORK: 020000

END OF SECTION 32 17 26

ATTACHMENT UU

DOCUMENT SUBMITTAL CHECKLIST

This checklist is intended to assist you. Missing forms may invalidate your bid. Please ensure that you have completed the forms and indicate such by placing an "X" next to each completed item:

1.		Schedule of Prices
2.		Submit the Appropriate Proposal: Proposal To Be Completed By a Corporation (if applicable); or Proposal To Be Completed By A Partnership; or Proposal To Be Completed By a Joint Venture; or Proposal To Be Completed By a Sole Proprietor
3.		Affidavit of Uncompleted Work
4.		Department of Procurement Services Bid Bond
5.		Contractor's Affidavit Regarding Removal of all Waste Materials and Identification of All Legal Dump Sites
6.		Schedule B – Affidavit of Joint Venture
7.		Schedule C – Letter of Intent to Form DBW
8.		Schedule D – Compliance Plan Regarding MBE and WBE Utilization
9.		Schedule F – Report of Subcontractor Solicitations
10.		City of Chicago Economic Disclosure Statement and Affidavit and Appendix A
11.		Sexual Harassment Policy Affidavit (2-92-612)
12.		Build America, Buy America form