

**CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

SUMMARY

PRICE INDEX FOR SELECTED HIGHWAY CONSTRUCTION ITEMS

4TH QUARTER ENDING DECEMBER 31, 2003

Index this quarter	138.2
Point change from last quarter	-52.5
Percentage changes from last quarter	-27.5%
Index last 12 months	148.6
Point change from previous report	-9.7
Percentage changes from previous report	-6.1%

Average number of bidders this quarter	5.4
Change in number of bidders from last quarter	+0.1

NOTE: All information shown in this publication was assembled using 1987 base year.

CALIFORNIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY CONSTRUCTION COST INDEX
4TH QUARTER ENDING DECEMBER, 2003

Prepared by Division of Engineering Services - Office Engineer

NOTE: *All information shown in the publication was assembled using 1987 base year*

The California Highway Construction Cost Index for the fourth quarter of 2003 stands at 138.2, down 52.5 points (27.5 percent) from the third quarter of 2003 index of 190.7. The Index for the year-to-date (January 1, 2003 through December 31, 2003) is 148.6, down 9.7 points (6.1 percent) from the third quarter 2003 year-to-date index of 158.3.

Cost decreases were recorded in Roadway Excavation, Asphalt Concrete Pavement, Portland Cement Concrete (Pavement), Portland Cement Concrete (Structure) and Bar Reinforcing Steel. Cost increases were recorded in Aggregate Base and Structural Steel (*).

The average number of bidders per project in the fourth quarter of 2003 was 5.4, up 0.1 bidder per project as compared to 5.3 for the third quarter of 2003 and down 1.0 as compared to 6.4 for the corresponding quarter in 2002.

The project values which provided the input for the preparation of this quarter's index are distributed as follows:

RANGE			NUMBER OF PROJECTS	%	AMOUNTS OF PROJECTS	%
UP	TO	50,000	0	0	0	0
50,000	TO	100,000	0	0	0	0
100,000	TO	250,000	9	14.75	\$1,715,633	0.35
250,000	TO	500,000	13	21.31	\$4,896,734	1.00
500,000	TO	1,000,000	8	13.12	\$5,429,561	1.10
1,000,000	TO	2,500,000	11	18.03	\$19,099,404	3.89
2,500,000	TO	5,000,000	7	11.48	\$26,192,337	5.33
5,000,000	AND	ABOVE	13	21.31	\$434,209,845	88.33
TOTAL			61	100.00	\$491,543,514	100.00

NOTE: (*) Beginning the first quarter of 2003, Contract Prices of the Structural Steel were revised to include the Furnish and Erect Structural Steel (Bridge). The Quarterly and Twelve Month Construction Cost Index have been revised accordingly.

There were thirteen contracts over \$5,000,000 opened during the fourth quarter. The Projects include:

1. Widen to Four-Lane Divided Conventional Highway in Riverside County near Corona and Chico Hills on Route 71 from San Bernardino/Riverside County Line to Santa Ana River Bridge. The low bid of \$8,899,891.63 was submitted by Sema Construction, Incorporated.
2. Construct Four-Lane Expressway in Imperial County near Brawley on Route 78 from 0.5 kilometer East to 1.2 kilometers East of East Junction Route 111 and on Route 111 from 0.2 kilometer North of Mead Road to 0.4 kilometer North of Route 78. The low bid of \$10,394,983.00 was submitted by Granite Construction Company.
3. Rehabilitate Roadway in Lassen County about 14 kilometers East of Old Station on Route 44 from Shasta County to Crater Lake Road. The low bid of \$10,489,630.00 was submitted by Hat Creek Construction and Materials, Incorporated.
4. Rehabilitate Pavement in Shasta County in Redding on Routes 5, 44, 273 and 299 at various Locations. The low bid of \$10,832,833.00 was submitted by J F Shea Company, Incorporated.
5. Reconstruct Connector and Auxiliary Lanes in Solano County in Fairfield on Route 80 from Route 680/80 Separation to 0.7 kilometer West of Route 12/80 Connector Overcrossing. The low bid of \$12,121,812.10 was submitted by O C Jones and Sons, Incorporated.
6. Rehabilitate Roadway and Bridge in Riverside County in Cabazon on Route 10 from 0.5 kilometer West of Field Road to Route 10/111 Separation. The low bid of \$13,899,359.00 was submitted by Banshee Construction Company, Incorporated.
7. Seismic Retrofit in San Bernardino County in Colton and San Bernardino on Routes 10 and 215 at Route 10/215 Separation. The low bid of \$14,754,252.50 was submitted by Brutoco Engineering and Construction, Incorporated.
8. Reconstruct Pavement in San Bernardino County in and near Rialto and Fontana on Route 15 from 0.3 kilometer West of Sierra Avenue Undercrossing to Cajon Creek Bridge. The low bid of \$18,838,074.00 was submitted by Kiewit Pacific Company.
9. Construct New Expressway and Structures in Amador County in and near Sutter Creek and Amador City on Route 49 from Junction Route 104 to 0.3 kilometer South of Rancheria Creek Bridge. The low bid of \$21,856,872.00 was submitted by Diablo Contractors, Incorporated.
10. Reconstruct Interchange in Placer County in Roseville on Route 80 from 2.4 kilometers East of South Roseville Overcrossing to 0.6 kilometer West of Atlantic Street Overcrossing. The low bid of \$22,572,488.05 was submitted by R and L Brosamer, Incorporated.
11. Construct Four-Lane Highway in Imperial County near Calexico on Routes 7, 8 and 98 at various Locations. The low bid of \$32,435,000.00 was submitted by Coffman Specialties, Incorporated.
12. Construct Temporary Bypass Structure in the City and County of San Francisco on Route 80 from Yerba Buena Tunnel to 0.6 kilometer East of the Yerba Buena Tunnel. The low bid of \$71,159,650.00 was submitted by C C Meyers, Incorporated.

13. Widen, Construct Truck Lanes and Auxiliary Lanes, Improve Mainline and Interchanges in Riverside County in Riverside and Moreno Valley on Route 215 from 0.4 kilometer North of Eucalyptus Avenue Overcrossing to Columbia Avenue Overcrossing, on Route 60 from 0.6 kilometer East of Day Street Undercrossing to 0.4 kilometer West of Main Street Overcrossing, on Route 91 from 0.3 kilometer South of University Avenue Undercrossing to 0.1 kilometer North of Spruce Street Overcrossing. The low bid of \$185,955,000.00 was submitted by Washington Group International Inc. / Obayahi Corporation, a Joint Venture.

The Federal Highway Administration Price Trends for Federal-Aid Highway Construction are based on information received for Federal-Aid construction contracts over \$500,000. Effective the first quarter of 1990 the Federal Highway Administration converted their index to 1987=100 base. The composite index for selected construction items the third quarter of 2003 is 151.4, down 3.4 points from 154.8 second quarter of 2003.

The Engineering News-Record's Construction Cost Index average for the fourth quarter of 2003 is 631.4 up 5.5 points from 625.9 last quarter. Their price index uses a 1967=100 base.

The U. S. Bureau of Labor Statistics' Consumer Price Index average for the fourth quarter 2003 is 184.6, for U. S. City average of all Urban Consumers, no change from last quarter. Their Price Index uses a 1982-84=100 base.

The California Highway Construction Cost Indices and the Federal Highway Administration Composite Indices for selected construction items are based on 1987=100 and are shown on the accompanying graph (Exhibit D). The indices plotted are on a yearly average basis, which describes the trends more clearly by smoothing out the fluctuations between the individual quarters.

Construction item costs based on English units.

Roadway Excavation: \$3.63 per cubic yard

The price decreased \$7.05 from the average unit price of \$10.68 per cubic yard last quarter. Unit bid prices ranged from \$0.92 to \$114.68 per cubic yard.

Aggregate Base: \$17.79 per ton

The price increased \$3.15 from the average unit price of \$14.64 per ton last quarter. Unit bid prices ranged from \$0.40 to \$40.24 per ton.

Asphalt Concrete Pavement: \$47.09 per ton

The unit price decreased \$2.07 from the average unit price of \$49.16 per ton last quarter. Unit prices ranged from \$39.46 to \$907.18 per ton.

Portland Cement Concrete (Pavement): \$118.87 per cubic yard

The unit price decreased \$12.67 from the average unit price of \$131.54 per cubic yard last quarter. Unit prices ranged from \$80.28 to \$145.27 per cubic yard.

Portland Cement Concrete (Structure): \$337.07 per cubic yard

The unit price decreased \$78.10 from the average unit price of \$415.17 per cubic yard last quarter. Unit prices ranged \$133.80 to \$7,645.55 per cubic yard.

Bar Reinforcing Steel: \$0.61 per pound

The unit price decreased \$0.01 from the average unit price of \$0.62 per pound last quarter. Unit prices ranged from \$0.50 to \$4.54 per pound.

Structural Steel: \$2.37 per pound

The unit price increased \$0.98 from the average unit price of \$1.39 per pound last quarter. Unit prices ranged from \$1.95 to \$5.90 per pound.

Construction item costs based on Metric units.

Roadway Excavation: \$4.75 per cubic meter

The price decreased \$9.22 from the average unit price of \$13.97 per cubic meter last quarter. Unit bid prices ranged from \$1.20 to \$150.00 per cubic meter.

Aggregate Base: \$19.61 per tonn

The price increased \$3.47 from the average unit price of \$16.14 per tonn last quarter. Unit bid prices ranged from \$0.44 to \$44.36 per tonn.

Asphalt Concrete Pavement: \$51.91 per tonn

The unit price decreased \$2.28 from the average unit price of \$54.19 per tonn last quarter. Unit prices ranged from \$43.50 to \$1,000.00 per tonn.

Portland Cement Concrete (Pavement): \$155.47 per cubic meter

The unit price decreased \$16.58 from the average unit price of \$172.05 per cubic meter last quarter. Unit prices ranged from \$105.00 to \$190.00 per cubic meter.

Portland Cement Concrete (Structure): \$440.87 per cubic meter

The unit price decreased \$102.16 from the average unit price of \$543.03 per cubic meter last quarter. Unit prices ranged \$175.00 to \$10,000.00 per cubic meter.

Bar Reinforcing Steel: \$1.34 per kilogram

The unit price decreased \$0.03 from the average unit price of \$1.37 per kilogram last quarter. Unit prices ranged from \$1.10 to \$10.00 per kilogram.

Structural Steel: \$5.22 per kilogram

The unit price increased \$2.17 from the average unit price of \$3.05 per kilogram last quarter. Unit prices ranged from \$4.30 to \$13.00 per kilogram.

EXHIBIT A

PRICE INDEX FOR SELECTED
CALIFORNIA CONSTRUCTION ITEMS
1987 = 100

<u>YEAR</u>	<u>QTRLY</u>	<u>LAST 12 MONTHS</u>	<u>ANNUAL</u>
1972			30.0
1973			31.2
1974			45.6
1975			46.7
1976			47.7
1977			53.7
1978			62.1
1979			80.1
1980			82.1
1981			90.6
1982			81.3
1983			81.9
1984			93.3
1985			92.7
1986			95.0
1987			100.0
1988			104.4
1989			111.3
1990			113.5
1991			108.2
1992			106.8
1993			113.1
1994			119.0
1995			115.0
1996			119.2
1997 (1st Quarter)	157.0	124.7	
1997 (2nd Quarter)	108.2	119.6	
1997 (3rd Quarter)	144.8	125.4	
1997 (4th Quarter)	155.1		
1997 (Year)			124.8
1998 (1st Quarter)	113.0	120.1	
1998 (2nd Quarter)	131.6	130.4	
1998 (3rd Quarter)	162.8	133.3	
1998 (4th Quarter)	126.5		
1998 (Year)			128.6
1999 (1st Quarter)	129.4	133.5	
1999 (2nd Quarter)	140.3	136.4	
1999 (3rd Quarter)	174.5	136.6	
1999 (4th Quarter)	115.2		
1999 (Year)			139.2
2000 (1st Quarter)	162.7	148.1	
2000 (2nd Quarter)	167.6	156.5	
2000 (3rd Quarter)	132.3	144.7	
2000 (4th Quarter)	152.0		
2000 (Year)			146.2
2001 (1st Quarter)	140.1	137.0	
2001 (2nd Quarter)	141.6	134.8	
2001 (3rd Quarter)	167.5	141.6	
2001 (4th Quarter)	183.3		
2001 (Year)			154.1
2002 (1st Quarter)	145.1	157.5	
2002 (2nd Quarter)	129.5	148.4	
2002 (3rd Quarter)	175.5	149.7	
2002 (4th Quarter)	153.7		
2002 (Year)			142.2
2003 (1st Quarter)	188.2	143.2	
2003 (2nd Quarter)	158.1	155.6	
2003 (3rd Quarter)	190.7	158.3	
2003 (4th Quarter)	138.2		
2003 (Year)			148.6

EXHIBIT B

ENGLISH UNITS
 CALIFORNIA DEPARTMENT OF TRANSPORTATION
 AVERAGE HIGHWAY
 CONTRACT PRICES

	<u>ROADWAY EXCAVATION " 1 "</u>	<u>AGGREGATE BASE</u>	<u>ASPHALT CONCRETE PAVEMENT</u>	<u>PCC PAVEMENT</u>	<u>CLASS "A" PCC STRUCTURE</u>	<u>BAR REINFORCING STEEL</u>	<u>STRUCTURAL STEEL " 2 "</u>
	<u>PER CU YD</u>	<u>PER TON</u>	<u>PER TON</u>	<u>PER CU YD</u>	<u>PER CU YD</u>	<u>PER LB</u>	<u>PER LB</u>
1972	0.95	3.21	8.22	19.23	82.08	0.159	0.446
1973	0.75	3.14	9.02	19.24	93.60	0.169	0.635
1974	1.26	4.23	13.01	28.59	115.19	0.329	0.987
1975	1.19	4.70	14.24	30.63	132.10	0.239	0.838
1976	1.32	4.70	13.67	29.64	143.05	0.223	0.504
1977	1.76	5.44	15.15	35.17	150.03	0.239	1.228
1978	1.85	6.18	17.70	41.77	180.77	0.276	0.814
1979	2.36	7.49	22.40	52.39	234.24	0.383	1.960
1980	2.10	8.38	25.51	55.18	235.45	0.378	1.942
1981	3.14	8.63	28.53	59.45	226.84	0.386	2.091
1982	2.58	7.56	24.69	57.10	224.72	0.320	2.155
1983	2.10	9.20	27.57	52.04	225.84	0.335	2.155
1984	3.19	13.67	28.38	55.79	238.48	0.375	2.155
1985	2.77	11.55	30.15	64.13	232.39	0.413	2.288
1986	3.01	12.76	28.82	60.49	249.74	0.412	2.388
1987	2.97	17.57	27.54	70.62	280.40	0.418	2.546
1988	4.16	10.13	27.46	58.66	284.55	0.440	3.956
1989	4.19	10.62	29.43	73.78	303.49	0.483	3.103
1990	4.73	12.05	30.77	68.93	295.24	0.469	2.209
1991.....	3.08	10.07	33.43	62.64	295.21	0.431	2.284
1992.....	3.62	9.76	32.46	66.78	265.31	0.419	3.073
1993.....	4.53	9.89	35.41	66.76	243.79	0.464	2.706
1994.....	4.68	10.39	37.15	66.45	277.92	0.547	2.334
1995.....	4.10	10.18	35.29	63.85	298.80	0.499	2.266
1996.....	3.80	9.74	37.66	65.93	321.88	0.512	2.172
1st Quarter 1997	5.79	10.46	39.05	248.72	376.38	0.610	2.050
2nd Quarter 1997	3.80	9.82	34.23	76.68	267.68	0.444	3.418
3rd Quarter 1997	8.23	10.39	38.09	88.50	300.20	0.537	2.220
4th Quarter 1997	8.79	11.82	39.85	76.40	354.50	0.508	2.530
Year 1997	5.25	10.29	36.07	78.48	308.54	0.496	2.337
1st Quarter 1998	4.24	9.37	35.41	66.99	283.64	0.455	1.784
2nd Quarter 1998	4.71	12.13	37.63	89.68	336.27	0.635	2.963
3rd Quarter 1998	8.39	12.41	45.23	101.57	361.63	0.575	2.748
4th Quarter 1998	3.95	12.19	42.82	83.00	318.20	0.519	2.205
Year 1998	4.95	11.55	38.78	75.91	319.95	0.553	2.595
1st Quarter 1999	6.18	11.94	40.06	57.07	276.07	0.523	3.893
2nd Quarter 1999	6.35	12.74	40.62	94.56	331.12	0.485	3.161
3rd Quarter 1999	8.79	13.93	39.80	78.28	479.02	0.643	2.687
4th Quarter 1999	3.24	12.22	39.83	95.85	264.92	0.556	4.624
Year 1999	6.55	12.86	40.14	77.95	321.22	0.521	3.215
1st Quarter 2000	6.32	13.62	43.83	116.91	465.68	0.512	3.370
2nd Quarter 2000	7.55	11.35	45.35	68.11	458.34	0.608	4.477
3rd Quarter 2000	4.52	11.47	44.43	82.34	325.42	0.530	3.106
4th Quarter 2000	8.34	10.20	46.91	73.21	306.83	0.487	2.509
Year 2000	6.21	11.14	45.12	78.14	363.59	0.507	2.754
1st Quarter 2001	3.84	11.25	41.01	69.94	422.47	0.673	5.139
2nd Quarter 2001	5.94	17.61	46.32	103.69	273.57	0.609	3.098
3rd Quarter 2001	8.70	14.39	50.25	60.60	360.93	0.620	4.339
4th Quarter 2001	9.66	13.60	40.00	94.05	504.96	0.599	3.725
Year 2001	5.83	14.58	43.89	75.74	425.17	0.612	3.906
1st Quarter 2002	5.45	11.42	46.47	67.38	388.68	0.497	2.401
2nd Quarter 2002	3.18	13.17	48.50	67.60	346.91	0.498	3.050
3rd Quarter 2002	10.77	12.12	49.56	111.78	317.79	0.545	4.783
4th Quarter 2002	5.40	12.80	50.62	139.49	369.91	0.511	3.262
Year 2002	4.84	12.42	49.00	74.15	363.50	0.508	3.248
1st Quarter 2003	12.45	11.97	49.97	122.74	340.54	0.504	3.188
2nd Quarter 2003	4.80	13.26	47.24	76.24	460.14	0.734	4.048
3rd Quarter 2003	10.68	14.64	49.16	131.54	415.17	0.622	1.385
4th Quarter 2003	3.63	17.79	47.09	118.87	337.07	0.608	2.370
Year 2003	5.05	15.05	48.35	109.96	362.75	0.600	1.710

1. UNCLASSIFIED
 2. BEGINNING 1ST QUARTER 2003, STRUCTURAL STEEL INCLUDES THE FURNISH AND ERECT STRUCTURAL STEEL (BRIDGE)

EXHIBIT B

METRIC UNITS
CALIFORNIA DEPARTMENT OF TRANSPORTATION
AVERAGE HIGHWAY
CONTRACT PRICES

	<u>ROADWAY EXCAVATION " 1 "</u>	<u>AGGREGATE BASE</u>	<u>ASPHALT CONCRETE PAVEMENT</u>	<u>PCC PAVEMENT</u>	<u>CLASS "A" PCC STRUCTURE</u>	<u>BAR REINFORCING STEEL</u>	<u>STRUCTURAL STEEL " 2 "</u>
	<u>PER M3</u>	<u>PER TONN</u>	<u>PER TONN</u>	<u>PER M3</u>	<u>PER M3</u>	<u>PER KG</u>	<u>PER KG</u>
1972	1.24	3.54	9.06	25.15	107.36	0.351	0.983
1973	0.98	3.46	9.94	25.16	122.42	0.373	1.400
1974	1.65	4.66	14.34	37.39	150.66	0.725	2.176
1975	1.56	5.18	15.70	40.06	172.78	0.527	1.847
1976	1.73	5.18	15.07	38.77	187.10	0.492	1.111
1977	2.30	6.00	16.70	46.00	196.23	0.527	2.707
1978	2.42	6.81	19.51	54.63	236.44	0.608	1.795
1979	3.09	8.26	24.69	68.52	306.37	0.844	4.321
1980	2.75	9.24	28.12	72.17	307.96	0.833	4.281
1981	4.11	9.51	31.45	77.76	296.70	0.851	4.610
1982	3.37	8.33	27.22	74.68	293.92	0.705	4.751
1983	2.75	10.14	30.39	68.07	295.39	0.739	4.751
1984	4.17	15.07	31.28	72.97	311.92	0.827	4.751
1985	3.62	12.73	33.23	83.88	303.95	0.911	5.044
1986	3.94	14.07	31.77	79.12	326.65	0.908	5.265
1987	3.88	19.37	30.36	92.37	366.75	0.922	5.613
1988	5.44	11.17	30.27	76.72	372.18	0.970	8.721
1989	5.48	11.71	32.44	96.50	396.95	1.065	6.841
1990	6.19	13.28	33.92	90.16	386.16	1.034	4.870
1991	4.03	11.10	36.85	81.93	386.12	0.950	5.035
1992	4.73	10.76	35.78	87.34	347.01	0.924	6.775
1993	5.93	10.90	39.03	87.32	318.87	1.023	5.966
1994	6.12	11.45	40.95	86.91	363.51	1.206	5.146
1995	5.36	11.22	38.90	83.51	390.82	1.100	4.996
1996	5.09	10.74	41.51	86.23	421.00	1.129	4.788
1st Quarter 1997	7.57	11.53	43.05	325.31	492.29	1.345	4.519
2nd Quarter 1997	4.97	10.82	37.73	100.29	350.11	0.979	7.535
3rd Quarter 1997	10.76	11.45	41.99	115.75	392.65	1.184	4.894
4th Quarter 1997	11.50	13.03	43.93	99.93	463.67	1.120	5.578
Year 1997	6.87	11.35	39.76	102.65	403.56	1.094	5.152
1st Quarter 1998	5.55	10.33	39.03	87.62	370.99	1.003	3.933
2nd Quarter 1998	6.16	13.37	41.48	117.30	439.82	1.400	6.532
3rd Quarter 1998	10.97	13.68	49.86	132.85	472.99	1.268	6.058
4th Quarter 1998	5.17	13.44	47.20	108.56	416.20	1.144	4.862
Year 1998	6.47	12.73	42.75	99.29	418.48	1.219	5.721
1st Quarter 1999	8.08	13.16	44.16	74.64	361.09	1.153	6.583
2nd Quarter 1999	8.30	14.04	44.78	123.68	433.08	1.069	6.969
3rd Quarter 1999	11.50	15.36	43.88	102.39	626.53	1.418	5.924
4th Quarter 1999	4.23	13.47	43.91	125.37	346.51	1.225	10.194
Year 1999	8.57	14.17	44.24	101.95	420.15	1.148	7.088
1st Quarter 2000	8.27	15.02	48.31	152.91	609.09	1.128	7.431
2nd Quarter 2000	9.87	12.51	49.99	89.09	599.48	1.341	9.871
3rd Quarter 2000	5.92	12.64	48.97	107.70	425.63	1.169	6.848
4th Quarter 2000	10.91	11.25	51.71	95.75	401.31	1.073	5.532
Year 2000	8.12	12.28	49.73	102.21	475.55	1.118	6.071
1st Quarter 2001	5.02	14.61	45.20	91.48	552.57	1.483	11.329
2nd Quarter 2001	7.77	19.41	51.06	135.62	357.82	1.342	6.831
3rd Quarter 2001	11.38	15.86	55.39	79.27	472.08	1.367	9.565
4th Quarter 2001	12.64	15.00	44.10	123.01	660.46	1.321	8.213
Year 2001	7.63	16.07	48.39	99.06	556.10	1.349	8.612
1st Quarter 2002	7.13	12.59	51.22	88.13	508.37	1.095	5.292
2nd Quarter 2002	4.15	14.52	53.46	88.42	453.74	1.099	6.724
3rd Quarter 2002	14.09	13.36	54.63	146.20	415.65	1.201	10.544
4th Quarter 2002	7.07	14.11	55.80	182.45	483.82	1.126	7.191
Year 2002	6.32	13.70	54.01	96.99	475.44	1.120	7.160
1st Quarter 2003	16.29	13.19	55.08	160.54	445.40	1.111	7.028
2nd Quarter 2003	6.28	14.61	52.07	99.72	601.84	1.619	8.925
3rd Quarter 2003	13.97	16.14	54.19	172.05	543.03	1.371	3.053
4th Quarter 2003	4.75	19.61	51.91	155.47	440.87	1.340	5.224
Year 2003	6.60	16.59	53.30	143.82	474.45	1.313	3.769

1. UNCLASSIFIED
2. BEGINNING 1ST QUARTER 2003, STRUCTURAL STEEL INCLUDES THE FURNISH AND ERECT STRUCTURAL STEEL (BRIDGE)