

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

OFFICE ENGINEER

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*Serious Drought.
Help save water!*

December 10, 2015

07-LA-405-R12.6/R21.2

07-290004

Project ID 0712000016

ACNHPI-405-2(977)E

Addendum No. 2

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN LOS ANGELES COUNTY AT VARIOUS LOCATIONS FROM MAIN STREET UNDERCROSSING TO IMPERIAL HIGHWAY UNDERCROSSING to revise the project plans, the *Notice to Bidders and Special Provisions*, and the *Bid book*.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on Thursday, December 17, 2015.

Project plan sheets 1, 2, 16, 18, 20, 33, 54, 84, 146, 158, 159, 160, 164, 165, 166, 184, 185, 186, 187, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222 and 243 are replaced and attached for substitution for the like-numbered sheets.

Project plan sheets 17A, 56A, and 164A are added and attached for addition to the project plans.

In the *Notice to Bidders*, the following paragraphs are added after twelfth paragraph:

"Complete the work, including plant establishment work, within 500 working days."

"Complete the plant establishment work within 250 working days."

In the *Special Provisions*, Section 86-2.26, "ETHERNET SWITCH TYPE 1," and Section 86-2.27, "ETHERNET SWITCH TYPE 2," are added as attached.

In the *Special Provisions*, Section 86-2.28, "ETHERNET SWITCH TYPE 1," is replaced with Section 86-2.28, "VIDEO ENCODER," as attached.

Addendum No. 2
Page 2
December 10, 2015

07-LA-405-R12.6/R21.2
07-290004
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In the *Bid* book, in the "Bid Item List," Items 7, 8, 15, 20, 23, 37, 38, 40, 44, 76, 78, 91, 92, 93, 96, 97, and 103 are replaced.

In the *Bid* book, in the "Bid Item List," Items 119, 120, 121, and 122 are added.

In the *Bid* book, in the "Bid Item List," Items 52, 56, 57, 58, 60 and 118 are deleted.

To *Bid* book holders:

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the *Notice to Bidders* section of the *Notice to Bidders and Special Provisions*.

Submit the *Bid* book as described in the *Electronic Bidding Guide* at the Bidders' Exchange website.

http://www.dot.ca.gov/hq/esc/oe/electronic_bidding/electronic_bidding.html

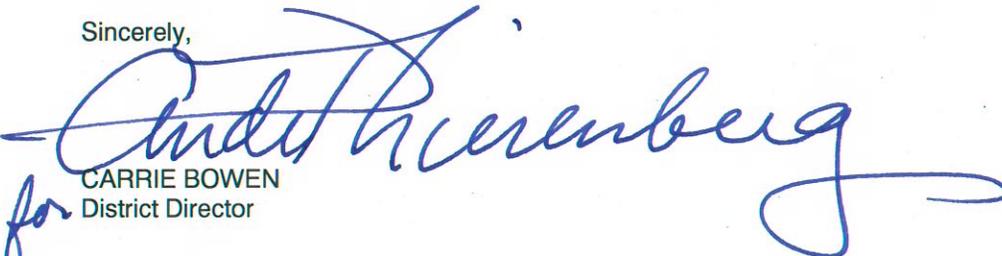
Inform subcontractors and suppliers as necessary.

This addendum, EBS addendum file, and attachments are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/07/07-290004

If you are not a *Bid* book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,



for
CARRIE BOWEN
District Director

Attachments

Add to Section 86-2:

86-2.26 ETHERNET SWITCH TYPE 1

86-2.26A General

Ethernet switches must be provided with compatible fiber optic SFP modules to populate the SFP slots on the switches as required. The choice of SFP module types must be determined based on the distance of the fiber link involved.

86-2.26B Materials

86-2.26B(1) General

Depending on whether the field cabinet has an AC or DC power supply, Ethernet switch type 1 must have compatible AC or DC power supply which must meet the following requirements.

Power Supply	
Electrical Requirement	Input Voltage: From 18 to 60 V(dc), 88 to 300 V(dc) and 85 to 265 V(ac) Input Current: From 0.8 to 1.3 A

Ethernet switch Type 1 must, at a minimum, meet the specifications in the following table:

Ethernet Switch Type 1	
Ethernet Downlink Interface	At least 4 Ethernet 10/100 Mbps ports
Ethernet Uplink Interface	At least 2 dual purpose uplink ports (each dual purpose uplink port has one 10/100/1000 Mbps Ethernet port and one SFP-based fiber Ethernet port, one port active)
Expansion module	8 additional 10/100 Mbps Ethernet ports and 8 additional 100 base-FX multi mode fiber ports
Application Interfaces	TCP/IP, UDP/IP, Hypertext Transfer Protocol (HTTP), Telecommunications Network (Telnet)
Additional Requirements	IP Multicast capable, IEEE 802.1Q standard VLAN Compatible to existing network and switch management and monitoring software
Environmental Requirements	Minimum Range of Operating Temperature: From -25 to +160 °F Humidity: From 10 to 95 percent non-condensing
Mechanical Requirement	Maximum Device Size (H x W x D): 6" x 6" x 4.5" Integrated mounting including either 4 keyhole screw mounts in 19" rack or mounting bracket using DIN rail

86-2.26B(2) Fiber Optic Small Form-Factor Pluggable (SFP) Modules

Fiber optic SFP modules for the Ethernet switch type 1 must be from the same manufacturer of the Ethernet switch. SFP modules must be of appropriate type depending on the distance covered by the fiber optic link and must also be compatible with the appropriate type of fiber used in the fiber optic link in question. SFP modules must be compatible with LC (International Electrotechnical Commission standard # IEC 61754-20) type fiber connector. SFP modules used in Ethernet switch type 1 must be one of the following types:

SFP Module Type	Throughput	Fiber Type	Wavelength	Typical Transmission Distance
100Base-LX	100 Mbps	Single Mode	1310 nm	6.2 miles
1000Base-LX/LH	1000 Mbps	Single Mode	1310 nm	6.2 miles
1000Base-ZX	1000 Mbps	Single Mode	1550 nm	43.4 miles

SFP modules must support a minimum connection distance of 6 feet.

SFP module models used with Ethernet switch type 1 must be specified by the manufacturer as compatible with the switch they are used with. SFP modules must have a minimum temperature range of -30 to +165 degrees F. The transmit and receive power range of different types of SFP must be as per the following table:

SFP Module Type	Transmit Power (dBm)	Receive Power Range (dBm)
100BASE-LX	-8 to -15	-8 to -28
1000BASE-LX/LH	-3 to -9.5	-3 to -20
1000BASE-ZX	+5 to 0	-3 to -23

In case of too high transmit power at receiving end, 5 or 10 db inline optical attenuator must be used at both ends to avoid overloading the receiver.

86-2.26C Construction

Ethernet switch type 1 must be installed in CCTV cabinets, ramp metering cabinets, changeable message sign cabinets, count station cabinets and traffic monitoring station cabinets.

The Ethernet switch type 1 must be connected via small form-factor pluggable (SFP) fiber ports to only two other Ethernet switches in the field cabinets or communication hubs.

All non-Ethernet equipment in field cabinets must be converted to Ethernet using compatible suitable terminal servers in the field cabinet to enable connection to the Ethernet switch type 1 in the cabinet. Connections are to be done using CAT-5E network patch cables which must be manufacturer certified as TIA/EIA-568-B standard compliant. Connectors at both ends of the CAT-5E patch cables must be 8P8C-type modular connectors using T568B termination. Appropriate length must be used for all cables with sufficient length to allow for cable organization using cable ties but cable lengths must not to exceed 368 feet.

86-2.26D Payment

Not Used

Add to Section 86-2:

86-2.27 ETHERNET SWITCH TYPE 2

86-2.27A General

Section 86-2.27 includes specifications for installing Ethernet switch type 2.

86-2.27B Materials

86-2.27B(1) General

Ethernet switch type 2 must comply with the following:

Ethernet switch type 2:	
Electrical Requirement	AC Input Voltage: From 100 V(ac) to 240 V(ac) AC Input Current: From 5 to 2.5 A, 50 to 60 Hz
	DC Input Voltage: From -36 to -72 V(dc) DC Input Current: From 10 to 5 A Modular Power supply with externally available backup (stackable)
Network/Interface	Ethernet Downlink Interface: At least 24 10/100/1000 Ethernet ports
	Ethernet Uplink Interface: At least 2 10 Gigabit Ethernet interface module slots
	IP Multicast capable, IEEE 802.1Q standard VLAN
	Application Interfaces: TCP/IP, UDP/IP,SNMP v.2 and v.3, Hypertext Transfer Protocol (HTTP), Telecommunications Network (Telnet)
	Layer 3 IP services including routing
	Compatible to existing network and switch management and monitoring software
	Power connector: multiple pin (screw attached terminal not recommended)
Environmental Requirement	Operating Temperature: -30 to +165 °F Humidity: From 10 to 85 percent noncondensing
Mechanical Requirement	Maximum Device Size: 18 inches perimeter Integrated mounting including 4 keyhole screw mounts in 19" rack

86-2.27B(2) Fiber Optic Small Form-Factor Pluggable (SFP) Modules

Fiber optic SFP modules for the Ethernet switch type 2 must be from the same manufacturer of the Ethernet switch. SFP modules must be of appropriate type depending on the distance covered by the fiber optic link and must also be compatible with the appropriate type of fiber used in the fiber optic link in question. SFP modules must be compatible with LC (International Electrotechnical Commission standard # IEC 61754-20) type fiber connector. SFP modules used in Ethernet switch type 1 must be one of the following types:

SFP Module Type	Throughput	Fiber Type	Wavelength	Typical Transmission Distance
100Base-LX	100 Mbps	Single Mode	1310 nm	6.2 miles
1000Base-LX/LH	1000 Mbps	Single Mode	1310 nm	6.2 miles
1000Base-ZX	1000 Mbps	Single Mode	1550 nm	43.4 miles

SFP modules must support a minimum connection distance of 6 feet.

SFP module models used with Ethernet switch type 1 must be specified by the manufacturer as compatible with the switch they are used with. SFP modules must have a minimum temperature range of -30 to +165 degrees F. The transmit and receive power range of different types of SFP must be as per the following table:

SFP Module Type	Transmit Power (dBm)	Receive Power Range (dBm)
100BASE-LX	-8 to -15	-8 to -28
1000BASE-LX/LH	-3 to -9.5	-3 to -20
1000BASE-ZX	+5 to 0	-3 to -23

In case of too high transmit power at receiving end, 5 or 10 db inline optical attenuator must be used at both ends to avoid overloading the receiver.

86-2.27C Construction

Ethernet switch type 2 must be installed in data node and IP Node.

Ethernet switch type 2 must be connected to other switches in data cabinet, or IP node in a fiber trunk line or to other switches in hub locations using its SFP fiber ports and fiber patch cables via the Fiber Distribution Unit (FDU) of the hub. The IP enabled equipment in the hub location must be connected to Ethernet switch type 2 ports using Cat 5E patch cable or fiber patch cable. Ethernet switch type 2 must have the option to upgrade to 10 gigabit SFP fiber ports

86-2.27D Payment

Not Used

Add to Section 86-2:

86-2.28 VIDEO ENCODER

86-2.28A General

The video encoder must be measured as each unit furnished, installed, configured and tested as a fully functional and integrated system component.

86-2.28B Materials

Video encoder must have the following features:

Video Encoder	
Feature	Parameter/Remarks
Video Standard	SMPTE-170M, 75 ohm
Video Input	75 ohm, BNC Connector
Video Compression	MPEG-4 Part 2 (ISO/IEC 14496-2) and Motion JPEG
Video Transmission	768 kHz at 30 fps
Network Interface	Auto sensing 10/100 Base T port, IEEE 802.3
Protocol Support	TCP/IP, UDP/IP (unicast and multicast), Telnet
Frame Rate	Up to 30 fps at 2CIF
Network Connector	8P8C modular
Serial Data Connector	DE-9
Serial Line Standard	Selectable between TIA-232, TIA-422, TIA-485
Serial Port Function	CCTV command and control
Serial Console Port	TIA-232
Encoder Software Updates	Via Serial port or network port
Encoder Configuration	Via Serial port or network port
Encoder Identification	IP addressable
Image quality and frame rate	configurable
Physical	1U height Rack Mountable, 12" Deep
Operating Temperature	From -30 to 165 °F
Operating Humidity	80 percent maximum relative humidity, non-condensing
Power Input	Power supply (5 V(dc) maximum), 6 watts (maximum) consumption

86-2.28C Construction

Video encoder must be installed in CCTV camera cabinets or IP nodes. Electrical power requirements for new equipment, including surge suppression of transient voltage spikes must be documented and must be met for each equipment configuration.

The video encoder must have remote diagnostic capabilities from the LARTMC and locally in the field cabinet including a built in web server. You must provide IP video encoder manufacturers' recommended hardware options such as lightning arrestors and multiplex devices for use with multiple input IP video encoder.

86-2.28D Payment

Not Used

BID ITEM LIST**07-290004**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	070030	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
2	080050	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	LUMP SUM	LUMP SUM	
3	090100	TIME-RELATED OVERHEAD (WDAY)	WDAY	250		
4	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
5	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
6	120165	CHANNELIZER (SURFACE MOUNTED)	EA	330		
7	129000	TEMPORARY RAILING (TYPE K)	LF	23,000		
8	129100	TEMPORARY CRASH CUSHION MODULE	EA	450		
9	130100	JOB SITE MANAGEMENT	LS	LUMP SUM	LUMP SUM	
10	130300	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	LUMP SUM	LUMP SUM	
11	130310	RAIN EVENT ACTION PLAN	EA	12	500.00	6,000.00
12	130320	STORM WATER SAMPLING AND ANALYSIS DAY	EA	3		
13	130330	STORM WATER ANNUAL REPORT	EA	1	2,000.00	2,000.00
14	130570	TEMPORARY COVER	SQYD	300		
15	130620	TEMPORARY DRAINAGE INLET PROTECTION	EA	90		
16	130640	TEMPORARY FIBER ROLL	LF	600		
17	130710	TEMPORARY CONSTRUCTION ENTRANCE	EA	2		
18	130730	STREET SWEEPING	LS	LUMP SUM	LUMP SUM	
19	130900	TEMPORARY CONCRETE WASHOUT	LS	LUMP SUM	LUMP SUM	
20	141120	TREATED WOOD WASTE	LB	159,000		

BID ITEM LIST**07-290004**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21	150221	ABANDON INLET	EA	3		
22	150227	ABANDON PIPELINE	EA	2		
23	150661	REMOVE GUARDRAIL	LF	9,800		
24	150668	REMOVE FLARED END SECTION	EA	2		
25	150711	REMOVE PAINTED TRAFFIC STRIPE	LF	13,100		
26	150714	REMOVE THERMOPLASTIC TRAFFIC STRIPE	LF	13,100		
27	150722	REMOVE PAVEMENT MARKER	EA	4,470		
28	150744	REMOVE ROADSIDE SIGN (WOOD POST)	EA	12		
29	150771	REMOVE ASPHALT CONCRETE DIKE	LF	7,000		
30	150812	REMOVE PIPE (LF)	LF	200		
31	150820	REMOVE INLET	EA	10		
32	152430	ADJUST INLET	EA	7		
33	153121	REMOVE CONCRETE (CY)	CY	20		
34	153130	REMOVE CONCRETE CURB (LF)	LF	6,960		
35	155003	CAP INLET	EA	10		
36	155232	SAND BACKFILL	CY	14		
37	190101	ROADWAY EXCAVATION	CY	5,290		
38	190105	ROADWAY EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD)	CY	4,400		
39	194001	DITCH EXCAVATION	CY	110		
40	198010	IMPORTED BORROW (CY)	CY	140		

BID ITEM LIST
07-290004

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41	200002	ROADSIDE CLEARING	LS	LUMP SUM	LUMP SUM	
42	202006	SOIL AMENDMENT	CY	60		
43	202039	SLOW-RELEASE FERTILIZER	LB	270		
44	204008	PLANT (GROUP H)	EA	28,400		
45	204035	PLANT (GROUP A)	EA	370		
46	204099	PLANT ESTABLISHMENT WORK	LS	LUMP SUM	LUMP SUM	
47	205035	WOOD MULCH	CY	69		
48	206400	CHECK AND TEST EXISTING IRRIGATION FACILITIES	LS	LUMP SUM	LUMP SUM	
49	206560	CONTROL AND NEUTRAL CONDUCTORS	LS	LUMP SUM	LUMP SUM	
50	206562	1" REMOTE CONTROL VALVE	EA	5		
51	206564	1 1/2" REMOTE CONTROL VALVE	EA	36		
52	BLANK					
53	206757	16-18 STATION IRRIGATION CONTROLLER (WALL MOUNTED)	EA	2		
54	206758	24-32 STATION IRRIGATION CONTROLLER (WALL MOUNTED)	EA	1		
55	208301	IRRIGATION CONTROLLER ENCLOSURE CABINET	EA	3		
56	BLANK					
57	BLANK					
58	BLANK					
59	208446	RISER SPRINKLER ASSEMBLY (GEAR DRIVEN)	EA	570		
60	BLANK					

BID ITEM LIST**07-290004**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61 (F)	208594	3/4" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE)	LF	7,070		
62 (F)	208595	1" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE)	LF	4,390		
63 (F)	208596	1 1/4" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE)	LF	4,140		
64 (F)	208597	1 1/2" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE)	LF	3,200		
65 (F)	208598	2" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE)	LF	3,370		
66 (F)	208599	2 1/2" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE)	LF	2,490		
67	208683	BALL VALVE	EA	16		
68	260303	CLASS 3 AGGREGATE BASE (CY)	CY	1,410		
69	280000	LEAN CONCRETE BASE	CY	710		
70	390136	MINOR HOT MIX ASPHALT	TON	1,620		
71	394074	PLACE HOT MIX ASPHALT DIKE (TYPE C)	LF	1,500		
72	394077	PLACE HOT MIX ASPHALT DIKE (TYPE F)	LF	760		
73	401050	JOINTED PLAIN CONCRETE PAVEMENT	CY	1,810		
74	410097	DRILL AND BOND (TIE BAR)	EA	2,190		
75	414240	ISOLATION JOINT SEAL (ASPHALT RUBBER)	LF	6,160		
76 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	CY	399		
77 (F)	510526	MINOR CONCRETE (BACKFILL)	CY	134		
78	560248	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063"-UNFRAMED)	SQFT	160		
79	566011	ROADSIDE SIGN - ONE POST	EA	14		
80	030215	10" PLASTIC PIPE	LF	33		

BID ITEM LIST

07-290004

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
81	650014	18" REINFORCED CONCRETE PIPE	LF	6,180		
82	650018	24" REINFORCED CONCRETE PIPE	LF	2,880		
83	665018	18" CORRUGATED STEEL PIPE (.109" THICK)	LF	130		
84	703233	GRATED LINE DRAIN	LF	3,570		
85	705204	18" CONCRETE FLARED END SECTION	EA	3		
86	705206	24" CONCRETE FLARED END SECTION	EA	2		
87	721017	ROCK SLOPE PROTECTION (FACING, METHOD B) (CY)	CY	9		
88 (F)	729011	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	SQYD	33		
89	731502	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	CY	6		
90 (F)	750001	MISCELLANEOUS IRON AND STEEL	LB	56,597		
91	820118	GUARD RAILING DELINEATOR	EA	160		
92	832007	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	LF	4,000		
93	832070	VEGETATION CONTROL (MINOR CONCRETE)	SQYD	2,550		
94	839543	TRANSITION RAILING (TYPE WB-31)	EA	13		
95	839566	TERMINAL SYSTEM (TYPE CAT)	EA	1		
96	839576	END CAP (TYPE A)	EA	3		
97	839581	END ANCHOR ASSEMBLY (TYPE SFT)	EA	9		
98	839584	ALTERNATIVE IN-LINE TERMINAL SYSTEM	EA	13		
99	839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	5		
100	030216	CRASH CUSHION (TYPE SCI-100GM)	EA	2		

BID ITEM LIST

07-290004

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
101 (F)	030217	CONCRETE BARRIER (TYPE 736B MOD 1)	LF	13,190		
102 (F)	030218	CONCRETE BARRIER (TYPE 736B MOD 2)	LF	3,268		
103 (F)	030219	CONCRETE BARRIER (TYPE 736B MOD 3)	LF	4,030		
104	840504	4" THERMOPLASTIC TRAFFIC STRIPE	LF	7,820		
105	840525	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	LF	20,900		
106	840656	PAINT TRAFFIC STRIPE (2-COAT)	LF	28,700		
107	850101	PAVEMENT MARKER (NON-REFLECTIVE)	EA	3,560		
108	850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	920		
109	860090	MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	LUMP SUM	LUMP SUM	
110	860889	MODIFY TRAFFIC MONITORING STATION	LS	LUMP SUM	LUMP SUM	
111	030220	MODIFY COMMUNICATION SYSTEM	LS	LUMP SUM	LUMP SUM	
112	030221	WORK AT NWK HUB	LS	LUMP SUM	LUMP SUM	
113	030222	WORK AT LAX HUB	LS	LUMP SUM	LUMP SUM	
114	030223	WORK AT LARTMC	LS	LUMP SUM	LUMP SUM	
115	861088	MODIFY RAMP METERING SYSTEM	LS	LUMP SUM	LUMP SUM	
116	861504	MODIFY LIGHTING AND SIGN ILLUMINATION	LS	LUMP SUM	LUMP SUM	
117	869075	SYSTEM TESTING AND DOCUMENTATION	LS	LUMP SUM	LUMP SUM	
118	BLANK					
119	20448	RISER SPRINKLER ASSEMBLY	EA	480		
120	560248	FURNISH SINGLE SHEET ALUMINUM SIGN (0-080"-UNFRAMED)	SQFT	16		

BID ITEM LIST
07-290004

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
121	839703	CONCRETE BARRIER (TYPE 60c)	LF	200		
122	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

TOTAL BID:

\$
