

ADDENDUM NO. 2
Albany Park Stormwater Diversion Tunnel
CDOT PROJECT NUMBER: E-2-522
SPECIFICATION NO. 126930

**For which bids will be opened in the office of the Department of Procurement Services,
Room 103, Chicago, Illinois, 60602 on August 27, 2015 at 11:00 a.m. Central Time.**

**BIDDERS WILL ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE
PROVIDED ON THE PROPOSAL PAGE**

NOTICE OF ADDENDUM OF CONTRACT DOCUMENTS

ADDENDUM NUMBER 2

SPECIFICATIONS

1. In Book 1, Terms and Conditions, insert the attached “City of Chicago Assist Agency List” on page 116 following paragraph F.3.d.
2. In Book 3, Specification Section 01025, paragraph 1.01 J.1 – Delete the second sentence of the paragraph and replace with:
“Each pound of ultra-fine cement, if directed by the CITY to be used for grouting, will be measured as 1.5 pounds of Type II cement.”
3. In Book 3, Specification Section 01520, paragraph 1.01 A.1.b – Delete paragraph 1.01 A.1.b
4. In Book 3, Specification Section 13400, replace all references to “Division 40” with “Division 16”.
5. In Book 3, Specification Section 13400, paragraph 2.01.J, delete “and repeated to the main control room DCS SCADA System” from this paragraph.
6. In Book 3, Specification Section 13400, paragraph 2.03 C.2, delete “; and, one fiber test kit with meter, optical sources, carrying case, and guide: Fluke DTX-FTK or equal” from this sentence.
7. In Book 3, Specification Section 13410, delete paragraph “1.01 D.3 - Two-Wire Networks”.
8. In Book 3, Specification Section 13410, paragraph 3.02 B – I/O List, insert the attached “I/O list” at the end of the paragraph.

9. In Book 3, Specification Section 13510, paragraph 1.01.E – change all references for Block Diagram to Drawing I003.
10. In Book 3, Specification Section 13510, paragraph 1.01.E - Delete "UPDATE WITH CITY SUPPLIED SYSTEM Certain existing equipment and systems shall become an integral part of the PLCS".
11. In Book 3, Specification Section 13510 paragraph 1.01.C - Delete the last sentence: "Application Programming of the PLCs and the GUI software shall be performed by others."
12. In Book 3, Specification Section 13510 paragraph 2.05 – Delete paragraph “2.05 – PLC Programming Terminal”.
13. In Book 3, Specification Section 13510 paragraph 2.06 - Delete paragraph “2.06 – WORKSTATION HARDWARE”. Replace the paragraph with: "Each workstation shall meet the minimum software requirements."
14. In Book 3, Specification Section 13510 paragraph 2.07 – Delete “paragraph: 2.07 PERIPHERAL DEVICES. Replace the paragraph with: "2.07 PERIPHERAL DEVICES
A. Color Report Printer: One color printer shall be provided to print reports and color documents generated by the MMI System. Furnish and install one HP Color Laser Jet Pro MFP M277dw."
15. In Book 3, Specification Section 13510 paragraph 3.04 – Delete paragraph 3.04 C and replace with:

"The training shall be performed by qualified representatives of the CONTRACTOR or the Manufacturer for a total of 40 hours. Training shall be specifically tailored to this project and reflect the PLC system installation and configuration. The table below summarizes training topics required, which shall be furnished as part of the WORK. All training shall be conducted at the Site unless other location is approved by the CITY." Delete Column titled "Maintenance and Operator's Class, Hours" from the table, but maintain other information."
16. In Book 3, Specification Section 13510 paragraph 3.04I – Delete paragraph 3.04I.
17. In Book 3, Specification Section 13510 paragraph 3.04M - Delete paragraph 3.04 M and replace with the following:

“The CONTRACTOR shall provide a minimum of 4 Days services of an Engineer to demonstrate the operation of MMI screens and PLC logic. In addition to the training listed elsewhere, the CONTRACTOR's engineer shall make changes to the MMI and PLC programming necessary to provide an operational system that conforms to the specifications.”

18. In Book 3, Geotechnical Baseline Report, paragraph 5.5 – Delete the final sentence and replace with the following:

“A unit price pay item is included in the Contract for testing and disposal of contaminated soil in accordance with local and State regulations.”

DRAWINGS

1. Delete Drawings E004, E009, I002 and I003 and replace with revised Drawings E004R1, E009R1, I002R1, and I003R1 (attached).
2. Drawing C105: On plan view, delete the note “Temporary mooring (see note 1)”.
3. Drawing C105: Delete the note: “If contractor proposes to install temporary mooring facilities, contractor shall first provide mooring plan to City for review and approval.”

CLARIFICATION NO 2

1. **Question:** Will precast concrete be allowed in lieu of cast in place for the tunnel lining?

Answer: Comply with specification requirements.

2. **Question:** We would like to request a postponement of the bid date for 2 to 3 weeks to complete our bid as competitively as possible.

Answer: The bid opening has been rescheduled for August 27, 2015, 11:00 AM Central Time.

3. **Question:** It was asked at the prebid meeting if the City could provide more details on the availability and timeline of Com-Ed to potentially provide power top the jobsite. A contact name was also requested. As there is quite a bit of coordination involved with Com-Ed and the bid date is fast approaching, we need this information ASAP.

Answer: As indicated in Specification Section 01313 paragraph 1.01 E.3.m. Com-Ed has indicated that the nearest connection point for temporary power for the TBM is California and Addison in the City of Chicago. The contact at Com-Ed is Joibonta Jackson (Joibonta.Jackson@comed.com)

4. **Question:** Section 13400. “Additional requirements in this Section and throughout Division 40 that are stated to be the CONTRACTOR's responsibility may be performed by the prequalified Instrumentation Supplier if the CONTRACTOR and Instrumentation Supplier so agree.” The contract documents end at Division 16. Please address this discrepancy.

Answer: See Addendum 2, Item 4.

5. **Question:** Section 13400. “The failure of a power supply shall be annunciated at the control panel and repeated to the main control room DCS SCADA System.” This is the only reference to DCS SCADA System in the contract documents, Please address the requirements to comply with this sentence.

Answer: See Addendum 2, Item 5.

6. **Question:** Section 13400. “One cable analyzer with software, adapters, headsets, interface cable, AC chargers, and carrying case: Fluke DTX-1200 or equal; and, one fiber test kit with meter, optical sources, carrying case, and guide: Fluke DTX-FTK or equal.” Since there is no fiber optic cable on this project, it seems superfluous to require a fiber test kit. Please consider deleting this item.

Answer: See Addendum 2, Item 6

7. **Question:** Section 13406. 2.01A “Floats shall be Flyght, Siemens or equal.” Please consider Anchor Scientific as an “or equal” as Anchor Scientific manufacturers float switches for Siemens.

Answer: “Or Equal” manufacturers will be considered following award during submittal review.

8. **Question:** Section 13410. 1.01 D.3 - “Two-Wire Networks” The subsection defines communications to various devices, none of which appear to be specified elsewhere in this project. Please clarify the need for this section.

Answer: See Addendum 2, Item 7.

9. **Question:** Section 13410, 3.02 B. This subparagraph appears to have been omitted. Please supply an I/O list for this project.

Answer: See Addendum 2, Item 8.

10. **Question:** Section 13510, 1.01 E. “PLCS Configuration” The PLCS shall consist of PLCs, PC-based operator workstation, servers, data highway and communication modules, and all required equipment and peripherals as shown on the PLCS Block Diagram, Drawing I-1, and as described in these specifications, and as required to meet the functional intent of the specifications. There isn’t a Block Diagram on Drawing I-1. Please provide a network diagram to define the requirements of the contract.

Answer: See Addendum 2, Item 9.

11. **Question:** Section 13510, 1.01E - “UPDATE WITH CITY SUPPLIED SYSTEMS Certain existing equipment and systems shall become an integral part of the PLCS.”

Please clarify, is there any City Supplied Systems? There doesn't appear to be any existing equipment either.

Answer: There is no City Supplied System. See Addendum 2, Item 10.

12. **Question:** Section 13510, 1.01 C - There are multiple references in this section to "CDOT OFFICE equipment" but there seems to be no definition of what this equipment consists of, where it is located or what is to be accomplished.

Answer: CDOT supplied equipment is indicated on I003. See Addendum 2, Item 11.

13. **Question:** Section 13510 2.04 - "PROGRAMMABLE LOGIC CONTROLLER (PLC)" There are several manufacturers of PLC hardware that comply with this specification. Is there a City Standard the must be supplied to be compatible with 13510, 1.01.E CITY SUPPLIED SYSTEMS?

Answer: There is no City Supplied System. See Addendum 2, Item 10.

14. **Question:** Section 13510 2.04 H - "PLC Power Supply" Are redundant power supplies required for the PLC power supply? 13400, 2.01.J Control Panel Power Supplies: states Control panels shall be provided with redundant power supplies which are configured in a fault-tolerant manner to prevent interruption of service upon failure and interruption of service necessitated by the replacement of a power supply. Does this section take precedence?

Answer: Power supplies shall be redundant per 13400 2.01J.

15. **Question:** Section 13510 2.05 - "PLC PROGRAMMING TERMINAL" This is a very old computer specification and it needs to be updated. For example, neither 1.44Mb floppy drives nor the Windows NT operating system are available. Please update the specification.

Answer: See Addendum 2, Item 12.

16. **Question:** Section 13510, 2.06 - "WORKSTATION HARDWARE" Question #12 applies here too. Please update the specification.

Answer: See Addendum 2, Item 13.

17. **Question:** Section 13510 2.07 - "PERIPHERAL DEVICES" The specified printer is no longer available. Please update the specification.

Answer: See Addendum 2, Item 14.

18. **Question:** Section 13510 2.10 - "NETWORK HARDWARE" Refer to Question #7. Please provide a network diagram to define the requirements of the contract.

Answer: See Network block diagrams on drawing I003.

19. **Question:** Section 13510 3.04 - "TRAINING" Please consider revising the requirements for training as the number of training hours is abnormally large for a control system project of this size. 148 hours of training are specified, but 24 to 40 are more realistic.

Answer: See Addendum 2, Item 15.

20. **Question:** Section 13510 3.04 - "The CONTRACTOR shall provide 80 hours of on-Site directed training for each selected group of personnel at no separate additional cost to the CITY." Is this training in addition to the training specified in the table after paragraph 13510, 3.04.C?

Answer: See Addendum 2, Item 16.

21. **Question:** Section 13510 3.04 - "The CONTRACTOR shall provide a minimum of 10 Days services of an Engineer to demonstrate the operation of MMI screens and PLC logic." Is this training in addition to the training specified in the table after paragraph 13510, 3.04.C?

Answer: See Addendum 2, Item 17.

22. **Question:** The sum total of training and services in paragraphs 13510, 3.04.C through M is almost fifty days or \$50,000 worth of services.

Answer: Noted.

23. **Question:** Section 13513 2.04A - "CONTROL PANELS" does not seem to apply to the control cabinets detailed on sheet E009 of the drawings. Additionally, the listed manufacturers for control panels do not offer an enclosure even vaguely similar to the ones shown on E009. Please supply the name (s) of manufacturers who can supply this type of panel. Conversely, will a stainless steel or aluminum traffic control panel such as manufactured by APX be acceptable? Refer to www.apx-enclosures.com . These enclosures are specifically designed to accommodate rack mounted equipment as required for this project.

Answer: See Addendum 2, Drawing item 1 for revision to drawing E009.

24. **Question:** Section 13605, 2.04 A - "WORKSTATION AND MAN MACHINE INTERFACE (MMI) SOFTWARE" Two workstation software packages shall be supplied and installed, one on each of the workstations. Please provide a network diagram to define the requirements of the contract. Additionally, if one of the workstations is to be installed within the Prefabricated building, there doesn't seem to be appropriate facilities to accommodate this equipment.

Answer: See network block diagrams on Drawing 1003.

25. **Question:** Specification 13605 - "NETWORKING AND DISTRIBUTED OPERATION" The system must have a distributed, client/server system architecture. Please provide a network diagram to define the requirements of the contract. The specifications appear to define two workstations but make no mention of an I/O server which would be required if a client/server system architecture is to be deployed.

Answer: See network block diagrams on Drawing I003. Server shall be the GUI/local PC.

26. **Question:** Specification 013750 - "VIDEO SURVEILLANCE" The specification appears to be written solely around one manufacturer. Please provide the basis of the specification.

Answer: Comply with specification requirements.

27. **Question:** Drawing I003 - Referring to Sheet I003 of the drawings. Please clarify the following: a. In the "Outlet Site" there is a box "PLC with GUI". Is this intended to depict one of the workstations? Or is it a panel mounted operator interface (eg. Panelview)?

Answer: Yes, this is intended to depict one of the work stations which is a panel mounted PC and system server.

28. **Question:** Drawing I003 - Please clarify the following: In the "Connection to CDOT Office" there is a box "PC". Is this intended to depict one of the workstations?

Answer: Yes, this is intended to depict one of the workstations which will be delivered to the City to be installed by the City.

29. **Question:** Drawing C107 - Sheet C107 Inlet Utility Plan – CB-9 is called out as a 2" Diameter Catch Basin which I am assuming is a typo and should be 2' CB, but it also has several details referred to it. The detail on Sheet 305 show a 4' diameter catch basin. Should CB-9 be a 2' or 4' diameter structure?

Answer: CB-9 is a 2 foot diameter catch basin.

30. **Question:** Drawing C106 - Sheet C106 shows one detail for the 6" perforated PVC storm sewer (2-106) and sheet C107 shows another (4-306). Which detail is the correct detail to use for 6" perforated underdrain?

Answer: Detail (2-106) is used for the 6" perforated PVC pipe in the inlet trench / swale.

31. **Question:** Drawing C107 - Sheet C107. For connecting the proposed 6" water main to the existing main, will the existing main be shutdown, or will a pressure connection be required?

Answer: The requirements of the Department of Water Management must be met.

32. **Question:** Drawing C107 - Sheet C107. The two valve vaults on the 1" service do not have a diameter called out, will 4' structure or even a valve box be acceptable?

Answer: The valve vault detail requires a 48" diameter vault.

33. **Question:** Drawing C107 - Tunnel Construction Joints : We can find no construction joint details for the tunnel lining. Is water stop required? Is a vertical joint required or can a slopping joint be utilized?

Answer: Tunnel construction joints for consequent tunnel lining shall be vertical smooth joints with one strip of hydrophilic waterstop as specified in Specifications Section 03300-2.02 C.1.

34. **Question:** Specification 01025 - Bid item 9, Additional Cement for grouting states that the base material is Type II. However, if Ultra-Fine Cement or Chemical Grout is used the owner will pay 1.2 x the base rate for Ultra-Fine and x 5 for Chemical Grout. This is not enough to cover the material cost for these optional materials. We would suggest x 5 for Ultra-Fine and x 15 for Chemical Grout.

Answer: See Addendum 2, Item 2.

35. **Question:** Specification 01025 - Bid Item 6, Supplement Rock Support. The pay item for this unit is by the LB and we suggest this be changed to reflect the actual type of ground support being installed. Mine Straps, WWF, Steel Ribs, Rock Dowels, and Rolled Channel all vary in material and labor cost to install.

Answer: Comply with specification requirements

36. **Question:** Specification 01025 - Can a TBM mobilization bid item be created which is not part of the Mob/Demob within schedule of values that limited to 10% of the contract value?

Answer: Comply with specification requirements

37. **Question:** As of this date, the City has not issued any addenda to answer contractor's questions. The time available, to the bid date, is short. This is a complicated project and it requires time to evaluate the changes to our estimate that maybe required by the answers to the contractors questions. Therefore, we restfully request that a postponement of the bid date of two(2) weeks be granted to allow for the City's responses and time for evaluation of those responses.

Answer: The bid opening has been rescheduled for August 27, 2015, 11:00 AM Central Time.

38. **Question:** Specification 02201 - Regarding the location of holes for the drilling and blasting portion of the work, specification 2210, 1.05 C, indicates line drilling with a spacing of 2 to 4 times hole diameter around perimeter. Further 1.05 D indicates the smooth wall blasting holes are typically 10 to 15 times the diameter. Section 1.05 E indicates the required half cast percentage to be 50%. Given the fact that all blast areas will be lined with concrete, is it possible to increase hole spacing around perimeter provided the increased spacing is designed/proposed by the required Blasting Consultant.

Answer: The Sections 1.05 C/D/E of Specification Section 02210 provide general definitions and ranges, however, the Contractor will be required to provide his blasting plan per Specifications Section 02210-1.04 B.2.b and to meet the specification requirements including Sections 02210-3.06 and 3.07.

39. **Question:** Specification 03300 - Referencing Book 3, Section 03300-10, paragraph 2.02 10B.2a Table 1, states the class of concrete for the inlet shaft in overburden as "Standard Use Class R-2 Concrete". This contradicts note on drawing S103, Section C, which points to inlet shaft from elevation -25 to -55 as Class R-1 concrete. Which class of concrete is required?

Answer: The concrete for the inlet shaft in overburden shall be Type-R-2 as indicated in Section 03300. Disregard the concrete designation on Drawing S103.

40. **Question -** A 12" Drainage Layer is indicated under the Inlet Structure slab at elevation -25 and under the inlet channel. However no drain layer or aggregate sub-base is indicated under any slab of Outlet Structure. It appears the slabs are placed on existing grade. Is a drain layer or stone base required?

Answer: The undisturbed soil under the outlet structure conduit and wing walls concrete slab is adequate to sustain the bearing pressure of the structures without a stone base. The contractor shall account for leveling slab or other means to set the reinforcement mats to provide 3 inches of concrete cover at the base.

41. **Question:** What material classification is required for the 12" drain layer? It is not indicated in the schedule in Book 3, 2200-5 paragraph 2.01 H.

Answer: The drain layer shall conform to IDOT CA7.

42. **Question:** Spec section 01222 BLACK EARTH TOPSOIL – This specification includes the FURNISHING & DELIVERY of black earth to the city where designated. Spec section 01223 SEEDING & SODDING specification includes furnishing & placing black earth (topsoil). Please clarify if the topsoil material delivered to the site per section 0122 is to be used in the areas referenced in spec 01223?

Answer: All topsoil must meet the requirements of Section 01222 - Black Earth (topsoil) and can be utilized in areas referenced by Specification Section 01223 - Seeding and sodding.

43. **Question:** Spec section 01520 SECURITY. Par 1.01 b states that the contractor is to initiate program in coordination with the CITY'S existing security system at mobilization. Please clarify what the city's existing security system is.

Answer: See Addendum 2, Item 3.

44. **Question:** Book 1, Terms and Conditions - Please provide a copy of Attachment A as referred to in Book I Page 116.t.3.d

Answer: See Addendum 2, Item 1.

45. **Question:** Section 01313- Please verify the location of the closest available power drop. According to the information provided the location is almost 2 miles away from the job site. If this is indeed the correct location please consider including an allowance item for having power service brought to the site.

Answer: As indicated in Specification Section 01313 paragraph 1.01 E.3.m. Com-Ed has indicated that the nearest connection point for temporary power for the TBM is California and Addison in the City of Chicago.

46. **Question:** Please provide a point of contact with ComEd.

Answer: The contact at ComEd is Joibonta Jackson (Joibonta.Jackson@comed.com)

47. **Question:** Please verify the minority participation goals for the project. There are conflicting percentages listed in the contract documents.

Answer: There is no discrepancy. See Book 2, Section 1, page 3.

48. **Question:** Please consider postponing the bid date by 2 weeks to allow for adequate time to resolve the issue of temporary power at the construction sides.

Answer: The bid opening has been rescheduled for August 27, 2015, 11:00 AM Central Time.

49. **Question:** In the "Geotechnical Baseline Report for Construction of the Albany Park Stormwater Diversion Tunnel," Section 5.5 – Environmental Contamination, it is stated "An allowance budget is included in the Contract for testing and disposal of contaminated soil in accordance with local and State regulations." However, Bid Schedule Item NO. 10 – Excavation and disposal of contaminated soil material, does not have an allowance given for this item. It is a per cubic yard price of 1,000 cubic yards. Is there an allowance for this bid item as stated, or not?

Answer: See Addendum 2, Item 18.

50. **Question:** Will the owner consider a two week extension to the bid closing date and change the day of bid tender from Tuesday to Thursday, changing the day helps for better subcontractor quotes, with a weekend and one working day from before the bid submission it makes it difficult to get quotes in a timely manner to review for the bid.

Answer: The bid opening has been rescheduled for August 27, 2015, 11:00 AM Central Time.

51. **Question:** Section 01025 Measurement and Payment indicates that the project is to be bid as a lump sum except for the 10 unit prices provided, including: #8 - Drilling additional holes and #9 additional cement for grouting. Please provide base quantities that when exceeded, would initiate the use of these pay items.

Answer: Comply with specification requirements

52. **Question:** Additional Cement Grouting - states that each LB of Portland cement will be paid by the pound mixed and that microfine cement, if directed by the CITY will be paid at a rate of 1.2 times the Type II rate.
- Please consider making a separate pay item for ultrafine cement as the price for this material is substantially greater than 1.2 times the price for Type II
 - Given that grout mix selection is directed by the CITY, and may contain a wide range of water cement ratios and admixtures, and an estimated grout take is not provided, please provide pay items for individual material components, pump time and grout connection.
 - Please provide an indication of the grout takes expected.
 - Please provide an indication of the grout mixes expected.

Answer: Comply with specification requirements

53. **Question:** Throughout Section 02330, the grout components, grouting pressures, etc. are to be determined by the results of the pressure test and "as directed by the CITY", in some cases regardless of the water inflow as detailed in Part 1.01.D.4. Given that the CONTRACTOR is working "as Directed", it is not possible to reasonably estimate the amount of time, or materials that will be required. Please consider adding appropriate pay items and estimated quantities for: each grout component, each grout connection, washing and pressure testing time, pumping time, and drilling (If).

Answer: Comply with specification requirements

54. **Question:** Section 02330, Part 1.01.D.2 states that water control grouting ((shall limit the water inflow into the shaft prior to shaft excavation, after shaft excavation or prior to installation of the final shaft lining to a maximum of 5 gallons per minute (gpm)". Later it is stated that the grouting operations shall commence ((if the total flow exceeds

5 gpm for any 25 lineal feet of the shaft". Please clarify. Is the required flow rate less than 5 gpm or less than 5 gpm for 25 lineal feet? As the shaft sizes vary significantly, please indicate which shaft this is for or provide a target residual permeability or lugeon value.

Answer: The contractor is required to limit the total inflow into each shaft to a maximum of 5 gpm upon completion of the shaft excavation and prior to lining. This is a general requirement. The second requirement of a maximum of 5 gpm per 25 lineal feet of vertical shaft applies during excavation and is the trigger for grouting operations to commence. Both shafts have the same inflow limitations.

55. **Question:** Section 02330 Part 1.05.C indicates that refusal is defined by zero (O) grout take as measured over a 5 minute period at 100 percent of the maximum grouting pressure specified for each grouting type. Please adjust the refusal criteria to ((the practical measuring limit of the flow meter" and provide a pay item to account for the unknowable time necessary to reach this limit.

Answer: Comply with specification requirements

56. **Question:** Section 02330 Part 1.05.F states that water pressure testing is to be carried out under "varying pressures up to 50 psi, or 10 psi more than the hydrostatic pressure measured at the site." Please indicate the method that will be used to measure the hydrostatic pressure and who will be responsible for providing this measurement or value.

Answer: No Change. Refer to information contained in the GBR.

57. **Question:** Section 02330 Part 2.01.B.1- Type II cement is required, except that the cement is required to have a Blaine fineness of 3500 cm²/g. As Type I/II cement generally has a fineness of 3,000 to 5,000, is Type III cement also acceptable?

Answer: Comply with specification requirements

58. **Question:** Section 02330 Part 2.01.B.2 indicates that bulk cement must be approved to be acceptable. Please describe the process / criteria by which bulk cement will be approved.

Answer: Bulk Cement would have to be tested to show that it meets the requirements of part 2.01.B.

59. **Question:** Section 02330 Part 2.02.A - The CITY may direct the use of Type II cement or ultrafine cement. Please provide separate pay items for each of these materials as the cost difference is substantial.

Answer: Comply with specification requirements

60. **Question:** Section 02330 Part 2.02.A states that "the grout mixes will be designed or approved by the CITY." Please provide the grout mixes designed by the CITY.

Answer: Mixes will be submitted by the contractor for approval of the City.

61. **Question:** Section 02330 Part 2.05.B.1- requires an alignment tolerance of 4% or less. Please reconsider the alignment tolerance. Four (4) percent may be very difficult to achieve utilizing 1Yz11 diameter holes.

Answer: No change. Some minor adjustment may be considered in the field.

62. **Question:** Section 02330 Part 3.01-The work will be performed in the presence of the CITY and as directed by the CITY based on observations and results of testing. Please confirm that the CITY will have a representative onsite 100% of the time with _the authority to make immediate decisions based on real-time observations and test results.

Answer: No change. A City representative will be on site 100% of the time with proper authority.

63. **Question:** Section 02330 Part 3.01.B states that "the actual number, depth, spacing and sequence of holes, pressures, pumping rates and grout mixes to be used for grout injections will depend upon the nature of the rock or observations and results of previous grouting operations as determined by the CITY. Please provide unit price pay items to account for the "actual" work "as determined by the CITY" as the scope of this work is not clearly defined or known or provided by the CITY at this time.

Answer: Comply with specification requirements.

64. **Question:** Section 02330 Part 3.01.C - Please provide a pay item for washing the holes.

Answer: Comply with specification requirements.

65. **Question:** Section 02330 Part 3.01.D.2.a describes "multiple stage grouting" as using ascending stages (upstage grouting). Section 02330 Part 3.01.D.5 .a describes "Stage grouting11 as using descending stages (downstage grouting). Please indicate when each grouting type will be required.

Answer: Comply with specification requirements.

66. **Question:** Section 02330 Part 3.02.E.1 - indicates grout hole diameter tolerances and states that "the size of completed grout holes shall be checked frequently." Please provide the procedure for measuring the size of the grout holes and indicate who will measure it ,and how frequently.

Answer: Comply with specification requirements.

67. **Question:** Section 02330 Part 3.03.B.1 -Washing and Pressure Testing Holes
- Please clarify if 100% of grout holes are required to be pressure tested.
 - The maximum pressure ... shall be as directed. Please provide the maximum pressure required for selection of equipment.
 - Clarify washing procedures. If the hole is "sufficiently tight11 to build pressure and consequently prevent venting of displaced material, what is the result of washing? Wouldn't this indicate that material is being forced into fractures which could consequently obstruct grout?

Answer: a. & b. No water pressure testing is required. c. Comply with specification requirement.

68. **Question:** Section 02330 Part 3.03.D.2.b - indicates that grout mixes, pressures and proportions will be directed by the CITY and grouting shall be started with a "thick and stable grout mixture.
- Please provide potential grout mixes
 - Please provide pay items for potential grout mix components.
 - Please provide the grout mix or required properties of "thick and stable grouts."

Answer: Comply with specification requirements

69. **Question:** Section 02330 Part 3.03.D.2.d - "If the desired results are not obtained with the current mix, grouting in the hole shall be discontinued, if so directed. In such event, the hole shall be cleaned..." Define hole cleaning procedures.

Answer: Comply with specification requirements.

70. **Question:** Section 02330 Part 3.03.D.2.f - Indicates a maximum grouting pressure of 100 psi. This conflicts with the maximum test pressure of 50 psi stated in Part 1.05.F.

Answer: No change. One pressure level is for water pressure testing and one is for grouting. Comply with specification requirements.

71. **Question:** Section 02330 Part 3.06.C.a requires the submission of record tests on grout samples. Please provide details regarding required grout sampling and testing.

Answer: No Change - this will be handled during submittal review.

72. **Question:** On Drawing S116 they show the WT 9 x 53 what is the application for this product (how does it fit in?) Is there a detail drawing of the actual section with dimension and lengths?

Answer: The two WT 9x53 are stiffeners between the flanges of the horizontal waler W16x89 to transfer the strut load. Details can be clarified during shop drawing review.

73. **Question:** On S116 detail 2 they show a corner. Please provide details of corner extrusion connector.

Answer: Details for the corner connection can be clarified during the shop drawing review and revisions to the joint connection are incidental to the pricing of the structure.

74. **Question:** On the studs due to various height location of walls should the contractor plan on field installing and applying coating after install?

Answer: The installation of the headed studs as shown on S115 detail 6 is up to the Contractor's Means and Methods. Any coatings that are disturbed due to field welding shall be repaired.

75. **Question:** Is the starting location for the sheeting Work Point 1?

Answer: The start of sheet pile installation is 3 inches from the work point I_WWP1, see detail 1 on S102.

76. **Question:** I could not find where there are clearly stated Min and Max dimensions on the walls. What are they?

Answer: Drawing S111 indicates the number of sheet piles and installed dimension of the total system. The Contractor shall provide total number of sheets as indicated on the drawings. If the Contractor anticipates that the installed sheet piles may exceed the dimension of the work points, then provide longer waler lengths and fit in the field.

77. **Question:** S116 what is the dimension of the bent plate ? Is the bent plate put on all piling?

Answer: The bent plate length on the sheet pile cap is 3 inches.

78. **Question:** S117 detail K shows a closure plate being 31'6" as an inside dimension. Should that be 31.5" ?

Answer: The dimension on Detail K should read 31- 1/2" and can be confirmed during shop drawing review.

79. **Question:** S117 Detail Side Elevation - is the closure plate typical for all sections in the inlet structure?

Answer: Yes, the closure detail is typical on all sheet piles to prevent debris from being lodged between the grating on the piles.

80. **Question:** S117 detail L does the angle get shop applied and then coated? Does the closure plate get shop coated and field installed?

Answer: This connection requires field welding. It should be coated when the sheet piles are coated.

81. **Question:** S117 Side Elevation - the rear angle is located where the interlock is. Please provide fabrication detail of how this should be installed (section K does not show this angle).

Answer: There is no rear angle required for this detail. The plate spans between the two angle supports.

82. **Question:** On S201 there are two wing walls called out. There is no clear detail showing the number of pairs per wall. Please provide.

Answer: Wing Wall 1 sheeting length is 108.3 ft. and Wing Wall 2 length is 62.5 ft. using PZC- 19 sheets.

83. **Question:** Section 09960 - I reviewed the coating spec with our Carboline tech rep. to provide the desired results from our shop we would Coat full length 100% with Carbozinc 11 HS Inorganic zinc primer(3 to 4mils DFT) Carboguard 893(4 to 6mils DFT) Carbothane 134 HG (2.5 to 3mils DFT) applied per manufacturer instructions. Please verify that this coating is acceptable.

Answer: Section 09960 indicates System 102 coating type and dry mil thicknesses. The Contractor shall provide coating system as specified with the required mil thicknesses ranging from 16-20 mils.

84. **Question:** I've reviewed the concrete specification for the project and noticed that portions of the specification are out of date. Some of the referenced products have new name designations. What is the proper procedure when bidding the job and a listed product is no longer available? There are new alternate products available to replace the outdated materials that are specified.

Answer: No Change. The Cast-in-Place Concrete specification Section 03300 is a performance spec utilizing ASTM Standards. The Euclid products were indicated for bonding agents, repair mortar, and non-shrink grouts. These chemicals periodically change over time. The volume of these materials is small and costs are incidental to the cost of the project. During shop drawing review, all products meeting the ASTM standards and the technical specifications will be reviewed and evaluated.

85. **Question:** Drawing S013 - Referencing Trashrack TY2 as shown on S103, & details A, 1 & 2, notes 8 & 9 on S108 indicates "Welded Wire Cloth - 1/2" x 1/2" - W0.66 x W0.66" to be tackwelded to trashrack at 5"o.c. and galvanized both trashrack and cloth after tackwelding. We have been advised by a metals fabricator that the wire cloth is very thin and that tackwelding will be difficult, if not feasible, and that the welds will

most likely fail after hot dip galvanizing. Please review and confirm specified material and method.

Answer: Instead of welding of the WWC to load bars, Contractor shall provide 3/8in by 1.5in continuous steel bars spanning horizontally not to exceed 2.5ft on center and fasten WWC with 3/8" diameter galvanized bolts with 1" diameter washers at 12in oc. Horizontal bars shall be fasten to load bars with 1/2 in diameter bolts at equal spacing not to exceed 18 inches on center. Details will be clarified during shop drawing review. All steel will be galvanized.

86. **Question:** The scale for 3/16" = 1'-0" on structural drawings: S101-S103, S202-S205, incorrectly indicates 10' instead of 20'. Please confirm.

Answer: The 3/16" scale is correct, but the scale bar dimension at the end should read 20 ft.