

Johnson, Mirmiran, & Thompson

Calculated:	PPA	Date:	3/10/2025		
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Concurred:	PPA	Date:	3/14/2025	PID/Job No.:	113757 / 20-03248-001
Back Checked:	CBY	Date:	3/14/2025		
Released:	PPA/CBY	Date:	3/14/2025		
Project:	MAH-422-03.12			Bridge No.:	MAH-422-0312
Subject:	STAGE 3 ESTIMATED QUANTITIES_MAH-422 (WICK AVE OVER US-422)			SFN:	5002109

MAH-422-0312 Replacement of Deck and Sub Repairs (4-Span Continuous Steel Beam With Reinforced Concrete Deck And Substructure)

ESTIMATED QUANTITIES (01/NHS/13)					CALCULATED BY:		PPA	DATE:	3/10/2025
					CHECKED BY:		CBY	DATE:	3/13/2025
ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHT. REF.
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	P.2 / P.25
202	22900	339	SY	APPROACH SLAB REMOVED				339	
202	23500	1,201	SY	WEARING COURSE REMOVED			1,201		
503	21300	LS		UNCLASSIFIED EXCAVATION					
509	10000	133,455	LB	EPOXY COATED STEEL REINFORCEMENT	8,508		124,947		
510	10001	612	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	612				P.2 / P.25
511	34447	359	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			359		P.2 / P.25
511	44110	37	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	37				
511	46510	16	CY	CLASS QC1 CONCRETE, FOOTING				16	P.22 / P.25
512	10050	560	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	88		472		
512	10100	724	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	147	362	215		P.2 / P.25
512	74000	128	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	7	121			P.8 & P.9 / P.25
513	10200	361	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF			361		
513	20000	5,604	EACH	WELDED STUD SHEAR CONNECTORS			5,604		
513	95030	4	EACH	STRUCTURAL STEEL, MISC.: TUBULAR STEEL "Y"			4		P.19 / P.25
516	11210	121	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	121				
516	13600	170	SF	1" PREFORMED EXPANSION JOINT FILLER			170		
516	13900	35	SF	2" PREFORMED EXPANSION JOINT FILLER			35		
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 1 1/2")	16				
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 2 1/8")		16			
516	44200	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 22" X 2 1/8")		8			
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					P.3 / P.25
517	75123	495	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE), AS PER PLAN			495		P.3 / P.25
518	21200	53	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	53				
519	11101	95	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8	87			P.3 / P.25
526	15010	282	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=13")				282	
526	90010	133	FT	TYPE A INSTALLATION				133	
SPECIAL	40998000	338	SY	SEALING, MISC: ACRYLIC STAIN			338		P.19 / P.25
SPECIAL	53000200	LS		STRUCTURES, MISC: CHECK PROPOSED VERTICAL CLEARANCE				LS	P.3 / P.25
SPECIAL	53013000	3,030	SF	FORM LINER				3,030	P.19 / P.25
607	39911	352	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN				352	P.19 / P.25
SPECIAL	60740000	125	FT	VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC			125		P.19 / P.25

0313 Input

Bridge Limits	177	
Span 1	40	
Span 2	47.75	
Span 3	47.75	
Span 4	40	
C/C Bearings	175.5	
Deck Width	55.13	btw. Fascia beams
O/O Width	60.00	
# Beams	8	
Bm Spacing	7.88	
Lt Rail Area	2.67	
Rt Rail Area	2.67	
Skew	0.00	
Deck Area	10620.00	
Prop. Deck	60	

202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
	deck/barrier	10800	sf	
	barrier	540	sf	
	sidewalk	2035		
		\$ 170,000.00		use \$15 / sf of deck area
	abut. Removal	60	ft	length
		1.75	ft	width
		3	ft	height
		2	ea	number of abutments
		630	sf	
		28.33	cy	abutment removal CY (add 20% for beams)
		\$ 5,666.67		use \$200 / cy
	misc.	\$ 10,000.00		various incidentals such as end cross frames, scuppers, pier cap, etc
		\$ 186,391.75		total
		\$ 200,000.00		
202	22900	339	SY	APPROACH SLAB REMOVED
		1525	sf	flooded average area from microstation
		2	each	# of approach slabs
		339	sy	total
202	23500	1,201	SY	WEARING COURSE REMOVED
	bridge	180.0	ft	length
		48	ft	width toe to toe of curbs
		8640	sf	total
	approach	1185	sf	rear approach slab (measured in Microstation)
	slabs	988	sf	rear approach slab (Mmeasured in Microstation)
		1,201	sy	total

503	21300	LS		UNCLASSIFIED EXCAVATION
	REAR ABUT	60.42	ft	length
		2.00	ft	width
		5.90	ft	depth to bottom of new porous backfill
		713	cf	subtotal
	FWD ABUT	58.00	ft	length
		2.00	ft	width
		5.90	ft	depth to bottom of new porous backfill
		684	cf	subtotal
		1397	cf	TOTAL
		52	cy	
509	10000	133,455	LB	EPOXY COATED STEEL REINFORCEMENT
		108,010	lb	Deck, Sidewalk, and Haunch
		11,516	lb	Railing on Bridge
		5,421	lb	Approach Rails
		124,947	lb	SUPERSTRUCTURE TOTAL
		8,508	lb	Abutments
		133,455	lb	total
510	10001	612	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN
	prop beam	244	each	RA (A505 and A603)
	seats	234	each	FA (A505 and A603)
		478	each	PROPOSED ABUTMENT TOTAL
dowel into ex WW		134	each	number of W507 dowels on approach barrier into ex WW
		612	each	ABUTMENT TOTAL
511	34447	359	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
deck		55.13	ft	deck width between overhangs
		177.00	ft	deck length (brg to brg + distance to face of backwall - strip seals)
		8.50	in	nominal deck thickness
		8	each	number of beams
		0.93	in	largest top flange thickness, to be conservative (W30x124 > W30x116)
		10.515	in	largest top flange width, to be conservative (W30x124 > W30x116)
		4.97	in	average haunch from deck elevation spreadsheet
		10.52	in	haunch width
		2.44	ft	left overhang length
		2.44	ft	right overhang length
		11.63	in	overhang thickness from plans
		6911.30	cf	nominal deck volume
		513.89	cf	haunch volume
		685.66	cf	overhang volume
		8110.84	cf	deck total
		301	cy	deck total
sidewalk	on bridge	177.00	ft	length
		0.71	ft	avg height
		6.17	ft	width
		2	ea	number
		1546.29	cf	sidewalk total
		58	cy	sidewalk total
				**NOTE - SIDEWALK OFF BRIDGE IN APPROACH BARRIER REGION INCLUDED WITH ROADWAY QUANTITES
		359	cy	total

511	44110	37	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING
backwall		58.00	ft	length
RA		1.75	ft	width
		4.47	ft	avg height (top of deck screeds - sawcut)
		1.88	ft	AS notch height
		0.50	ft	AS notch width
		398.8	cf	subtotal
backwall		60.42	ft	length
FA		1.75	ft	width
		4.47	ft	avg height (top of deck screeds - sawcut)
		1.88	ft	AS notch height
		0.50	ft	AS notch width
		416.2	cf	subtotal
stem extend	beam 1,8	942.89	ft	sawcut elevation
RA		943.39	ft	proposed elevation
		0.50	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		14.50	cf	subtotal
	beam 2,7	942.89	ft	sawcut elevation
		943.51	ft	proposed elevation
		0.62	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		17.98	cf	subtotal
	beam 3,6	942.89	ft	sawcut elevation
		943.64	ft	proposed elevation
		0.75	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		21.75	cf	subtotal
	beam 4,5	942.89	ft	sawcut elevation
		943.75	ft	proposed elevation
		0.86	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		24.94	cf	subtotal

stem extend	beam 1,8	945.59	ft	sawcut elevation
FA		946.09	ft	proposed elevation
		0.50	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		15.10	cf	subtotal
	beam 2,7	945.59	ft	sawcut elevation
		946.22	ft	proposed elevation
		0.63	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		19.03	cf	subtotal
	beam 3,6	945.59	ft	sawcut elevation
		946.34	ft	proposed elevation
		0.75	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		22.66	cf	subtotal
	beam 4,5	945.59	ft	sawcut elevation
		946.46	ft	proposed elevation
		0.87	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		26.28	cf	subtotal
		977.30	cf	total
		37	cy	total

511	46510	16	CY	CLASS QC1 CONCRETE, FOOTING
RA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	10.78	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	1.00	sf	1' wide x 1' deep ftg (far face on Section E on approach barrier plans)
subtract	Section E	7.00	ft	total length of notchout
		46.91	cf	subtotal
RA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	14.30	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	71.51	cf	subtotal
FA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	22.92	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	114.58	cf	subtotal
FA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	24.64	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	123.18	cf	subtotal
RA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
RA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
FA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
FA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
		16	cy	total

512	10050	560	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)
parapet	on bridge	177.00	ft	length
		12.00	ft	width (sidewalk + height of barrier in front and in back)
		2	each	number
		4248.00	sf	parapet total
		472.00	sy	parapet total
RA	off bridge	25.83	ft	length
	west WW	6.33	ft	height of barrier in front and in back
	+ extension	163.61	sf	subtotal
RA	off bridge	26.76	ft	length
	east WW	6.33	ft	height of barrier in front and in back
	+ extension	169.48	sf	subtotal
FA	off bridge	34.92	ft	length
	west WW	6.33	ft	height of barrier in front and in back
	+ extension	221.14	sf	subtotal
FA	off bridge	36.85	ft	length
	east WW	6.33	ft	height of barrier in front and in back
	+ extension	233.41	sf	subtotal
		88.00	sy	abutment total
		560.00	sy	total non-epoxy sealing
512	10100	724	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
abutments		59.21	ft	avq length
		7.15	ft	height (face of new beam seat + beam seat width + height of backwall)
		1.50	ft	vertical height from beam seat to top of ex slope protection (assume 1'-6")
		2	ft	number of abutments
		1024.01	sf	subtotal
		114	sy	proposed abutment total
RA	off bridge	25.83	ft	length
	west WW	2.33	ft	height of barrier in front and in back
	+ extension	60.28	sf	subtotal
RA	off bridge	26.76	ft	length
	east WW	2.33	ft	height of barrier in front and in back
	+ extension	62.44	sf	subtotal
FA	off bridge	34.92	ft	length
	west WW	2.33	ft	height of barrier in front and in back
	+ extension	81.47	sf	subtotal
FA	off bridge	36.85	ft	length
	east WW	2.33	ft	height of barrier in front and in back
	+ extension	85.99	sf	subtotal
		147	sy	ABUTMENT TOTAL

pilasters		2.0	ft	width / length
		4.5	ft	height
		4	each	sides
		2	each	number of pilasters
		4	each	number of wings
		2.0	ft	top width
		2.0	ft	top length
		8	each	number of tops
		320	<i>sf</i>	<i>pilaster subtotal</i>
		36	<i>sy</i>	<i>pilaster subtotal</i>
parapet	on bridge	177.00	ft	length
top		2.33	ft	perimeter
		2	each	number of barriers
Overhang		9	in	sidewalk thickness
		11.38	in	overhang ext beam
		6	in	under deck length
		2.20	ft	perimeter
		1604.06	<i>sf</i>	subtotal
		179	<i>sy</i>	<i>PARAPET/DECK SUBTOTAL</i>
		215	<i>sy</i>	<i>PARAPET/DECK TOTAL</i>
piers	cap	55.13	ft	cap length (full width, center to center fascia columns)
		4.71	ft	nose circumference
		3	ft	width
		3.68	ft	avg. height (top of proposed - bottom of ex cap from ex plans)
		423.38	<i>sf</i>	cap sides
		151.24	<i>sf</i>	cap bottom (total - column holes) + cap top
		574.62	<i>sf</i>	subtotal (1 cap only)
	columns	13.50	ft	avg height to existing ground (from ex plans say 16.5' avg and 3' to ex ground)
		3	ft	diameter
		4	each	number of columns
		508.94	<i>sf</i>	subtotal (4 columns per pier)
		3	each	locations
		3250.66	<i>sf</i>	subtotal (all piers)
		362	<i>sy</i>	<i>PIER TOTAL</i>
		724	<i>sy</i>	<i>total</i>
512	74000	128	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
	abutments	59.21	ft	avg length
		1.50	ft	vertical height from beam seat to top of ex slope protection (assume 1'-6")
		2	ft	number of abutments
		178	<i>sf</i>	proposed abutment removal of sealer total
		7	<i>sy</i>	<i>proposed abutment removal of sealer total</i>
pier	pier	3,251	<i>sf</i>	see epoxy sealer total
caps	caps and	121	<i>sy</i>	<i>epoxy sealer total</i>
	columns			
		128	<i>SY</i>	<i>total</i>

513	10200	361	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF
RA	bay 4	7.88	ft	length of bay / bottom length
DETAIL 1	(bottom)	8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		64.58	lb	weight of rehabilitated end cross frame
FA	bay 4	7.88	ft	length of bay
DETAIL 2	(half)	2.51	ft	height of W 30 x 124 girder
		3.19	ft	diagonal angle length
		7.88	ft	bottom angle length
		11.07	ft	total length
		8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		90.76	lb	weight of rehabilitated end cross frame
RA	bay 7	7.88	ft	length of bay
DETAIL 3	(ALL)	2.50	ft	height of W 30 x 116 girder
		4.66	ft	diagonal angle length
		7.88	ft	bottom angle length
		17.20	ft	total length
		8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		141.07	lb	weight of rehabilitated end cross frame
RA	bay 1	7.88	ft	length of bay / bottom length
DETAIL 4	(bottom)	8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		64.58	lb	weight of rehabilitated end cross frame
		361	lb	total
513	20000	5,604	EACH	WELDED STUD SHEAR CONNECTORS
		351	each	number of studs along beam 30x116
		348	each	number of studs along beam 30x124
		2	each	studs per beam
		6	each	number of beams 30x116 beams
		2	each	number of beams 30x124 beams
		5,604	each	total
513	95030	4	EACH	STRUCTURAL STEEL, MISC.: TUBULAR STEEL "Y"
		2	each	number of piers (1 and 3)
		2	each	number of barriers
		4	ft	total
516	11210	121	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL
		60.50	ft	RA + additional horizontal length into curbs
		60.50	ft	FA
		121	ft	total

516	13600	170	SF	1" PREFORMED EXPANSION JOINT FILLER
approach	section A	1.83	ft	height (sidewalk + approach slab)
barrier wall		2.00	ft	length
		4	each	number of locations
	section B	1.83	ft	height (sidewalk + approach slab)
		15.05	ft	length east WW RA
		12.46	ft	length west WW RA
		12.00	ft	length west WW FA
		12.22	ft	length east WW FA
	section C	0.75	ft	height (sidewalk)
		10.78	ft	length east WW RA
		14.30	ft	length west WW RA
		22.92	ft	length west WW FA
		24.64	ft	length east WW FA
	section D	0.75	ft	height (sidewalk)
		2.00	ft	length
		4	each	number of locations
		170	sf	1" PEJF total
516	13900	35	SF	2" PREFORMED EXPANSION JOINT FILLER
	Interface	8.61	sf	area
	at end WW	4	each	locations
	/ prop ftg	35	sf	2" PEJF total
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 1 1/2"
		2	each	abutments
		0	each	piers
		8	each	beamlines
		16	each	total
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 2 1/8"
		0	each	abutments
		2	each	piers 1 and 3
		8	each	beamlines
		16	each	total
516	44200	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 22" X 2 1/8"
		0	each	abutments
		1	each	pier 2
		8	each	beamlines
		8	each	total
516	47000	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE
		\$ 35,000.00		assume \$1000 per bearing at piers; \$500 per bearing at abutments + some inflated cost

517	75123	495	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE), AS PER PLAI
BR 2-15	on bridge	177	ft	total length on bridge
		2	each	number of barriers
		354	ft	subtotal
pilasters		2	ft	length
		8	each	number of locations (2 at each of 4 locations)
		16	ft	subtotal
dowel into WW				
RA	off bridge	15.05	ft	length of WW from existing plans (subtract out pilaster)
	east WW			
RA	off bridge	12.46	ft	length of WW from existing plans (subtract out pilaster)
	west WW			
FA	off bridge	12.00	ft	length of WW from existing plans (subtract out pilaster)
	west WW			
FA	off bridge	12.22	ft	length of WW from existing plans (subtract out pilaster)
	east WW			
past ex WW to guardrail				
RA	off bridge	10.78	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	east WW			
RA	off bridge	14.30	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	west WW			
FA	off bridge	22.92	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	west WW			
FA	off bridge	24.64	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	east WW			
		495	ft	total
518	21200	53	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
	RA	58.00	ft	length
		5.90	ft	avg height (avg top deck - AS thick - sawcut + 1.5 (approx. ht to mid weep)) + 1
		2	ft	thickness
		684.01	cf	RA PROP TOTAL
	FA	60.42	ft	length
		5.90	ft	avg height (avg top deck - AS thick - sawcut + 1.5 (approx. ht to mid weep)) + 1
		2	ft	thickness
		712.51	cf	FA PROP TOTAL
		53	cy	total

519	11101	95	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN
	RA	5	sf	Estimated area, from table on plans
	FA	3	sf	Estimated area, from table on plans
		8	sf	abutment patching total
	P1	12	sf	Estimated area, from table on plans
	P2	72	sf	Estimated area, from table on plans
	P3	3	sf	Estimated area, from table on plans
		87	sf	pier patching total
		95	sf	total
526	15010	282	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=13")
	RA	1363	sf	RA total (flooded in microstation)
	FA	1172	sf	FA total (flooded in microstation)
		282	sy	total
526	90010	133	FT	TYPE A INSTALLATION
		67.0	ft	RA length at bridge
		65.1	ft	FA length at bridge
		133	ft	total
SPECIAL	40998000	338	SY	SEALING, MISC: ACRYLIC STAIN
		560.00	sy	total non-epoxy sealing
	subtract out	177.00	ft	length
	sidewalk	5.67	ft	width
	on bridge	2	each	number
		2006.00	sf	sidewalk total subtract out
		222.89	sy	sidewalk total subtract out
		338	sy	total acrylic stain on parapets

SPECIAL	53013000	3030	SF	FORM LINER
	on bridge	177	ft	total length on bridge
		4	each	number of sides (2 barriers x 2 faces)
		3.17	ft	height
		2242	sf	subtotal
	off bridge	124.36	ft	average length (measured along face in microstation / 4)
RA	off bridge	26	ft	length
	west WW			
RA	off bridge	26.76	ft	length
	east WW			
FA	off bridge	34.92	ft	length
	west WW			
FA	off bridge	36.85	ft	length
	east WW			
		2	each	number of faces
		3.17	ft	height
		788	sf	subtotal
		3030	sf	total
607	39911	352	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN
	on bridge	176	ft	length per parapet
		2	each	number of parapets
		352	ft	total
SPECIAL	60740000	125	FT	VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC
RA	off bridge	26	ft	length
	west WW			
RA	off bridge	26.76	ft	length
	east WW			
FA	off bridge	34.92	ft	length
	west WW			
FA	off bridge	36.85	ft	length
	east WW			
		125	ft	total