ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80/94	2626.2-R-2	LAKE COUNTY, INDIANA	452	292
		ILLINOIS	FED. AID PROJECT-	

SHEET NO. S-60
72 SHEETS

CONTRACT NO. 62113 INDOT DES. NO. 0100987

PIERS 1 AND 2 - PHASE 2 BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
$h_{20}(E)$	16	#15	15.12	
$h_{21}(E)$	62	#15	14.22	
$h_{22}(E)$	20	#15	5.26	
$h_{23}(E)$	10	#15	1.27	
$n_{20}(E)$	200	#30	2.80	
$n_{21}(E)$	14	#20	2.19	
$p_{20}(E)$	10	#30	14.32	
$p_{21}(E)$	14	#30	15.12	
$p_{22}(E)$	10	#30	1.38	
$s_{20}(E)$	52	#20	5.16	
$s_{21}(E)$	52	#20	4.98	
$s_{22}(E)$	16	#20	3.24	
$s_{23}(E)$	144	#20	8.60	
$s_{24}(E)$	144	#20	4.94	
$s_{25}(E)$	72	#15	2.28	
$sp_{20}(E)$	5	#15	5.75	
$sp_{21}(E)$	5	#15	6.00	
$t_{20}(E)$	136	#25	3.90	
$u_{20}(E)$	12	#20	3.15	
$u_{21}(E)$	28	#15	2.85	
$v_{20}(E)$	100	#30	6.64	
$v_{21}(E)$	100	#30	7.03	
$v_{22}(E)$	14	#20	3.80	
$w_{20}(E)$	28	#15	14.72	

Test Pile, 356 mm	Each	2
Excavation, Wet	m^3	166
Excavation, Dry	m^3	455
Concrete, A, Substructure	m^3	371.7
Reinforcing Bars, Epoxy Coated	kg	27,620
Pile, Concrete, Steel Shell Encased, 6.35mm, 356 mm	m	1,284.0
Threaded Tie Bar Assembly, Epoxy Coated	Each	116

Quantities provided are for the total of Pier 1 - Eastbound and Pier 2 - Eastbound.

PIERS 1 AND 2 - PHASE 3 BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape

Test Pile, 356 mm	Each	
Excavation, Wet	m^3	
Excavation, Dry	m^3	
Concrete, A, Substructure	m^3	
Reinforcing Bars, Epoxy Coated	kg	
Pile, Concrete, Steel Shell Encased, 6.35mm, 356 mm	m	
Threaded Tie Bar Assembly, Epoxy Coated	Each	

PIER 3 - PHASE 2 BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
$h_{30}(E)$	4	#15	13.07	
$h_{31}(E)$	25	#15	12.17	
$h_{32}(E)$	20	#15	4.67	
$h_{33}(E)$	10	#15	1.00	
$n_{30}(E)$	80	#30	2.80	
$n_{31}(E)$	7	#20	2.19	
$p_{30}(E)$	5	#30	12.27	
$p_{31}(E)$	6	#30	13.07	
$p_{32}(E)$	5	#30	1.38	
$s_{30}(E)$	57	#20	4.90	
$s_{31}(E)$	8	#20	3.10	
$s_{32}(E)$	77	#15	2.33	
$s_{33}(E)$	62	#20	7.00	
$s_{34}(E)$	62	#20	4.94	
$sp_{30}(E)$	4	#15	6.85	
$t_{30}(E)$	51	#25	3.70	
$u_{30}(E)$	6	#20	3.15	
$u_{31}(E)$	11	#15	2.85	
$u_{32}(E)$	3	#15	1.09	
$u_{33}(E)$	3	#15	0.91	
$v_{30}(E)$	80	#30	7.74	
$v_{31}(E)$	7	#20	3.00	
$w_{30}(E)$	14	#15	12.67	

Test Pile, 356 mm	Each	1
Excavation, Foundation, Unclassified	m^3	217
Concrete, A, Substructure	m^3	149.8
Reinforcing Bars, Epoxy Coated	kg	11,840
Pile, Concrete, Steel Shell Encased, 6.35mm, 356 mm	m	389.0
Threaded Tie Bar Assembly, Epoxy Coated	Each	56
Surface Seal (Esimated)	m^2	15

PIER 3 - PHASE 3 BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape

Test Pile, 356 mm	Each	
Excavation, Foundation, Unclassified	m^3	
Concrete, A, Substructure	m^3	
Reinforcing Bars, Epoxy Coated	kg	
Pile, Concrete, Steel Shell Encased, 6.35mm, 356 mm	m	
Threaded Tie Bar Assembly, Epoxy Coated	Each	

PIERS 4 AND 5 - PHASE 2 BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
$h_{40}(E)$	16	#15	13.07	
$h_{41}(E)$	68	#15	12.17	
$h_{42}(E)$	20	#15	4.67	
$h_{43}(E)$	10	#15	1.00	
$n_{40}(E)$	160	#30	2.80	
$n_{41}(E)$	14	#20	2.19	
$p_{40}(E)$	8	#30	12.27	
$p_{41}(E)$	14	#30	13.07	
$p_{42}(E)$	8	#30	1.38	
$s_{40}(E)$	48	#20	4.72	
$s_{41}(E)$	48	#20	4.66	
$s_{42}(E)$	16	#20	3.02	
$s_{43}(E)$	62	#20	13.20	
$s_{44}(E)$	124	#20	4.94	
$s_{45}(E)$	64	#15	2.28	
$s_{46}(E)$	62	#20	5.40	
$sp_{40}(E)$	4	#15	4.27	
$sp_{41}(E)$	4	#15	4.08	
$t_{40}(E)$	92	#25	3.70	
$u_{40}(E)$	12	#20	3.15	
$u_{41}(E)$	31	#15	2.85	
$v_{40}(E)$	80	#30	5.16	
$v_{41}(E)$	80	#30	4.97	
$v_{42}(E)$	7	#20	6.10	
$v_{43}(E)$	7	#20	2.20	
$w_{40}(E)$	28	#15	12.67	

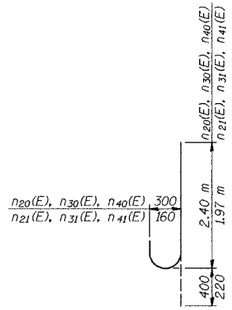
Test Pile, 356 mm	Each	2
Excavation, Foundation, Unclassified	m^3	519
Concrete, A, Substructure	m^3	304.4
Reinforcing Bars, Epoxy Coated	kg	20,340
Pile, Concrete, Steel Shell Encased, 6.35mm, 356 mm	m	744.0
Threaded Tie Bar Assembly, Epoxy Coated	Each	120

Quantities provided are for the total of Pier 4 - Eastbound and Pier 5 - Eastbound.

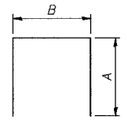
PIERS 4 AND 5 - PHASE 3 BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape

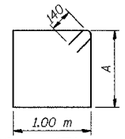
Test Pile, 356 mm	Each	
Excavation, Foundation, Unclassified	m^3	
Concrete, A, Substructure	m^3	
Reinforcing Bars, Epoxy Coated	kg	
Pile, Concrete, Steel Shell Encased, 6.35mm, 356 mm	m	
Threaded Tie Bar Assembly, Epoxy Coated	Each	



BARS $n_{20}(E)$, $n_{21}(E)$, $n_{30}(E)$, $n_{31}(E)$, $n_{40}(E)$, $n_{41}(E)$



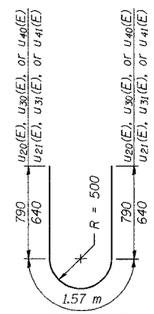
BARS $s_{22}(E)$, $s_{23}(E)$, $s_{24}(E)$, $s_{25}(E)$, $s_{31}(E)$, $s_{32}(E)$, $s_{33}(E)$, $s_{34}(E)$, $s_{42}(E)$, $s_{43}(E)$, $s_{44}(E)$, $s_{45}(E)$, $s_{46}(E)$



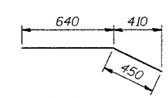
BARS $s_{20}(E)$, $s_{21}(E)$, $s_{30}(E)$, $s_{40}(E)$, $s_{41}(E)$

BAR DIMENSIONS

Bar	A	B
$s_{20}(E)$	1.44m	—
$s_{21}(E)$	1.35m	—
$s_{22}(E)$	1.12m	1.00 m
$s_{23}(E)$	3.80m	1.00 m
$s_{24}(E)$	1.97m	1.00 m
$s_{25}(E)$	640	1.00 m
$s_{30}(E)$	1.31m	—
$s_{31}(E)$	1.05m	1.00 m
$s_{32}(E)$	940	450
$s_{33}(E)$	3.00m	1.00 m
$s_{34}(E)$	1.97m	1.00 m
$s_{40}(E)$	1.22m	—
$s_{41}(E)$	1.19m	—
$s_{42}(E)$	1.01m	1.00 m
$s_{43}(E)$	6.10m	1.00 m
$s_{44}(E)$	1.97m	1.00 m
$s_{45}(E)$	640	1.00 m
$s_{46}(E)$	2.20m	1.00 m



BARS $u_{20}(E)$, $u_{21}(E)$, $u_{30}(E)$, $u_{31}(E)$, $u_{40}(E)$, $u_{41}(E)$



BARS $u_{32}(E)$

BARS $u_{33}(E)$

NOTE:
Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	BHS
CHECKED	KFA
DRAWN	MJB
CHECKED	GSP

PHASE 3 FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 80/94 (BORMAN EXPRESSWAY)
OVER LITTLE CALUMET RIVER & N.I.C.T.D. R.O.W.

PIER DETAILS
SECTION 2626.2-R-1
LAKE COUNTY, INDIANA
STATION 8+470.000
STRUCTURE NO. I-80-1-8460 (EB & WB)
DATE 07/04 **(016-1003 & 016-1004)**

AMERICAN CONSULTING ENGINEERS