

June 5, 2013

SUBJECT: FAI Route 90/94 (Circle Interchange) Section 0101.6-2P-I-3(13) Cook County Contract No. 60W36 Item No. 36, June 14, 2013 Letting Addendum A

# NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

- 1. Replaced the Schedule of Prices.
- 2. Revised page ii of the Table of Contents to the Special Provisions.
- 3. Revised pages 15-19 of the Special Provisions.
- 4. Added page 138 to the Special Provisions.
- 5. Revised sheets 4, 5, 10, 11 & 12 of the Plans.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

John D. Baranzelli, P. E. Acting Engineer of Design and Environment

Setter alachbyen BE.

By: Ted B. Walschleger, P. E. Engineer of Project Management

cc: John Fortmann, Region 1, District 1; Mike Renner; Estimates

MS/ks

#### ILLINOIS DEPARTMENT OF TRANSPORTATION SCHEDULE OF PRICES CONTRACT NUMBER -

State Job # - C-91-271-13

		Project Number	Route	
County Name -	COOK	NHPP-000S/937/	FAI 90	
Code -	31		FAI 94	
District -	1	*REVISED: JUNE 4, 2013		

Section Number - 0101.6-2P-I-3 (13)

ltem Unit of Number **Pay Item Description** Measure **Unit Price Total Price** Quantity х = L SUM 1.000 X0327598 LOCATE TUNNEL X0327599 BULKHEAD TUNNEL L SUM 1.000 X0327600 BULKHEAD TUNNEL SPL L SUM 1.000 \*REV X5930100 CONTR LOWSTR MATL SPL CU YD 3,285.100 X7010216 TRAF CONT & PROT SPL L SUM 1.000 X7011015 TR C-PROT EXPRESSWAYS L SUM 1.000 FOOT 6,465.000 X7030030 WET REF TEM TAPE T3 4 X7030055 WET REF TEM TPE T3 24 FOOT 20.000 Z0030850 TEMP INFO SIGNING SQ FT 154.000 HOUR Z0076604 TRAINEES TPG 500.000 10.000 5,000.000 40601005 HMA REPL OVER PATCH TON 20.000 42400200 PC CONC SIDEWALK 5 SQ FT 100.000 SQ YD 44002215 HMA RM OV PATCH 3 3/4 96.000 SQ YD 96.000 44201347 CL C PATCH T4 9 EACH 56101176 DIWPF 30X24 2B MJ RED 1.000

Page 1 6/7/2013

#### ILLINOIS DEPARTMENT OF TRANSPORTATION SCHEDULE OF PRICES CONTRACT NUMBER - 60W36

State Job # - C-91-271-13

		Project Number	Route	
County Name -	COOK	NHPP-000S/937/	FAI 90	
Code -	31		FAI 94	
District -	1	*REVISED: JUNE 4, 2013		

Section Number - 0101.6-2P-I-3 (13)

ltem Unit of Number **Pay Item Description** Measure Quantity **Unit Price Total Price** Х = EACH 56101178 DIWPF 36X24 2B MJ RED 1.000 EACH 56104322 DIWPF242B MJ 1/4BSBND 2.000 EACH 56104323 DIWP FTG 30" MJ SLEEV 1.000 EACH 56104324 DIWP FTG 36" MJ SLEEV 1.000 56105310 WAT MAIN CTRL VALV 16 EACH 1.000 L SUM 67100100 MOBILIZATION 1.000 SQ FT 2,175.000 70301000 WORK ZONE PAVT MK REM FOOT 500.000 78000200 THPL PVT MK LINE 4 FOOT 50.000 78000650 THPL PVT MK LINE 24

Page 2 6/7/2013

FAI 90/94 (Circle Interchange) Section 0101.6-2P-I-3(13) Cook County Contract 60W36

QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE) 103
REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE) 117
REMOVAL AND DISPOSAL OF SURPLUS MATERIALS (BDE)
SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE) 121
TRACKING THE USE OF PESTICIDES (BDE) 121
TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE) 121
IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)122
UTILITY COORDINATION AND CONFLICTS (BDE)
WARM MIX ASPHALT (BDE)
WEEKLY DBE TRUCKING REPORTS (BDE)

FAI 90/94 (Circle Interchange) Section 0101.6-2P-I-3(13) Cook County Contract 60W36

### **BULKHEAD TUNNEL, SPECIAL**

**Description.** The work under this item consists of the installation of a permanent concrete bulkhead within the ten foot diameter concrete water tunnel immediately north of the junction with the eight foot diameter tie to the 12 foot diameter chlorination shaft located at the Cermak Pump Station. The work shall be performed as detailed on the Plans, specified herein and directed by the Engineer.

THE CONTRACTOR IS ADVISED THAT THE WORK WILL BE PERFORMED UNDERWATER WITHIN A POTABLE WATER SUPPLY USED TO PROVIDE WATER TO CUSTOMERS WITHIN THE CITY OF CHICAGO. AS SUCH, ALL OPERATIONS SHALL BE PERFORMED IN SUCH A WAY AS TO AVOID CONTAMINATION OF THE WATER SUPPLY THOUGH THE INFILTRATION OF GROUT, INTRODUCTION OF CONTAMINANTS OR THE PROCESS OF THE WORK. ADDITIONALLY, THE APPLICABLE PORTIONS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARD "DISINFECTION OF WATER-STORAGE FACILITIES" SHALL APPLY TO ALL WORK. ONLY A LIMITED SHUT DOWN OF THE PUMP STATION WILL BE ALLOWED TO PERFORM THE BULKHEADING OPERATIONS. ALL WORK WILL REQUIRE THE REVIEW AND APPROVAL OF THE CHICAGO DEPARTMENT OF WATER MANAGEMENT (CDWM) PRIOR TO THE COMMENCEMENT OF WORK OPERATIONS. THE DECISION OF CDWM WITH RESPECT TO THE SUITABILITY OF ANY OPERATION SHALL BE FINAL.

The Plans and special provisions describe a performance type specification that achieves the objective of bulkheading the ten foot diameter water line and meets the general requirements of CDWM. The Contractor is encouraged to propose alternative methods for the bulkheading of the water tunnel in order to minimize the impact on pump station operations. Regardless of the method chosen to bulkhead the tunnel, it shall be the Contractor's sole responsibility to provide a bulkhead design and procedure that meets the requirements of this Special Provision. It shall be the Contractor responsibility to familiarize him/herself with the requirements of the work.

#### Materials.

Inflatable bulkhead bladder: Ballistic nylon reinforced polyurethane outer ply inflatable bladder designed to withstand 50 feet of head without blowout. Bladder shall be designed to be inflated with air, nitrogen or water with dual vents – one for injection of water or grout and the second to expel water or grout. The bladder material shall be a fluoroelastomer capable of resisting attack by dissolved chlorine and be resistant to degradation. The bladder shall be supplied with all manufacturers recommended controllers and monitoring devices. The inflation and expulsion hoses shall be all new materials and designed to function with the design of the bladder.

Tremie Concrete: Tremie concrete shall conform to the requirements of CONTROLLED LOW STRENGTH MATERIAL, (SPECIAL).

**General Requirements.** Access to the Cermak Pump Station is controlled and space is limited for the staging of vehicles or equipment. The Contractor is advised to secure space in close proximity to the Pump Station to allow for staging of personnel, materials and equipment for the work. The cost of such staging areas shall be included in the cost of BULKHEAD TUNNEL, (SPECIAL).

The duration of the shut down of the Cermak Pump Station to accomplish the bulkheading work shall be limited to five consecutive twenty four hour days. No shut down or work will be allowed between May 1<sup>st</sup> and October 1<sup>st</sup>. Shut down outside of these dates shall be at the discretion of

CDWM. Shut downs of less than one twenty four hour day to inspect and perform other tasks associated with the work may be permitted between October 1<sup>st</sup> and May 1<sup>st</sup> subject to the decision of CDWM. There is no guarantee that the Pump Station shut downs can be granted during the normal work week and the Contractor should anticipate that the work can occur at any time with the allowed periods of shut down.

All work shall be conducted in accordance with the requirements of the AWWA Standard "Disinfection of Water-Storage Facilities" (AWWA Standard C652-11) for the procedures associated with the disinfection for construction work performed on water supplies and the applicable Illinois Environmental Protection Agency (IEPA) permits for the work. All equipment that will be entering the tunnel system will be cleaned and rinsed with potable water prior to being brought to the site. Care will be taken not to contaminate the equipment with dirt and debris while mobilizing the equipment and setting up the dive station in the Screen & Gate Room at the Cermak Pumping Station. Clean tarps will be used to set the equipment on to prevent unnecessary contamination. Once the dive station has been set up, any loose dirt or debris will be removed from the Screen & Gate Room prior to removing the manhole hatch.

Prior to accessing the manhole into the tunnel system, the divers (along with all equipment that is to enter the manhole) will be thoroughly disinfected with a solution of sodium hypochlorite in accordance with AWWA Standard C652-11. The sodium hypochlorite solution will be applied to all surfaces of the diver's equipment and the dive umbilicals with the use of a pressure sprayer prior to accessing the Screen & Gate Shaft through the access manhole. In addition, all members of the inspection team will be required to disinfect their footwear upon entering the Screen & Gate Room at the Cermak Pumping Station.

The Contractor shall be required to obtain from the IEPA all necessary construction permits for the work. The cost of obtaining the construction permits shall be included in the cost of BULKHEAD TUNNEL, (SPECIAL).

The Contractor shall create a "clean area" within the 17 foot diameter "screen and gate" room. The room shall be cleaned and decontaminated in accordance with the requirements of the AWWA Standard. All openings shall be sealed and the walls, ceilings and floors cleaned with chlorine based solution prior to the start of any work. A decontaminated before entering the "clean area" of the chlorination shaft room to allow workers to be decontaminated before entering the "clean area" of the "screen and gate" room. The Contractor shall maintain daily records of all persons who enter the "screen and gate" room, provide evidence of decontamination and whether or not the persons performed work in the water. The cost of meeting these requirements shall be included in the cost of BULKHEAD TUNNEL, (SPECIAL).

The bulkhead shall be designed to provide a permanent barrier between the in-service water line and the water line to be abandoned north of the bulkhead as shown on the Plans. The bulkhead shall be designed to withstand a water head differential of 50 feet with a factor of safety of at least 1.5 against blowout and provide a water tight seal after installation. The bulkhead seal shall be designed in such a way that it will not degrade due to the presence of chlorination or other chemicals normally found in the water supply. After installation of the bulkhead, the water tunnel to be abandoned shall be filled with a cementitious grout conforming to the requirements of and paid for as CONTROLLED LOW STRENGTH MATERIAL, (SPECIAL).

The Contractor shall retain the services of a State of Illinois Licensed Structural Engineer who is certified as an Engineer-Diver Team Leader with the Department and has at least five years of

diving experience and certified in the use of surface supplied air and penetration dive techniques (Engineer-Diver). The Engineer-Diver shall be responsible for the development of all construction procedures and plans, details of the bulkhead and its installation, perform on-site observation of the construction operations and provide verification and final certification that the work complies fully with the requirements of the plans and these Special Provisions. The cost of providing the Engineer-Diver shall be included in the cost of BULKHEAD TUNNEL, (SPECIAL)..

### IF AT ANY TIME, THE CONTRACTOR'S PROCEDURES RESULT IN ELEVATED LEVELS OF CONTAMINATION OR TURBULENCE IN EXCESS OF THOSE DENOTED IN THE IEPA PERMIT OR CDWM STANDARDS, THE WORK SHALL IMMEDIATELY CEASE AND THE CONTRACTOR SHALL SUBMIT REVISED PROCEDURES TO MEET THE REQUIREMENTS OF THE PERMIT OR STANDARDS. NO ADDITIONALLY COMPENSATION WILL BE MADE TO COMPLY WITH THESE REQUIREMENTS.

**Construction Requirements.** The work shall be performed in accordance with the Contractor's approved construction plan and these Special Provisions. Access to the water tunnel shall be through the 17 foot diameter chlorination shaft located at the northeast corner of the Cermak Pump Station. THE CONTRACTOR IS ADVISED THAT THE ACCESS TO THE WORK IS THROUGH A DECONTAMINATED SPACE AND THAT ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AWWA STANDARD AND THE APPROVED PLAN. THE APPROVED DECONTAMINATION PROCEDURES SHALL BE FOLLOWED PRIOR TO THE START OF ANY WORK. ALL WORK MATERIALS, TOOLS AND WORKERS SHALL BE DECONTAMINATED PRIOR TO ENTERING THE DECONTAMINATED SPACE.

All dive work shall be conducted in accordance with OSHA Commercial Dive Operations Standard (29 CFR 1910, Subpart T) and Association of Diving Contractors International's Consensus Standards for Commercial Diving and Underwater Operations. The access within the "screen and gate" room consists of a 30 inch diameter access hatch and ladder. If the Contractor requires a larger means of access to the tunnels for the work, the Contractor shall provide the Engineer with details showing the proposed modifications, means of preventing contamination and repair after completion of the work. The design of all modifications, procedures to prevent contamination and repairs shall be prepared and signed and sealed by the Contractor's Engineer-Diver.

The Contractor shall have his/her Engineer-Diver verify the conditions of the tunnel to be bulkheaded prior to the start of any work. The diver shall verify the presence of any gate valve within the north/south leg of the water tunnel to be abandoned and verify that the gate valves are closed. Any discrepancies between the observed conditions and the conditions noted on the plans or in this Special Provision shall be noted to the Engineer and no work shall proceed until there is agreement with the Engineer on how to proceed.

The interior of the walls of the tunnel have deposits of orthophosphate, a non-hazardous white powder like substance that is added to the water and adheres to the lining of the tunnel. The Contractor shall thoroughly clean the residue from the walls of the tunnel in the vicinity of the bulkhead to ensure full sealing after the installation of the bulkhead. The cleaning shall be accomplished in such a way as to avoid creating turbulence in the water. If the turbulence exceeds levels prescribed by the IEPA construction permit or the requirement of CDWM, all work shall cease until an agreeable means of performing the work to meet the requirements is approved.

An inflatable bladder bulkhead shall be installed in the water tunnel to be abandoned immediately north of the junction with the water tunnel to remain in service, as shown on the Plans. The bladder bulkhead shall be designed to be inflated with water and provided with a two port closed system for pumping water to inflate the bladder bulkhead. This closed system shall be piped directly to the surface on the exterior of the Pump Station and be of sufficient strength to prevent blow out during use. This closed system shall be used to pump cementitious grout into the bladder to displace the water and form a permanent grouted seal within the bladder bulkhead. The grout shall meet the requirements of and paid for as CONTROLLED LOW STRENGTH MATERIAL, (SPECIAL). Pumping of grout shall continue until ten percent more than the volume of the grout needed to fill the bladder bulkhead has been placed and a continuous stream of cementitious grout without water is observed at the discharge pipe. Any displaced water and grout must be piped to the surface to the outside of the Pump Station and disposed of in accordance with all applicable regulations. Disposal of the water or water/cement grout mixture directly to the sewer is prohibited.

The grout in the inflatable bladder bulkhead shall be left to cure in accordance with the suppliers recommendations. After the grout has cured, the Engineer-Diver shall inspect the inflatable bladder bulkhead and certify its adequacy to the Engineer. The testing for adequacy of seal shall consist of pumping down the level of water in the tunnel to be abandoned to approximately three feet below the level of the crown of the tunnel. The Engineer-Diver shall enter the tunnel to be abandoned through the 12 foot diameter "old chlorination shaft" located north of the Cermak Pump Station and visually verify that no water movement is observed between the in-service tunnel and abandoned tunnel around the edges of the inflatable bladder bulkhead. Once the adequacy of the seal has been verified, the south face of the inflatable bladder bulkhead that will be in contact with the potable water supply shall be cut and removed.

The Contractor shall locate the remaining abandoned water tunnel to be filled according to the requirements under LOCATE TUNNEL. The abandoned water tunnels shall then be filled with cementitious grout. The tremie method shall be used. The Contractor shall provide sufficient holes for pumping grout and removing water to ensure a complete sealing of the abandoned tunnel. The grout holes shall be drilled through the top of the abandoned water tunnel and shall be no more twelve inches in diameter. The Contractor shall drill the grout holes in advance of the start of the grouting operation. The Contractor shall provide temporary plugs capable of supporting truck loads over the openings until the grouting work commences. Work shall proceed concurrently starting from the 10 foot diameter east and west gate shafts along the seven foot diameter abandoned water tunnel along the northside of Harrison Street until the abandoned water tunnel is fully grouted. The final area to be grouted shall be the area behind the inflatable bladder bulkhead. The work shall progress continuously unless otherwise approved by the Engineer. The work shall be performed in such a way as to ensure a complete grouting of the abandoned water tunnel. The Contractor shall provide sufficient grout holes at a spacing of no more than 50 feet to allow the water to be displaced by the cementitious grout and the grouting at any opening shall not cease until a continuous stream of grout is seen at the surface of the next grout hole. Grouting shall proceed uphill from the previous grout hole to ensure complete grouting.

The Contractor shall continuously monitor water quality within the 17 foot diameter "screen and gate" shaft and entrance to the Pump Station to ensure that no grout material is entering the in-service water tunnel. The Contractor shall retain the services of a testing lab meeting the approval of the CDWM to conduct such tests. All test results shall be provided immediately to the CDWM. Testing intervals shall not be greater than every 15 minutes during grouting

operations. If any test is found not to meet CDWM standards for water quality, all operations shall be stopped and procedures reviewed with the Engineer. Work shall resume after measures are taken to address any concerns with water quality.

Where grout holes are required within the travel lanes of the Dan Ryan Expressway or ramps, the closure of such lanes shall be made in accordance with the requirements of TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS), KEEPING THE EXPRESSWAYS OPEN TO TRAFFIC, and FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC.

The Contractor shall arrange his/her operation with settling basins or other separators in such a way as to capture the excess water displaced by the grout or the grout itself. At no time will the Contractor be allowed to dispose of the excess water or water/grout mixture into the sewer before treatment. Grouting shall continue at each grout hole until the grout is at the level of the adjacent grade.

After completion of the grouting operations, the Contractor shall restore any damaged pavement or sidewalk to its condition prior to the start of operations. All excess grout shall be removed and disposed of in accordance with the Standard Specifications. All clean up shall be included in the cost of BULKHEAD TUNNEL, (SPECIAL). The cost for restoration of pavements and sidewalks shall be paid for separately.

The Contractor shall remove the temporary decontamination area and all other associated support facilities and work at the end of the job.

Method of Measurement. BULKHEAD TUNNEL, (SPECIAL) will not be measured for payment.

**Basis of Payment.** The work under this item shall be paid for at the Contract lump sum cost for BULKHEAD TUNNEL, (SPECIAL). The cost of the bladder bulkhead, its installation including cleaning of the water tunnel, the closed pumping system, on site underwater observation by the Engineer-Diver, modification and repair of the "screen and gate" shaft, and disposal of excess materials and site restoration shall be included in the cost of BULKHEAD TUNNEL, (SPECIAL). The cementitious grout shall be paid for as CONTROLLED LOW STRENGTH MATERIAL, (SPECIAL). The drilling of the grout holes shall be included in the cost of CONTROLLED LOW STRENGTH MATERIAL

## CONTROLLED LOW STRENGTH MATERIAL (SPECIAL)

**Description.** The work under this item consist of providing the materials and placing of tremie concrete used for the grouting of abandoned water tunnels and the inflatable bladder bulkhead. All work shall conform to the requirements of Article 1020,Portland Cement Concrete of the Standard Specifications except as modified herein.

Materials. The Portland Cement Concrete shall be Class SC with the following modifications:

- Aggregate shall be CA 11 with 50 to 55% total course aggregate by weight
- Sikament 100 SC or approved equal anti-washout admixture shall be added to the mix and shall provide a minimum spread diameter of 20 inches using an inverted slump cone. The admixture shall have the effect of a plasticizer and water reducer as well as an anti-washout agent.
- Slump shall be 6 to 8 inches

**Construction Requirements.** CONTROLLED LOW STRENGTH MATERIAL, (SPECIAL) shall be placed by pumping using the tremie method conforming to the requirements of Section 503.09 of the Standard Specifications except that the placement tube shall be no less than six inches in diameter.

FAI 90/94 (Circle Interchange) Section 0101.6-2P-I-3(13) Cook County Contract 60W36

## **TYPE III TEMPORARY TAPE FOR WET CONDITIONS**

Effective: February 1, 2007 Revised: February 1, 2011

<u>Description</u>. This work shall consist of furnishing, installing, and maintaining Type III Temporary Pavement Marking Tape for Wet Conditions.

Materials. Materials shall be according to the following.

Initial minimum reflectance values under dry and wet conditions shall be as specified in Article 1095.06. The marking tape shall maintain its reflective properties when submerged in water. The wet reflective properties will be verified by a visual inspection method performed by the Department. The surface of the material shall provide an average skid resistance of 45 BPN when tested according to ASTM E 303.

## CONSTRUCTION REQUIREMENTS

Type III Temporary Tape for Wet Conditions shall meet the requirements of Article 703.03 and 703.05. Application shall follow manufacturer's recommendations.

Method of Measurement. This work will be measured for payment in place, in feet (meters).

<u>Basis of Payment</u>. This work will be paid for at the contract unit price per foot (meter) for WET REFLECTIVE TEMPORARY TAPE TYPE III of the line width specified, and at the contract unit price per square foot (square meter) for WET REFLECTIVE TEMPORARY TAPE TYPE III, LETTERS AND SYMBOLS.

Added 6-5-2013