Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

January 12, 2012

SUBJECT: Red Gate Road
Project M-TE-CMM-HD-TCSP-IL08(030)
Section 04-00092-00-BR (St. Charles)
Kane County
Contract No. 63650
Item 146
January 20, 2012 Letting
Addendum (A)

NOTICE TO PROSPECTIVE BIDDERS:

Due to clarify information necessary to revise the following:

1. **Pages 5, 6, 8, 10, 17 & 18 of the Schedule of Prices.**
2. **Index of Special Provisions.**
3. **Pages 3, 5 - 7, 62, 71 - 77, 87, 95 - 97, 102 & 140 of the Special Provisions.**
4. **Added pages 87A, 97A & 102A to the Special Provisions.**
5. **Sheets 4, 5, 7, 8, 11, 12, 77, 78, 106, 110, 111, 182 - 184, 222, 224, 233, 244, 246, 251, 252, 259 & 261 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,

Scott Stitt, P.E.
Acting Engineer of Design and Environment

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

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
X2502014	SEEDING CL 4A MOD	ACRE	3.200			=		
X4021000	TEMP ACCESS- PRIV ENT	EACH	9.000			=		
X4022000	TEMP ACCESS- COM ENT	EACH	1.000			=		
X4023000	TEMP ACCESS- ROAD	EACH	2.000			=		
X4401198	HMA SURF REM VAR DP	SQ YD	12,534.000			=		
X5051401	F&E STRUCT STL BR N1	L SUM	1.000			=		
X5051402	F&E STRUCT STL BR N2	L SUM	1.000			=		
X5091725	BICYCLE RAILING SPL	FOOT	4,600.000			=		
X5091730	BRIDGE FENCE RAIL SP	FOOT	100.000			=		
X5210110	HLMR BRG GUID EXP 200	EACH	10.000			=		
X5210160	HLMR BRG GUID EXP 450	EACH	25.000			=		
X5610700	WATER MAIN REMOVAL	FOOT	435.000			=		
X6060340	GUTTER OUTLET SPL *	EACH	6.000			=		
X6700410	ENGR FLD OFF A SPL	CAL MO	18.000			=		
X7010216	TRAF CONT & PROT SPL	L SUM	1.000			=		

* Revised 1-12-12

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
X8130110	JUNCTION BOX SPL *	EACH	1.000			X =		
X8730250	ELCBL C 20 3C TW SH	FOOT	848.000			X =		
Z0001050	AGG SUBGRADE 12	SQ YD	19,329.000			X =		
Z0007118	UNTREATED TIMBER LAG	SQ FT	5,916.000			X =		
Z0007124	STEEL RAILING SPL	FOOT	3,087.000			X =		
Z0013797	STAB CONSTR ENTRANCE	SQ YD	1,152.000			X =		
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000			X =		
Z0018010	DRAINAGE SCUPPR DS-33	EACH	13.000			X =		
Z0018800	DRAINAGE SYSTEM	L SUM	1.000			X =		
Z0019600	DUST CONTROL WATERING	UNIT	100.000			X =		
Z0022800	FENCE REMOVAL	FOOT	330.000			X =		
Z0026402	FUR SOLDIER PILES HP	FOOT	2,171.000			X =		
Z0030240	IMP ATTN TEMP NRD TL2	EACH	2.000			X =		
Z0030340	IMP ATTN REL NRD TL2	EACH	2.000			X =		
Z0030850	TEMP INFO SIGNING	SQ FT	63.000			X =		

* Revised 1-12-12

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
20700220	POROUS GRAN EMBANK	CU YD	102.000	X			=		
20800150	TRENCH BACKFILL	CU YD	5,901.000	X			=		
21001000	GEOTECH FAB F/GR STAB	SQ YD	19,329.000	X			=		
21101615	TOPSOIL F & P 4	SQ YD	40,971.000	X			=		
25000210	SEEDING CL 2A	ACRE	9.600	X			=		
25000320	SEEDING CL 5	ACRE	1.800	X			=		
25000400	NITROGEN FERT NUTR	POUND	866.000	X			=		
25000500	PHOSPHORUS FERT NUTR	POUND	866.000	X			=		
25000600	POTASSIUM FERT NUTR	POUND	866.000	X			=		
25100115	MULCH METHOD 2	ACRE	14.500	X			=		
25100630	EROSION CONTR BLANKET	SQ YD	26,662.000	X			=		
28000305	TEMP DITCH CHECKS *	FOOT	200.000	X			=		
28000400	PERIMETER EROS BAR	FOOT	8,752.000	X			=		
28000500	INLET & PIPE PROTECT	EACH	13.000	X			=		
28000510	INLET FILTERS	EACH	48.000	X			=		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
44000100	PAVEMENT REM *	SQ YD	622.000			X =		
44000200	DRIVE PAVEMENT REM	SQ YD	2,400.000			X =		
44000500	COMB CURB GUTTER REM	FOOT	1,823.000			X =		
44000600	SIDEWALK REM	SQ FT	174.000			X =		
44004250	PAVED SHLD REMOVAL	SQ YD	2,146.000			X =		
44201789	CL D PATCH T2 12	SQ YD	113.000			X =		
44201815	CL D PATCH T2 14 *	SQ YD	171.000			X =		
48101600	AGGREGATE SHLDS B 8	SQ YD	1,300.000			X =		
48203021	HMA SHOULDERS 6	SQ YD	359.000			X =		
48203029	HMA SHOULDERS 8	SQ YD	1,300.000			X =		
48301000	PROTECTIVE COAT	SQ YD	15,264.000			X =		
50105220	PIPE CULVERT REMOV	FOOT	215.000			X =		
50200100	STRUCTURE EXCAVATION	CU YD	756.000			X =		
50200300	COFFERDAM EXCAVATION *	CU YD	1,730.000			X =		
50201121	COFFERDAM TYP 2 LOC 1	EACH	1.000			X =		

* Revised 1-12-12

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
78008250	POLYUREA PM T1 LN 12	FOOT	201.000			X =		
78100100	RAISED REFL PAVT MKR	EACH	369.000			X =		
78100105	RAISED REF PVT MKR BR	EACH	68.000			X =		
78200410	GUARDRAIL MKR TYPE A	EACH	6.000			X =		
78200530	BAR WALL MKR TYPE C	EACH	40.000			X =		
78201000	TERMINAL MARKER - DA	EACH	4.000			X =		
78300100	PAVT MARKING REMOVAL	SQ FT	5,874.000			X =		
78300200	RAISED REF PVT MK REM	EACH	109.000			X =		
80500010	SERV INSTALL GRND MT	EACH	2.000			X =		
81023750	CON ENC C 3 PVC *	FOOT	1,070.000			X =		
81024600	CON ENC C 6 PVC 1X1	FOOT	560.000			X =		
81026200	CON ENC RC 6 PVC 3X2 *	FOOT	2,079.000			X =		
81026464	CON ENC RC 6 PVC 3X4 *	FOOT	103.000			X =		
81028200	UNDRGRD C GALVS 2	FOOT	3,851.000			X =		
81028210	UNDRGRD C GALVS 2 1/2	FOOT	76.000			X =		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
81028220	UNDRGRD C GALVS 3	FOOT	108.000			X =		
81028240	UNDRGRD C GALVS 4	FOOT	618.000			X =		
81028350	UNDRGRD C PVC 2	FOOT	2,709.000			X =		
81028720	UNDRGRD C CNC 1	FOOT	460.000			X =		
81100605	CON AT ST 2 PVC GALVS *	FOOT	2,414.000			X =		
81101205	CON AT ST 6 PVC GALVS *	FOOT	6,870.000			X =		
81200210	CON EMB STR 1 PVC	FOOT	322.000			X =		
81200230	CON EMB STR 2 PVC	FOOT	240.000			X =		
81300420	JUN BX SS AS 10X8X6	EACH	19.000			X =		
81300610	JUN BX SS AS 14X12X6	EACH	2.000			X =		
81400100	HANDHOLE	EACH	18.000			X =		
81400200	HD HANDHOLE	EACH	7.000			X =		
81400300	DBL HANDHOLE	EACH	2.000			X =		
81702120	EC C XLP USE 1C 8	FOOT	5,587.000			X =		
81702130	EC C XLP USE 1C 6	FOOT	11,857.000			X =		

* Revised 1-12-12

INDEX OF SPECIAL PROVISIONS

COMPLETION DATE PLUS WORKING DAYS

The Contractor shall complete all contract items associated with safely opening Red Gate Road over the Fox River and Fox River Trail including the intersections at IL Route 31 and IL Route 25 to traffic by the interim completion date of 11:59 PM, December 15, 2012, except as specified herein.

The Contractor will be allowed to complete all clean-up work, punch list items, landscaping, and bridge painting within 15 working days after the interim completion date for opening the roadway to traffic. Under extenuating circumstances, the Engineer may direct that certain items of work not affecting the safe opening of the roadway to traffic may be completed within the working days allowed for clean-up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

The final completion date for landscaping, and bridge painting shall be May 30, 2013.

The Special Provision for Failure to Complete the Work on Time shall apply to both the completion date and the number of working days.

FAILURE TO COMPLETE THE WORK ON TIME

Effective: September 30, 1985
Revised: January 1, 2007

Should the Contractor fail to complete the work on or before the interim completion date and or the final completion date as specified in the Special Provision for "Completion Date Plus Working Days", or within such extended time as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of $10,000, not as a penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

In fixing the damages as set out herein, the desire is to establish a certain mode of calculation for the work since the Department's actual loss, in the event of delay, cannot be predetermined, would be difficult of ascertainment, and a matter of argument and unprofitable litigation. This said mode is an equitable rule for measurement of the Department's actual loss and fairly takes into account the loss of use of the roadway if the project is delayed in completion. The Department shall not be required to provide any actual loss in order to recover these liquidated damages provided herein, as said damages are very difficult to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

PROGRESS SCHEDULE

Replace the first paragraph of Article 108.02 with the following:

After the award of the contract and prior to starting work, the Contractor shall submit to the Engineer a satisfactory critical path schedule which shall show the proposed sequence of work and how the Contractor proposes to complete the various items of work on or before the completion dates shown in the contract. Due to the compressed nature of this contract, the schedule must be created by using a commonly available software package and submitted to the Engineer in a digital format. Multiple controlling items will not be allowed.

Utility	Location	Estimated Dates for Start and Completion of Relocation or adjustment
Comcast	South side of Existing Red Gate Road, West of the Intersection with IL-31	Underground Line in Conflict with proposed widening of Red Gate Road. Underground line will need to be relocated. Start Date: March 12, 2012 Completion Date: July 13, 2012
	West side of Existing IL - 31, North and South of Intersection with Red Gate Road	Potential adjustments or support of existing underground line near intersection of Red Gate Road to accommodate roadway widening, ditch grading, traffic signals, lighting and water main. Start Date: July 16, 2012 Completion Date: September 16, 2012
	East side of Existing IL - 25	Potential adjustments or support of existing underground line near intersection of Red Gate Road to accommodate roadway widening, ditch grading, retaining wall construction, traffic signals, lighting and water main. Start Date: March 12, 2012 Completion Date: July 13, 2012

Utility	Location	Estimated Dates for Start and Completion of Relocation or adjustment
ComEd	Southwest quadrant of intersection between Red Gate Road and IL - 31	Potential adjustments or support of existing facilities near intersection to accommodate traffic signals, water main, lighting or drainage. Start Date: July 16, 2012 Completion Date: September 16, 2012
	West side of Existing IL - 31, North and South of Intersection with Red Gate Road	Potential relocation, adjustments, or support of existing aerial line near intersection of Red Gate Road and IL - 31 to accommodate roadway widening, ditch grading, water main, traffic signals and lighting. Start Date: July 16, 2012 Completion Date: November 16, 2012
	East side of Existing IL - 31, South of Intersection with Red Gate Road	Potential adjustments or support of existing aerial line to accommodate water main construction. Start Date: March 12, 2012 Completion Date: July 13, 2012
	East side of Existing IL - 25, North and South of Intersection with Red Gate Road	Potential relocation, adjustments, or support of existing aerial line along the East side of IL - 25 to accommodate water main, retaining wall construction, ditch grading and drainage. Start Date: March 12, 2012 Completion Date: July 13, 2012

Magellan Midstream Partners	Northwest Quadrant of Intersection of Red Gate Road and IL - 31	Underground Pipeline under proposed widening of Red Gate Road and IL - 31. Precautions will be needed to construct over the pipeline, along with potential support of pipeline to accommodate water main, signals and lighting. Start Date: July 16, 2012 Completion Date: September 16, 2012
	Northeast Quadrant of Intersection of Red Gate Road and IL - 31	Underground Pipeline under proposed widening of IL - 31, and construction of Proposed Red Gate Road. Precautions will be needed to construct over the pipeline, along with potential support of pipeline to accommodate water main, signals and lighting. Start Date: March 12, 2012 Completion Date: July 13, 2012
MCI	Southside of Existing Red Gate Road, West of Intersection with IL - 31	Underground facilities in Conflict with proposed widening of Red Gate Road. Underground line will need to be relocated. Start Date: July 16, 2012 Completion Date: September 16, 2012
	Proposed Red Gate Road, East of Intersection with IL - 31	Underground facilities in Conflict with construction of Proposed Red Gate Road. Potential adjustments or support of existing underground facilities to accommodate water main, drainage and interconnect. Start Date: March 12, 2012 Completion Date: July 13, 2012

Utility	**Location**	**Estimated Dates for Start and Completion of Relocation or adjustment**
Nicor Gas	East side of Existing IL - 31, North and South of Intersection with Red Gate Road	Underground facilities in Conflict with widening of Existing IL - 31. Underground facilities will need to be relocated to accommodate widening. Potential adjustments or supports of existing facilities for water main, ditch grading, lighting, and signals. Start Date: March 12, 2012 Completion Date: July 13, 2012
	East side of Existing IL - 25, North and South of Intersection with Red Gate Road	Underground facilities in Conflict with widening of Existing IL - 25. Underground facilities will need to be relocated to accommodate widening. Potential adjustments or supports of existing facilities for water main. Start Date: March 12, 2012 Completion Date: July 13, 2012

	Existing Pinelands Road	Underground facilities in Conflict with Reconstruction of Pinelands Road. Underground facilities will need to be relocated to accommodate reconstruction. Start Date: July 16, 2012 Completion Date: September 16, 2012
SBC	East side of Existing IL - 31, North and South of Intersection with Red Gate Road	Underground facilities in Conflict with widening of Existing IL - 31. Underground facilities will need to be relocated to accommodate widening. Potential adjustments or supports of existing facilities for water main, ditch grading, lighting, and signals. Start Date: March 12, 2012 Completion Date: July 13, 2012

The above represents the best information available to the Department and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply.

MAINTENANCE OF ROADWAYS

Effective: September 30, 1985
Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

TRAFFIC CONTROL PLAN

Effective: September 30, 1985
Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall notify the Engineer a minimum of two weeks prior to beginning tree removal operations so that a pre-construction meeting can be coordinated at the site. The pre-construction meeting shall be attended by the Engineer, the Contractor, and representatives of the Kane County Forest Preserve. Pre-construction meeting attendees shall walk the site to:

1. confirm areas of removal.
2. evaluate the quality and estimate the quantity of saw timber to be salvaged.
3. review harvesting methods and equipment.
4. establish landing locations.

The Contractor shall provide a list of all trees over 6" that are to be removed for approval for documentation by the Engineer. The list shall include, at a minimum: area removed from, species of tree, diameter of tree, and health status of tree. This information shall be submitted to the Engineer for approval payment for any areas cleared.

The Contractor shall remove all trees and brush within the limits of work indicated on the plans. Care should be taken to minimize damage to trees indicated to remain. Broken limbs shall be removed from damaged trees indicated to remain during tree removal operations. Stumps shall be removed in accordance with the Standard Specifications.

The Contractor will cut and salvage logs from desirable trees species larger than 9" d.b.h. Desirable tree species include walnut, cherry, ash, basswood, oak, hickory and maple. Logs shall be processed and cut into 10'-16' lengths and neatly stockpiled on site at landing locations designated by the Engineer. The Engineer will then coordinate with the Forest Preserve to take possession of the logs. Ash trees shall be harvested and/or disposed of in accordance with Illinois Department of Agriculture requirements to minimize the potential spread of the Emerald Ash Borer beetle. All trees not suitable for harvesting, and other brush and slash residual larger than 1" diameter shall be removed and disposed of in accordance with the Standard Specifications. All ruts and damage caused by removal operations shall be restored and reseed if necessary

LIMESTONE SCREENING SURFACE 3" (NEW PATHS)

Description: Provide all labor, materials, and equipment to construct a limestone screening trail as indicated on the drawings, including incidentals related to that work and other work specified elsewhere in the Contract Documents:

References: "Standard Specifications for Road and Bridge Construction"- Latest edition- Illinois Department of Transportation

Quality Assurance:

1. The Contractor is responsible for verifying the quality of the work and shall perform compaction and density tests on request of the Engineer to check compliance with these specifications. A copy of the test reports shall be furnished to the Engineer.

2. The Engineer may require that an independent testing laboratory test imported materials at any time. If the material is found to be non-compliant with the Contract, the Contractor shall

Pre-Approved Suppliers:
The product for ANTI-GRAFFITI COATING shall be as outlined below or an approved equal meeting all of the requirements of the product outlined below.

- MonochemPermashield Base Item 6100 (One Coat)
- MonochemPermashield Premium Item 5600 (Two Coats)
- Monochem Citrus Clean Super Item 9800 (Cleaning Agent)

The product for ANTI-GRAFFITI PROTECTION SYSTEM shall be as outlined below or an approved equal meeting all of the requirements of the product outlined below.

- Sherwin Williams Anti-Graffiti Coating Clear B97C00150

Method of Measurement.This work will be measured in place per square feet of surfacearea upon which the anti-graffiti protection system has been applied and accepted by theEngineer.

Basis of Payment.This work will be paid for at the contract unit price per square feetfor ANTI-GRAFFITI COATING or ANTI-GRAFFITI PROTECTION SYSTEMwhich price shall be payment in full for the cleaning ofdesignated surfaces, the application of the anti-graffiti coating, supplying the manufacturer'stechnical representative and supplying the initial quantity of cleaning agent and the test patch.

TEMPORARY CAUSEWAY

Description: This work includes the construction, maintenance, and removal of a temporary causeway in the Fox River during the construction of the Red Gate Road Bridge, the Multi-Use Path Bridge, in accordance with the plans and as directed by the Engineer.

The maximum foot print of a temporary causeway and any temporary work structure in the river shall be limited to 0.25 Acre per the ACOE Regional Permit.

Preparedness, Prevention, and Contingency Plan (PPC). The Contractor shall prepare a Preparedness, Prevention, and Contingency Plan, which details procedures for preventing contamination of the causeway rock and addresses clean up procedures. Contamination includes, but is not limited to, fuel, hydraulic or lubricating fluids, cleaning solutions, dirt or other debris, which will cause pollution of the river. All personnel shall be familiar with the procedures outlined in the PPC Plan. The PPC Plan shall be submitted to the Engineer for review and approval prior to commencing causeway construction activities.

The Contractor shall maintain the causeway throughout its life by adding causeway embankment to the side slopes, as required, and as directed by the Engineer. The Contractor shall immediately repair all damage caused by floodwater after the water level has returned to normal elevation and reconstruct the causeway at no additional cost to the City or Department.

Temporary facilities may not be constructed using dumped fill or any other erodible material. Erodible material is defined as material subject to transport due to normal or high flows, or material which may not be 100% recoverable from the waterway. Crushed concrete or reclaimed asphalt pavement will not be permitted.

The Contractor shall assume all risk of damage to his equipment and the work caused by inundation of his selected river access regardless of the flow event. No extension of time or compensation will be granted to the Contractor as a result of any river flow events that overtop and/or cause failure of his/ her system.

River Recreational Access: The Fox River is a public recreational and navigable waterway. The contractor shall furnish, install and, at the completion of work in the waterway, remove signage in and along the Fox River upstream of construction activities at all times. The verbiage shall highlight caution and clearly indicate canoe routes, closed channels and any other impediments to recreational use of the Fox River through the construction zone. Buoy lines to block off areas and guide recreational users to open areas shall be provided upstream and downstream of the project site.

River Blackout Periods: Any construction impacting spawning in the river shall be coordinated with the Illinois Department of Natural Resources. The Contractor is alerted to the fact that the temporary causeway may not be installed or removed in the Fox River during the fish spawning period from March 1 to June 15. Other temporary facilities in the Fox River that are placed prior to March 1 may remain in use provided there is no direct disturbance to the water. Work may continue provided that construction activities do not result in temporary or permanent impacts to the Fox River. During the Fox River blackout period, the Contractor may maintain the temporary facilities already in place prior to the blackout.

Removal: Upon completion of relevant bridge construction, remove all portions of the causeway and restore streambed and banks to original grades and conditions to the satisfaction of the Engineer.

Alternate Causeway by Contractor: Construction of the Red Gate Road Bridge as well as the Multi-Use Path Bridge will involve work in the Fox River that requires both Federal and State permits. Appropriate permits for work in the Fox River have been obtained from the U.S. Army Corps of Engineers (USACE), Illinois Department of Natural Resources - Office of Water Resources (IDNR/OWR), Illinois Environmental Protection Agency (IEPA), and the Kane-DuPage Soil and Water Conservation District. The USACE issues Section 404 permits that fulfill their regulatory function over the "waters of the United States". IDNR/OWR issues permits for construction in floodways and for crossings of streams within the public waters, which includes the Fox River. IEPA provides water quality certification pursuant to Section 401 of Clean Water Act. This certification is mandatory for all projects requiring a Section 404 Permit. Approval of the temporary soil and erosion control plans by the Kane-DuPage Soil and Water Conservation District is also a condition of the USACE 404 permit.

The Contractor is responsible for conforming to the conditions, specifications and commitments of the final Federal and State permits necessary for construction in the Fox River, including the Section 404 (Army Corp Chicago District Regional Permit Program), Section 401 (Clean Water Act, Water Quality Certification), and IDNR-OWR (Part 3700 rules for Construction in Floodways of Rivers, Lakes, and Streams as well as Part 3704 for Regulations of Public Waters as well as Part 3708 for Floodway Construction in Northeastern Illinois) permits. Sr. Charles has submitted the permit applications with sitespecific information related to anticipated access requirements, construction techniques, Fox River hydraulic analysis, and avoidance and minimization efforts within the Fox River and jurisdictional waterway areas highlighted as part of the permit application.

The Contractor shall be solely responsible for preparing and submitting any additional information, exhibits and plans necessary to revise the existing permit prior to construction activities in the Fox River, including all information related to site-specific information that deviates from information previously submitted by the City for the purpose of securing the permit for this project. The Contractor is alerted to the fact that deviations from the site-specific information previously submitted for permit approval could result in significant delays with respect to securing the necessary permits for construction in the waterway. No extension of time or compensation will be granted to the Contractor as a result of any delay in securing the permit resulting from deviations in the site-specific information related to the Contractor's proposal.

The contractor may select to implement a temporary causeway alternative provided the contractor is able to obtain the required permits in a timely manner. An alternate causeway and/or temporary bridge plan would then need to be submitted to the Engineer for approval. Alternate causeway and temporary bridge designs are subject to the requirements of this item and shall be signed and sealed by a Structural Engineer licensed in the state of Illinois. The Contractor is fully responsible for the design of the temporary river access and is not limited to the system shown on the plans, and may propose other systems.

The Contractor shall obtain the services of a Professional Engineer, registered in the State of Illinois, to prepare the design of the alternate causeway plan and submit alternate design, including HEC-RAS hydraulic model and waterway information table, and a permit modification for approval by Kane County, U.S. Army Corps of Engineers, and the Illinois Department of Natural Resources. The Contractor may not proceed with alternate causeway construction without written approval from all three agencies.A Contingency Plan for the alternate causeway, similar to the plan described above, shall also be provided so that the upstream created head will riot be greater than 0.1 foot for all storm events including and up to the 100-year flood frequency (1 % probability of occurrence). A minimum 100'-wide navigational clearance will be required for any alternate causeway.

Method of Measurement: This work will be measured for payment as a single lump sum item. All materials, structures, signage, buoys, and appurtenances required for any and all of the proposed and/or required construction stages shall be included in the single lump sum item.

Basis of Payment: This work will be paid for at the contract lump sum price for TEMPORARY CAUSEWAY, which shall include all labor, equipment, materials, maintenance, cleanup and restoration in the event of failure or overtopping, removal and disposal of materials and structures placed in the river, engineering costs, and all other items necessary to complete the work as specified herein.

HAUL ROAD - EAST

Description: This work includes the construction of additional areas, placement of additional materials, maintenance, existing haul roads and removal of all temporary haul road constructed on the east side of the Fox River during the construction of the Red Gate Road Bridge.

Materials: Materials provided for construction of the haul road will be as selected by the Contractor to provide good stability for the intended use, except as noted below. Any materials that the Contractor may want to re-use in other areas of the project shall meet IDOT standards for the application, and shall be communicated to and approved by the engineer prior to delivery to the site, to ensure agreement for the re-use and to avoid any additional costs to be incurred.

Construction: The Contractor shall locate the haul road in the general area as indicated on the contract plans. Geotextile fabric may be needed between the stone and ground line to minimize restoration work after removal. The contractor shall construct the haul road as needed to provide access for all vehicles and equipment down to areas around bridge piers. The proposed temporary haul road will have a slope and alignment that allows for use by all vehicles and equipment accessing the construction zone, including those used by the engineer or regulatory personnel.

Contractor is responsible for the stability and maintenance of the haul road. Benching or other embankment foundation preparation may be required to ensure stability. The Contractor shall take utmost care to minimize disturbance of any trees to remain at all times, will take measures to prevent erosion of the haul road material. Full compliance with the SWPPP is mandatory for this work. If the Engineer determines that the Contractor's activities are producing undue erosion of materials beyond the limits of sediment control items, excessive disturbance of trees to remain, or other negative impacts to the project or adjoining properties, the Contractor shall stop the work and take corrective action before proceeding.

The Contractor shall maintain the haul road throughout its life by adding embankment to the side slopes, as required, and as directed by the Engineer. In the event of flooding, the Contractor shall immediately repair all damage caused by floodwater after the water level has returned to normal elevation and reconstruct the haul road at no additional cost.

Temporary facilities may not be constructed using dumped fill or any other erodible material. Erodible material is defined as material subject to transport due to normal or high flows, or material which may not be 100% recoverable from the waterway. Crushed concrete or reclaimed asphalt pavement will not be permitted.

The Contractor shall assume all risk of damage to his equipment and the work caused by inundation of his selected haul road location and elevation, regardless of the flow event. No extension of time or compensation will be granted to the Contractor as a result of any river flow events that overtop and/or cause failure of his/ her system.

Upon completion of relevant project construction, the Contractor shall remove all portions of the haul road and restore the area to original grades and conditions, to the satisfaction of the Engineer.

Method of Measurement: This work will be measured for payment as a single lump sum item. All materials and appurtenances required for any and all of the proposed and/or required construction stages shall be included in the single lump sum item.

Basis of Payment: This work will be paid .for at the contract lump sum price for HAUL ROAD - EAST, which shall include all labor, equipment, materials, maintenance, cleanup and restoration in the event of failure or overtopping, removal and disposal of materials,restoration of the land affected by the haul road, and all other items necessary to complete the work as specified herein.

HAUL ROAD - WEST

Description: This work includes the construction, maintenance, and removal of a temporary haul road to be constructed on the west side of the Fox River during the construction of the Red Gate Road Bridge.

Materials: Materials provided for construction of the haul road will be as selected by the Contractor to provide good stability for the intended use, except as noted below. Any materials that the Contractor may want to re-use in other areas of the project shall meet IDOT standards for the application, and shall be communicated to and approved by the engineer prior to delivery to the site, to ensure agreement for the re-use and to avoid any additional costs to be incurred.

Construction: The Contractor shall locate the haul road in the field for approval by the engineer.Minimum disturbance to existing trees shall be considered in the alignment. Trees shall be pruned and protected as necessary, and this work is subject to approval by the engineer.

Geotextile fabric may be needed between the stone and ground line to minimize restoration work after removal. The contractor shall construct the haul road as needed to provide access for all vehicles and equipment down to areas around bridge piers. The proposed temporary haul road will have a slope and alignment that allows for use by all vehicles and equipment accessing the construction zone, including those used by the engineer or regulatory personnel.

Contractor is responsible for the stability and maintenance of the haul road. Benching or other embankment foundation preparation may be required to ensure stability. The Contractor shall take utmost care to minimize disturbance of any trees to remain at all times,will take measures to prevent erosion of the haul road material. Full compliance with the SWPPP is mandatory for this work. If the Engineer determines that the Contractor's activities are producing undue erosion of materials beyond the limits of sediment control items, excessive disturbance of trees to remain, or other negative impacts to the project or adjoining properties, the Contractor shall stop the work and take corrective action before proceeding.

The Contractor shall maintain the haul road throughout its life by adding embankment to the side slopes, as required, and as directed by the Engineer. In the event of flooding, the Contractor shall immediately repair all damage caused by floodwater after the water level has returned to normal elevation and reconstruct the haul road at no additional cost.

Temporary facilities may not be constructed using dumped fill or any other erodible material. Erodible material is defined as material subject to transport due to normal or high flows, or material which may not be 100% recoverable from the waterway. Crushed concrete or reclaimed asphalt pavement will not be permitted.

The Contractor shall assume all risk of damage to his equipment and the work caused by inundation of his selected haul road location and elevation, regardless of the flow event. No extension of time or compensation will be granted to the Contractor as a result of any river flow events that overtop and/or cause failure of his/ her system.

Upon completion of relevant project construction, the Contractor shall remove all portions of the haul road and restore the area to original grades and conditions, to the satisfaction of the Engineer.

Method of Measurement: This work will be measured for payment as a single lump sum item. All materials and appurtenances required for any and all of the proposed and/or required construction stages shall be included in the single lump sum item.

Basis of Payment: This work will be paid .for at the contract lump sum price for HAUL ROAD - WEST, which shall include all labor, equipment, materials, maintenance, cleanup and restoration in the event of failure or overtopping, removal and disposal of materials,restoration of the land affected by the haul road, and all other items necessary to complete the work as specified herein.

TEMPORARY BRIDGE

Description. This work shall consist of all labor, materials and equipment necessary to design, install, and subsequently remove a temporary work bridge required to enable access to work areas during construction.

The maximum foot print of a temporary causeway and any temporary work structure in the river shall be limited to 0.25 Acre per the ACOE Regional Permit. The Contractor is responsible for determining the limits and details of the Temporary work bridge in a manner to facilitate construction.

General Construction Requirements. All methods employed for the installation and subsequent removal of temporary work bridge installed by the contractor for access or for any other reason shall be in compliance with all project permits.

The Contractor may elect to use a temporary work bridge or other temporary structure in the river to facilitate construction. The construction of the Red Gate Road Bridge may take place during periods of high water. The Contractor shall consider the effects of scour on any temporary substructure and on the proposed foundations. The Contractor shall consider the effects of high flood waters on any temporary superstructure and ensure that any temporary means does not impact or adversely affect the existing or proposed substructures.

If temporary barges, work bridges, or platforms on piles are used for access in the river, the Contractor shall leave a minimum of one bridge span length in the river open at all times for waterway navigation.

After a temporary work bridge, platform or any other facility is no longer needed, it shall be removed per Article 513.08 of the Standard Specifications for Road and Bridge Construction.

River Recreational Access: The Fox River is a public recreational and navigable waterway. The contractor shall furnish, install and, at the completion of work in the waterway, remove signage in and along the Fox River upstream of construction activities at all times. The verbiage shall highlight caution and clearly indicate canoe routes, closed channels and any other impediments to recreational use of the Fox River through the construction zone. Buoy lines to block off areas and guide recreational users to open areas shall be provided upstream and downstream of the project site.

River Blackout Periods: Any construction impacting spawning in the river shall be coordinated with the Illinois Department of Natural Resources. The Contractor is alerted to the fact that the temporary bridges may not be installed or removed in the Fox River during the fish spawning period from March 1 to June 15. Other temporary facilities in the Fox River that are placed prior

to March 1 may remain in use provided there is no direct disturbance to the water. Work may continue provided that construction activities do not result in temporary or permanent impacts to the Fox River. During the Fox River blackout period, the Contractor may maintain the temporary facilities already in place prior to the blackout.

Removal: Upon completion of relevant bridge construction, remove all portions of the temporary bridgesand restore streambed and banks to original grades and conditions to the satisfaction of the Engineer.

Submittals. If the Contractor elects to use a temporary work bridge, structural plans and procedures shall be prepared and sealed by an Illinois Licensed Structural Engineer (SE), and submitted to the Engineer for review and approval.

Method of Measurement. All components of the Temporary Work Bridge installed by the contractor and their subsequent removal will not be measured for payment.

Basis of Payment. Temporary Work Bridge installed by the contractor and their subsequent removal will be paid for at the lump sum price for TEMPORARY BRIDGE.

MATERIALS. Materials shall be according to the following.

Item	Article/Section
Coarse Aggregate 6	1004
Rigid Nonmetallic Conduit	1088.01 (b)

CONSTRUCTION REQUIREMENTS. The Contractor shall coordinate with the City of St. Charles' Electric Utility group to receive the precast concrete transformer pad as well as the city utility requirements.

METHOD OF MEASUREMENT. The transformer platform pad will be measured for payment in square yards, for the excavation, necessary conduit stub outs, gravel base, and the setting of the precast transformer pad.

BASIS OF PAYMENT: This work will be paid for at the contract unit price per square yard for TRANSFORMER PLATFORM.

JUNCTION BOX (SPECIAL)

DESCRIPTION: This item shall consist of furnishing all labor, materials, and equipment necessary for sealing the boxed out area of the bridge at the location as shown in the plans.

MATERIALS. Materials shall be according to the following.

Item	Article/Section
Rigid Nonmetallic Conduit	1088.01 (b)
Junction Box	1088.04
Fasteners and Hardware	1088.03

Fiberglass cover plates. Each panel cover shall be imprinted with the word "ELECTRICAL" and the printed lettering shall be visible from the pedestrian path below. The fiberglass panel shall be from the one of the following manufacturers or an approved equal:

Fibergrate Composite Structures Inc.
5151 Belt Line Road, Suite 700
Dallas, Texas 75254-7028 USA
Telephone: (800) 527-4043
Fax: (972)250-1530

Liberty Pultrusions
1575 Lebanon School Road
West Mifflin, PA 15122-3464
Telephone: 412-466-8611
Fax: 412-466-8640

INSTALLATION. The Contractor shall seal the area identified in the plans to prevent insects from nesting inside the enclosed chamber. Any gap that is ¼" or smaller shall be sealed with silicone sealant. Any gap larger than a ¼" shall be securely sealed with aluminum or steel flashing in order to provide a complete enclosure.

The Contractor shall install fiberglass panels as shown on the plans.

The Contractor shall field drill the web of the bridge girder within the proposed junction box in order to bolt hot-dip galvanized steel channels in place. The channels shall be installed to support the racking of the cables as shown on the plans and as directed by the Engineer.

METHOD OF MEASUREMENT. Work under this item will be measured per each basis of the junction box installed.

BASIS OF PAYMENT: This work will be paid for at the contract unit price per each for JUNCTION BOX, SPECIAL.

CONDUIT ENCASED, REINFORCED CONCRETE, 6" DIA., PVC 3 WIDE X 4 HIGH
CONDUIT ENCASED, REINFORCED CONCRETE, 6" DIA., PVC 3 WIDE X 2 HIGH

DESCRIPTION: This item shall consist of furnishing all labor, materials, conduit laying and equipment necessary for construction of the reinforced concrete encased conduit duct bank of the size as noted on the plans.

GENERAL:

A. Prior to commencing excavation in immediate vicinity of a structure, notify the Owner of the structure, giving date of beginning of such Work. During course of Work adjacent to such property, comply with applicable requirements for protection of the structure.

Standard Specifications for Water and Sewer Construction in Illinois, latest edition and the City of St. Charles Engineering Design and Inspection Policy Manual, updated January 2010.

All trenches within (3) feet of paved surfaces, or at a distance specified by the Engineer, shall be backfilled with TRENCH BACKFILL (SPECIAL). All backfill material shall be properly compacted unless otherwise directed by the Engineer.

MATERIAL ACCEPTANCE: The Contractor must provide a Manufacturer's catalog cuts showing materials meet the Specifications.

METHOD OF MEASUREMENT: Work under this item will be measured as the actual length of storm sewer of the size indicated, exclusive of lengths specifically included in other bid items. All work as indicated on the plans will be considered included in the unit price of the storm sewer and will not be measured separately for payment.

BASIS OF PAYMENT: This work will be paid for at the contract unit price per foot for STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH. The price of this item will include all pipe, excavation, disposal of existing material, bedding, any dewatering and/or sheeting or shoring, pipe bedding and backfill to 12" above top of pipe, all required testing prior to placing the storm sewer in service, and all other work required to complete the storm sewer installation as specified. Backfilling and compaction of the trench 12" above top of pipe to surface will be paid for separately as TRENCH BACKFILL, (SPECIAL).

WATERMAIN SPECIAL

GENERAL Contractor is to provide a lump sum price for WATERMAIN SPECIAL to provide a complete river crossing installation for a new watermain. The Contractor can install this item in either of two methods: ductile iron pipe in casing river crossing option or HDPE river crossing option. Contractor is to provide all labor and materials for a complete river crossing. The river crossing water main will be either 16" ductile iron pipe or 18" HDPE pipe.

DUCTILE IRON PIPE IN CASING METHOD: This item consists of, but is not limited to, boring and jacking pits and equipment, sheeting, steel casing pipe, skid, steel straps, coatings, thrust blocks, tie down blocking, restrained joint piping from Sta. 108+00 to Sta. 122+00, installation of the carrier pipe, skid, steel straps, coatings, pipe bedding and backfill to 12" above top of casing pipe, installation of the carrier pipe within the casings, miscellaneous appurtenances to complete the entire work as shown on the Construction Drawings, and restoration.

The equipment used in boring and jacking casings shall be of adequate commercial size and satisfactory working condition for safe operation, and may be subject to approval by the City of St. Charles at the discretion of the Engineer. Such approval, however, shall not relieve the Contractor of the responsibility for making a satisfactory installation meeting the criteria set forth herein. Only workmen experienced in boring and jacking operation shall be used in performing the Work.

Provide all structures, safety equipment, and professional services required to provide for the health and safety of the general public and of personnel involved in pipe boring and jacking work in accordance with the requirements of the regulatory agencies having jurisdiction.

Take all measurements necessary to protect surrounding public and private property, adjacent buildings, roads, drives, sidewalks, drains, sewers, utilities, trees, structures, and appurtenances from damage due to pipe boring and jacking work. Responsibility and payment for correction of such damage shall be the sole responsibili ty of the Contractor.

All water pumped out of the jacking and boring pits shall be treated in accordance with the special provision for COFFERDAM DEWATERING.

GENERAL REQUIREMENTS:

Pipe Casing: Steel pipe casings shall conform to the requirements of AWWA C200 and AST< A139 (straight seam pipe only), Grade "B" with a minimum yield strength of 35,000 psi and be of the thickness equal to or exceeding 0.375 inches.

Field and shop welds of the casing pipes shall conform to the American Welding Society (AWS) standard specifications and shall be performed by qualified welders. Field welds shall be complete penetration (butt welded), single-bevel groove type joints in accordance with the requirements of ANSI/AWWA C206. Welds shall be airtight, continuous over the entire circumference of the pipe, and shall not increase the outside pipe diameter by more than ¾ - inch. Nor shall there be intrusion of the weld metal into the bore of the casing. It shall be the Contractor's responsibility to provide stress transfer across the joints which is capable of resisting the jacking forces involved. Welder certifications shall be submitted to the Engineer prior to construction.

Spacers: Carrier pipe shall be supported within the casing pipe by "Cascade" spacers shall be utilized exclusively. Following completions of the auger, the casing shall be filled with pea gravel or sand, the ends shall have end boots installed.

Casing spacer shall be a two-piece shell per carrier pipe and made from T-304 stainless steel of aminimum 14 gauge thickness. Each shell section shall be lined with a 0.090" thick, ribbed PVC extrusionwith a retaining section that overlaps the edges of the shell and prevents slippage. Bearing surfaces(runners) shall be ultra high molecular weight polyethylene (UHMW) to provide abrasion resistance and alow coefficient of friction (0.12). The runners shall be attached to support structures (risers) at appropriatepositions to properly support the carrier pipe within the casing pipe and to ease installation. The runnersshall be mechanically bolted to the riser. The bolt heads are welded to the inside of the risers forstrength. Risers shall be made of T-304 stainless steel of a maximum 10 gauge. All risers shall be MIGwelded to the shell. Bottom risers 6" and over in height shall be reinforced. All reinforcing plates shall be10 ga. T-304 stainless steel and shall be MIG welded to mating parts. Spacers shall be placed 10' apart throughout the casing pipe.

Carrier Pipe. Watermain shall be Ductile Iron Class 52, conforming to AWWA Standard C-151. Cement lining shall conform to AWWA Standard C-104. Restrained joint fittings and the restraining components shall be Ductile Iron in accordance with applicable requirements of ANSI/AWWA C110/A21.10 and/or C153/A21.53 with the exception of the manufacture's proprietary design dimensions. Restrained joint pipe and fittings shall be U.S. Pipe's TR FLEX Pipe and Fittings or approved equal. Restraint of field cut pipe shall be provided with U.S. Pipe's TR FLEX GRIPPER Ring, TR FLEX Pipe field weldments or approve equal. Restrained push-on joints for pipe and fittings shall be designed for a water working pressure of 350 psi.

Permanent Tap: This item shall also include the provision and installation of 2 - 1" permanent taps and isolation gate valves in the valve vault at WM Station 117+50 on either side of the valve for the purpose of future potential sampling and metering. The taps and isolation valves shall be installed and included as an incidental item under the WATERMAIN SPECIAL pay item.

Augering Fluids: Augering fluids shall use a mixture of bentonite clay, or other approved stabilizing agent, mixed with potable water with a minimum pH of 6.0 to create the drilling fluid

for lubrication and stabilization, as necessary. Vary the fluid viscosity to best fit the soil conditions encountered. Do not use other chemical or polymer surfactant in the drilling fluid without written consent of the Engineer. Certify in writing to the Engineer that any chemicals to be added are environmentally safe and not harmful or corrosive to the facility. Identify the source of water for mixing the drilling fluid. Approvals and permits are required for obtaining water from such sources as streams, rivers, ponds or fire hydrants. Any water source used other than potable water shall require a pH test. Contractor shall be responsible for submitting details to ensure the augering fluids will be sufficiently contained and will not leak to the surrounding floodplain.

PREPAREDNESS, PREVENTION, AND CONTINGENCY PLAN (PPC): The Contractor shall prepare a Preparedness, Prevention, and Contingency Plan, which details procedures for preventing contamination of the river and addresses activities necessary in the event that the bore and jacking operation is halted by an obstruction. Contamination includes, but is not limited to, fuel, hydraulic or lubricating fluids, cleaning solutions, dirt or other debris, which will cause pollution of the river. All personnel shall be familiar with the procedures outlined in the PPC Plan. The PPC Plan shall be submitted to the Engineer for review and approval prior to commencing boring and jacking activities.

The Contractor shall immediately repair all damage caused by floodwater after the water level has returned to normal elevation and reconstruct the causeway at no additional cost to the City or Department.

The Contractor shall assume all risk of damage to his equipment and the work caused by inundation of his selected river access and auger pits, regardless of the flow event. No extension of time or compensation will be granted to the Contractor as a result of any river flow events that overtop and/or cause failure of his/ her system.

MATERIAL ACCEPTANCE:
The Contractor must provide Manufacturer's catalog cuts showing materials meet the Specifications.

The Contractor must provide detailed drawings of all jack and bore pits.

Certification and test reports for the material, manufacturing and test of the casing pipe shall be performed and furnished by the pipe manufacturer in accordance with the latest standards of the industry.

For all installations, submit a jack and bore plan with sufficient information to establish the proposed installation strategy. All plans shall be reviewed and approved prior to starting work. The plan shall include all the following information as applicable:

a. An indication of where the leading edge of the casing is to be located with respect of the line and grade, and the intervals for checking line and grade during installation. Maintain a record of progress at the job site.
b. Equipment of adequate size and capability to install the product, and include the equipment manufacturer's information for all power equipment used in the installation.
c. The means for controlling line and grade.
d. The means for centering the cutting head inside the borehole.
e. Provide a means for preventing voids by assuring:
    i. The rear of the cutting head shall not advance in front of leading edge of the casing by more than 1/3 times the casing diameter, and in stable cohesive soil conditions this distance shall not exceed 8 inches.

ii. In unstable conditions such as granular soil, loose or flowable materials, the cutting head is retracted into the casing a distance that permits a balance between pushing pressure, pipe advancement and soil conditions.

f. Adequate casing lubrication with a bentonite slurry, or other approved technique.

g. An adequate ban around the leading edge of the casing to provide extra strength in loose unstable materials when the cutting head has been retracted into the casing to reduce skin friction as well as provide a method for the slurry lubricant to coat the outside of the casing.

h. Water to be injected inside the casing to facilitate spoil removal. The point of injection shall be no closer than 2 feet from the leading edge of the casing.

i. Means to dewater all jack and bore pits.

HDPE PIPE RIVER CROSSING METHOD: This work consist of, but is not limited to, furnishing all labor, materials and appurtenances necessary to install HDPE watermain and fittings to the

cease drilling, wait at least 30 minutes, inject a quantity of drilling fluid with a viscosity exceeding 120 seconds as measured by a March funnel and then wait another 30 minutes. If mud fracture or returns loss continues, contractor will cease operations and notify Engineer. Engineer and contractor will discuss additional options and *work will* then proceed accordingly.

Upon successful completion of pilot hole, contractor will ream borehole to a minimum of 25% greater than outside diameter of pipe using the appropriate tools. Contractor will not attempt to ream at one time more than the drilling equipment and mud system are designed to safely handle.

After successfully reaming bore hole to the required diameter, contractor *will* pull the pipe through the borehole. In front of the pipe will be a swivel. Once pullback operations have commenced, operations must continue without interruption until pipe is completely pulled into borehole. During pullback operations contractor will not apply more than the maximum safe pipe pull force at any time. In the event that pipe becomes stuck, contractor will cease pulling operations to allow any potential hydrolock to subside and will commence pulling operations. If pipe remains stuck, contractor will notify Engineer. Engineer and contractor will discuss options and then work will proceed accordingly.

HDPE pipe shall undergo a period of relaxation after pullback and before connection to any other water main items. The time period shall be in accordance with the manufacturer's specifications.

All directional bores shall be marked with two copper tracer wires. Copper wire shall be 6AWG type RHW-2 or equal and be installed parallel, above and separate from the pipeline. The wire shall be continuous through all valve vaults, etc. Provide compression type splices as necessary. Contractor shall test the locator system, before final payment, for pipeline that is directionally bored.

Contractor shall maintain a daily project log of drilling operations and a guidance system log with a copy given to Engineer at completion of project. Contractor shall certify as-built drawings as to accuracy.

PREPAREDNESS, PREVENTION, AND CONTINGENCY PLAN (PPC): The Contractor shall prepare a Preparedness, Prevention, and Contingency Plan, which details procedures for preventing contamination of the river and addresses activities necessary in the event that the directional boring operation is halted by an obstruction. Contamination includes, but is not limited to, fuel, hydraulic or lubricating fluids, cleaning solutions, dirt or other debris, which will cause pollution of the river. All personnel shall be familiar with the procedures outlined in the PPC Plan. The PPC Plan shall be submitted to the Engineer for review and approval prior to commencing directional boring activities.

The Contractor shall assume all risk of damage to his equipment and the work caused by inundation of his directional drilling operations, regardless of the flow event. No extension of time or compensation will be granted to the Contractor as a result of any river flow events that overtop and/or cause failure of his/ her system.

MATERIAL ACCEPTANCE: The Contractor must provide a Manufacturer's catalog cuts showing materials meet the Specification. Contractor must also provide all welder's certifications.

METHOD OF MEASUREMENT: This item will not be measured for payment but will be paid on a lump sum basis. The Contractor will choose one of these two methods for installation.

BASIS OF PAYMENT FOR DUCTILE IRON PIPE IN CASING: This work will be paid for as a lump sum for installation of watermain from Sta. 108+00 to Sta. 122+00 for WATERMAIN SPECIAL. The price of this item will include all fittings, excavation, casing and carrier pipe, spacers, jacking and receiving pits, disposal of existing material, bedding, backfill with sand, any dewatering and/or sheeting or shoring, all necessary permits, fees, bonds, all required pressure testing and disinfection prior to placing the water main in service, thrust restraints, all other work required to complete the watermain installation as specified. The price of these items will include all pipe, fittings, excavation, disposal of existing material, bedding, any dewatering and/or sheeting or shoring, water main encasements in proximity to sewers, pipe bedding and backfill to 12" above top of pipe, all required pressure testing and disinfection prior to placing the water main in service, thrust restraints, and all other work required to complete the water main

The clay liner shall be compacted to the satisfaction of the Engineer.

Method of Measurement: Clay Liner will be measured for payment in place and the area computed in cubic feet.

Basis of Payment: This work will be paid for at the contract unit price per cubic foot for CLAY LINER.

CONCRETE WASHOUT BASINS

Description: Concrete washout basins are used to contain concrete liquids when the chutes of concrete trucks are rinsed out after delivery of concrete to the construction site. These washout facilities function to consolidate solids for disposal and prevent runoff liquids associated with concrete. Details of the construction of the non portable facilities are included in the plans as "temporary concrete washout facilities". Failure to comply with appropriate washout location requirements will result in monetary deficiency deduction against the contractor.