

Structural Steel Erection Contractors

1997

Issued October 1999

EC97C-2359A

1997 Economic Census

Construction

Industry Series



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU



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U.S. Department of Commerce

William M. Daley,

Secretary

Robert L. Mallett,

Deputy Secretary

Economics

and Statistics

Administration

Robert J. Shapiro,

Under Secretary for

Economic Affairs

U.S. CENSUS BUREAU

Kenneth Prewitt,

Director



**Economics
and Statistics
Administration**

Robert J. Shapiro,
Under Secretary
for Economic Affairs



U.S. CENSUS BUREAU

Kenneth Prewitt,
Director

William G. Barron,
Deputy Director

Paula J. Schneider,
Principal Associate Director
for Programs

Frederick T. Knickerbocker,
Associate Director
for Economic Programs

Thomas L. Mesenbourg,
Assistant Director
for Economic Programs

William G. Bostic Jr.,
Chief, Manufacturing
and Construction Division

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Construction

SCOPE

Construction, sector 23, includes establishments primarily engaged in construction work that have one or more paid employees. Construction work includes new construction work, additions, alterations, and repairs. Establishments identified as construction management firms are also included. The construction sector is divided into three types of activity or subsectors.

The Building, Developing, and General Contracting subsector includes establishments responsible for the construction of building projects. Builders, developers, and general contractors, as well as land subdividers and land developers are included in the subsector. The construction work may be done for others and performed by custom builders, general contractors, design builders, or turnkey contractors. This construction activity may be for sale as performed by speculative or operative builders.

The Heavy Construction subsector includes establishments engaged in the construction of heavy engineering and industrial projects (except buildings) such as highways, power plants, and pipelines. Establishments in this subsector usually assume responsibility for entire non-building projects, but may subcontract some or all of the actual construction work. Special trade contractors are included in this group if they are engaged in activities primarily related to heavy construction such as grading for highways. Kinds of establishments include heavy construction general contractors, and design builders.

The Special Trade Contractors subsector includes establishments engaged in specialized construction activities such as plumbing, painting, and electrical work. The activities in this subsector may be subcontracted from builders or general contractors, or the work may be performed directly for project owners. Special trade contractors usually perform most of their work at the job site, although they may have shops where they perform prefabrication and other work.

GENERAL

A list of publications that provide statistics on construction, sector 23, follows.

Industry reports. There are 28 separate industry reports. They present data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in

Appendix B. These reports include statistics such as number of establishments, employment, payroll, value added, cost of materials, value of business done, and capital expenditures. Explanations of these and other terms may be found in Appendix A. The industry reports also include selected statistics for states.

Geographic area reports. There is a separate report for each state, the District of Columbia, and the United States. They present statistics similar to the industry reports for each state. They also present selected six-digit NAICS level data.

Subject reports. The Industry series, U.S. Summary, and Geographic Area series, U.S. Summary, reports present selected statistics from the individual industry and geographic area reports, as well as higher level aggregations.

GEOGRAPHIC AREAS COVERED

The area reports for the construction industries contain state and regional level data. No substate data are available.

While most of the state data in the industry series reports are by physical location of the establishment, some data are available by reported location of the construction work.

The regions are made up of groups of states as follows:

NORTHEAST

Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

MIDWEST

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska

North Dakota
Ohio
South Dakota
Wisconsin

SOUTH

Alabama
Arkansas
Delaware
District of Columbia
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia

WEST

Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) had a major impact on the comparability of data between the 1992 and 1997 censuses. Less than half of the industries in the construction sector of NAICS have comparable industries in the Standard Industrial Classification (SIC) system that was used for past censuses. Because of the lack of comparable data, historic data are not shown for this sector.

Lead paint removal and asbestos abatement left the construction sector with the introduction of NAICS. Many changes took place within the sector, or from business

activity coming into the sector. Much of the change came from adding management services to each of the construction industries in the building, developing, and general contracting subsector and the heavy construction subsector. Also, land subdividers and developers, and rental of construction equipment with an operator were added to the sector.

Another change is that data for establishments with no employees are no longer included in the construction reports, but are available in other report series.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld. Suppressed data are included in higher-level totals.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The County Business Patterns program of the U.S. Census Bureau offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county and state.

The U.S. Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place contain data related to construction sector census data. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity. The construction sector census data covers both new construction and maintenance and repair work done by establishments classified in the construction industries. Significant amounts of construction are done by establishments classified outside of construction (real estate, manufacturing, utilities, and communications, for example), as both "force account" construction and construction done for others. In addition, the C30 series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in construction sector census data.

Data contained in the 1997 construction sector may also differ from industry data in Employment and Earnings Statistics, published by the Bureau of Labor Statistics and Statistics of Income, published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

Table 1. 1997 Data Showing the Derivation of the NAICS Classification Based on the SIC Classification

[NAICS codes appear in bold type. Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A. For a more detailed title for each SIC code shown, see Appendix F]

NAICS and SIC code	Industry	Number of establishments	Total number of employees	Payroll, all employees	Value of construction work	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Capital expenditures, other than land
		A	B	C	D	E	F	G	H
235910 179100	Structural steel erection contractors	4 238	72 301	2 387 071	8 009 223	7 216 973	4 863 623	2 496 799	120 938
	Structural steel erection special trade contractors	4 238	72 301	2 387 071	8 009 223	7 216 973	4 863 623	2 496 799	120 938

Table 2. Employment Statistics for Establishments With Payroll by State: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. * Indicates geographic change, but not applicable to this sector. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Location of establishment	Number of establishments	Number of employees		Number of construction workers				Payroll (thousand dollars)		Relative standard error of estimate (percent) for column—	
		All	Construction workers	January to March	April to June	July to September	October to December	All employees	Construction workers		
											A
235910, STRUCTURAL STEEL ERECTION CONTRACTORS											
United States	4 238	72 301	59 923	57 112	59 512	62 304	60 765	2 387 071	1 822 653	1	
Alabama	55	1 441	1 202	1 320	1 134	1 173	1 182	45 091	34 943	7	
Alaska	13	119	97	49	107	^{\$118} 114	114	5 395	4 118	34	
Arizona	87	1 074	930	914	934	925	946	34 822	28 148	16	
Arkansas	^{\$55} 287	228	255	255	214	224	221	5 792	3 880	23	
California	482	9 784	7 962	7 441	8 157	8 349	7 902	346 588	258 592	3	
Colorado	87	1 814	1 533	1 510	1 597	1 519	1 504	53 690	40 578	13	
Connecticut	59	1 244	1 029	986	1 070	1 071	989	55 489	39 624	3	
Delaware	11	315	249	224	261	208	302	13 022	8 849	12	
District of Columbia	—	—	—	—	—	—	—	—	—	—	
Florida	180	3 204	2 598	2 510	2 625	2 643	2 612	93 249	69 421	5	
Georgia	134	1 832	1 503	1 610	1 563	1 384	1 457	57 296	41 669	8	
Hawaii *	19	352	288	326	283	275	266	15 018	12 467	13	
Idaho	34	467	402	387	384	483	352	10 965	9 034	5	
Illinois	205	2 833	2 301	2 022	2 318	2 393	2 470	106 362	82 818	5	
Indiana	93	2 339	1 968	1 828	1 920	2 009	2 116	79 398	61 223	6	
Iowa	62	789	663	645	612	710	686	20 294	14 298	15	
Kansas	63	931	852	807	942	868	793	23 236	20 690	7	
Kentucky	34	736	639	654	664	656	583	21 564	18 573	23	
Louisiana	85	1 358	1 133	1 062	1 202	1 188	1 079	39 012	29 713	9	
Maine	8	77	66	50	61	76	78	1 806	1 400	14	
Maryland	49	1 185	997	988	1 045	1 023	931	39 702	30 839	7	
Massachusetts	69	S	S	S	S	S	1 192	S	S	S	
Michigan	127	2 118	1 748	1 536	1 713	1 909	1 833	79 406	61 857	5	
Minnesota	57	1 392	1 134	884	1 078	1 417	1 155	54 495	42 555	5	
Mississippi	54	732	563	523	533	591	605	17 842	12 726	18	
Missouri	95	2 082	1 772	1 999	1 625	1 762	1 704	72 089	55 935	5	
Montana	^{\$17} 11	^{\$146} 931	^{\$135} 852	^{\$75} 807	^{\$139} 942	^{\$179} 868	^{\$148} 793	^{\$2} 797	^{\$2} 600	58	
Nebraska	^{\$71} 27	481	419	407	376	477	415	12 992	10 795	19	
Nevada	27	1 151	923	776	785	967	1 164	44 814	33 269	4	
New Hampshire	6	29	23	18	22	26	29	1 022	768	7	
New Jersey	155	2 638	2 165	2 091	2 096	2 225	2 246	105 587	76 263	5	
New Mexico	^{\$14} 297	234	205	241	212	191	177	7 246	6 201	25	
New York	297	3 400	2 670	2 379	2 757	2 698	2 848	122 671	93 113	5	
North Carolina	99	1 292	1 024	946	1 065	1 132	955	35 860	26 164	14	
North Dakota	11	147	113	100	138	127	88	4 735	3 358	10	
Ohio	166	3 227	2 643	2 281	2 567	3 186	2 538	111 201	83 094	4	
Oklahoma	36	878	699	641	700	755	698	27 046	20 222	11	
Oregon	80	1 608	1 403	^{\$1} 521	^{\$1} 358	1 374	1 361	55 685	45 682	35	
Pennsylvania	121	1 813	1 503	1 486	1 514	1 502	1 507	60 815	46 707	5	
Rhode Island	12	309	254	240	253	255	267	12 086	8 727	3	
South Carolina	68	1 185	1 032	887	964	1 120	1 156	30 909	25 156	10	
South Dakota	26	184	147	106	145	175	161	4 403	3 254	27	
Tennessee	100	1 848	1 520	1 445	1 500	1 638	1 499	49 889	36 607	8	
Texas	300	6 552	5 583	5 474	5 459	5 669	5 732	188 084	148 221	4	
Utah	56	985	823	843	833	837	779	33 825	26 411	13	
Vermont	9	133	107	93	75	109	151	4 929	3 553	2	
Virginia	92	1 716	1 433	1 494	1 453	1 366	1 418	46 557	34 958	12	
Washington	170	1 598	1 385	1 510	1 325	1 307	1 400	51 559	41 862	14	
West Virginia	^{\$19} 64	107	81	79	98	78	70	3 768	3 056	22	
Wisconsin	64	930	750	640	738	797	825	36 046	26 969	5	
Wyoming	4	40	30	^{\$11} 30	^{\$17} 30	^{\$32} 30	59	1 062	624	39	

Table 3. General Statistics for Establishments With Payroll by State: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. * Indicates geographic change, but not applicable to this sector. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Location of establishment	Value of construction work	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted out to others	Rental cost of machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	Relative standard error of estimate (percent) for column—	
	A	B	C	D	E	F	G	H	B	G
235910. STRUCTURAL STEEL ERECTION CONTRACTORS										
United States	8 009 223	7 216 973	4 863 623	2 496 799	792 249	229 387	120 938	1 016 268	1	2
Alabama	133 534	114 401	83 929	D	19 133	3 548	3 014	19 556	7	7
Alaska	15 856	D	11 091	D	D	^s 361	435	3 556	D	27
Arizona	107 410	98 917	64 047	35 613	8 493	3 067	S	9 902	16	S
Arkansas	22 182	21 071	15 452	5 619	1 111	315	318	3 656	17	28
California	1 196 309	1 111 817	717 044	415 303	84 492	31 676	13 831	133 966	3	3
Colorado	158 063	148 097	109 946	D	9 966	7 372	2 508	21 516	9	12
Connecticut	203 034	163 583	104 175	59 408	39 451	5 491	2 881	26 781	3	4
Delaware	53 758	44 813	25 880	18 934	8 945	1 147	765	4 171	5	3
District of Columbia	—	—	—	—	—	—	—	—	—	—
Florida	328 155	281 828	180 462	105 749	46 327	9 504	3 850	33 451	5	9
Georgia	236 993	211 103	115 051	D	25 890	4 203	4 044	32 747	7	8
Hawaii *	47 969	D	28 755	D	D	1 263	833	6 451	D	3
Idaho	34 889	30 251	24 583	D	^s 4 638	856	806	5 170	4	15
Illinois	397 479	358 378	215 854	146 589	39 101	8 667	6 145	46 145	6	8
Indiana	221 248	205 699	155 640	55 213	15 549	5 987	3 326	26 346	9	4
Iowa	79 087	66 795	45 572	21 224	12 292	1 285	1 090	8 941	19	23
Kansas	67 139	64 785	42 536	22 249	2 355	2 278	1 537	9 416	10	20
Kentucky	66 334	64 718	47 517	17 201	1 616	2 558	702	7 989	19	26
Louisiana	153 491	142 485	97 131	45 603	S	5 748	S	21 727	6	S
Maine	7 967	7 701	5 338	2 363	266	335	79	664	3	4
Maryland	111 018	99 840	68 058	31 782	11 178	3 136	1 735	14 565	4	9
Massachusetts	D	D	S	D	20 553	D	S	S	D	S
Michigan	332 149	275 586	174 876	108 466	56 563	8 973	4 583	47 476	10	11
Minnesota	151 967	137 934	100 888	37 501	14 032	3 710	2 930	24 392	5	5
Mississippi	53 564	50 829	39 868	10 961	2 735	1 443	996	8 429	15	13
Missouri	228 925	209 734	150 601	59 133	19 191	5 503	4 161	33 008	4	7
Montana	9 564	8 526	^s 6 251	2 275	^s 1 039	455	S	^s 1 143	35	S
Nebraska	44 490	43 895	37 244	6 652	595	1 155	229	3 109	18	31
Nevada	116 341	104 498	91 837	D	11 843	5 074	2 410	21 257	3	Z
New Hampshire	2 098	1 961	1 493	468	137	114	15	142	8	14
New Jersey	310 637	275 974	188 726	D	34 664	8 803	4 839	37 089	5	6
New Mexico	25 163	24 495	18 207	6 288	668	1 051	D	2 570	18	D
New York	417 023	362 668	246 391	118 885	54 355	11 667	4 931	46 061	6	7
North Carolina	119 439	113 214	68 490	47 021	6 225	3 370	1 717	15 692	14	11
North Dakota	22 341	D	14 754	7 841	D	1 176	254	2 801	D	Z
Ohio	410 911	356 918	240 974	122 226	53 994	11 853	5 633	48 903	4	5
Oklahoma	88 007	81 839	52 620	D	6 168	1 733	1 246	13 508	11	15
Oregon	200 100	188 527	149 756	44 342	11 573	7 420	2 938	25 348	22	29
Pennsylvania	189 425	166 093	119 147	49 769	23 332	6 317	2 559	24 696	6	8
Rhode Island	40 361	36 794	26 903	9 891	S	549	214	3 104	3	25
South Carolina	81 229	75 646	52 742	22 903	5 584	3 430	1 335	8 886	8	19
South Dakota	18 381	15 796	9 081	6 714	2 585	644	^s 466	3 810	29	58
Tennessee	215 822	197 488	110 540	^s 88 290	^s 18 334	7 255	4 333	34 550	29	31
Texas	570 140	516 583	343 311	174 585	53 557	12 713	11 177	80 402	3	6
Utah	123 857	114 387	62 686	51 701	9 470	4 933	2 237	17 662	8	4
Vermont	19 867	19 023	11 481	7 542	844	795	153	3 052	3	13
Virginia	146 531	136 387	107 485	37 988	10 144	4 807	2 354	21 525	9	15
Washington	163 638	150 274	105 095	45 764	13 364	6 467	2 118	16 504	10	8
West Virginia	14 721	13 513	8 502	5 011	1 209	341	D	1 709	9	D
Wisconsin	98 009	86 793	70 080	21 859	11 215	4 531	2 184	15 579	7	10
Wyoming	D	D	2 892	D	^s 251	D	—	—	D	—

Table 4. Detailed Statistics for Establishments With Payroll: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Item	Value	Relative standard error of estimate (percent)	Item	Value	Relative standard error of estimate (percent)
235910, STRUCTURAL STEEL ERECTION CONTRACTORS			235910, STRUCTURAL STEEL ERECTION CONTRACTORS—Con.		
Number of establishments in business during year	4 238	3	Selected costs	3 289 048	3
Number of proprietors and working partners	S	S	Cost of materials, components, and supplies	2 391 249	3
Total number of employees	72 301	1	Cost of construction work subcontracted out to others	792 249	4
Number of construction workers in March	57 112	2	Cost of selected power, fuels, and lubricants	105 550	2
Number of construction workers in May	59 512	2	Cost of electricity	22 157	2
Number of construction workers in August	62 304	2	Cost of natural gas and manufactured gas	5 605	4
Number of construction workers in November	60 765	2	Cost of gasoline and diesel fuel	72 812	2
Average number of construction workers	59 923	2	Cost of on-highway use of gasoline and diesel fuel	56 730	2
Number of other employees in March	12 282	2	Cost of off-highway use of gasoline and diesel fuel	16 082	3
Number of other employees in May	12 344	2	Cost of all other fuels and lubricants	4 976	5
Number of other employees in August	12 500	2	Rental cost for machinery, equipment, and buildings	229 387	2
Number of other employees in November	12 386	2	Rental cost for machinery and equipment	175 569	2
Average number of other employees	12 378	2	Rental cost for buildings	53 817	4
Payroll, all employees	2 387 071	1	Selected purchased services	131 074	2
Payroll, construction workers	1 822 653	1	Purchased communication services	47 024	2
Payroll, other employees	564 417	1	Cost of repairs to buildings and other structures	10 819	6
First-quarter payroll, all employees	543 681	1	Cost of repairs to machinery and equipment	73 231	2
Fringe benefits, all employees	774 929	1	Value of construction work	8 009 223	2
Legally required expenditures	443 374	1	Value of construction work on government owned projects ..	2 273 616	2
Voluntary expenditures	331 555	1	Value of construction work on federally owned projects ..	542 934	3
Value of business done	8 152 672	2	Value of construction work on state and locally owned projects	1 730 682	3
Value of construction work	8 009 223	2	Value of construction work on privately owned projects	5 735 607	2
Value of construction work subcontracted in from others ..	5 843 252	2	Beginning-of-year gross book value of depreciable assets	949 541	2
Other business receipts	143 449	5	Capital expenditures, other than land	120 938	2
Net value of construction	7 216 973	1	Retirements and disposition of depreciable assets	54 212	2
Value added	4 863 623	1	End-of-year gross book value of depreciable assets	1 016 268	2
			Depreciation charges during year	129 242	2
			Number of establishments with inventories	1 119	6
			Value of construction work for establishments with inventories ..	3 181 871	2
			End of 1997, inventories of materials and supplies	55 468	2
			End of 1996, inventories of materials and supplies	56 974	2
			Number of establishments with no inventories	1 700	6
			Value of construction work for establishments with no inventories	3 177 795	3
			Number of establishments not reporting inventories	1 420	6
			Value of construction work for establishments not reporting inventories	1 649 557	3

Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Employment size class	Number of establishments	Total number of employees	Total payroll	Dollar value of business done	Value of construction work	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—	
	A	B	C	D	E	F	G	H	I	B	F
235910, STRUCTURAL STEEL ERECTION CONTRACTORS											
Total	4 238	72 301	2 387 071	8 152 672	8 009 223	7 216 973	4 863 623	2 496 799	792 249	1	1
Establishments with 1 to 4 employees	1 518	3 094	60 775	372 675	366 748	291 685	190 740	106 872	75 063	9	11
Establishments with 5 to 9 employees	1 078	7 212	170 965	676 052	671 396	598 218	382 776	220 097	73 178	8	12
Establishments with 10 to 19 employees	678	9 298	289 039	974 650	962 215	875 821	614 574	273 682	86 394	5	5
Establishments with 20 to 49 employees	632	19 140	655 309	2 109 115	2 088 485	1 919 783	1 322 003	618 410	168 702	4	4
Establishments with 50 to 99 employees	233	15 912	570 563	1 971 140	1 938 023	1 767 239	1 176 795	623 561	170 784	1	1
Establishments with 100 to 249 employees	85	12 422	434 191	1 445 952	D	1 269 676	829 143	D	D	1	Z
Establishments with 250 to 499 employees	12	D	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	2	D	D	D	D	D	D	D	D	D	D
Establishments with 1,000 employees or more	—	—	—	—	—	—	—	—	—	—	—

Table 6. Selected Statistics for Establishments With Payroll by Dollar Value of Business Done Size Class: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Dollar value size class	Number of establishments	Total number of employees	Total payroll	Dollar value of business done	Value of construction work	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—	
	A	B	C	D	E	F	G	H	I	B	F
235910, STRUCTURAL STEEL ERECTION CONTRACTORS											
Total	4 238	72 301	2 387 071	8 152 672	8 009 223	7 216 973	4 863 623	2 496 799	792 249	1	1
Establishments with value of business done less than \$25,000	S	S	S	S	S	S	S	S	S	S	S
Establishments with value of business done \$25,000 to \$49,999	S	S	S	S	S	S	S	S	S	S	S
Establishments with value of business done \$50,000 to \$99,999	S	S	S	S	S	S	S	S	S	S	S
Establishments with value of business done \$100,000 to \$249,999	702	2 643	37 878	117 571	116 416	111 178	84 212	28 121	S	13	12
Establishments with value of business done \$250,000 to \$499,999	746	3 739	79 674	283 429	278 214	255 361	195 632	64 944	22 853	11	11
Establishments with value of business done \$500,000 to \$999,999	643	6 203	164 847	460 644	457 766	428 110	330 814	100 173	29 656	8	9
Establishments with value of business done \$1,000,000 to \$2,499,999	746	12 935	395 252	1 170 247	1 149 281	1 058 491	801 004	278 452	90 790	6	6
Establishments with value of business done \$2,500,000 to \$4,999,999	407	12 551	432 912	1 431 654	1 421 143	1 305 305	859 257	456 559	115 838	3	5
Establishments with value of business done \$5,000,000 to \$9,999,999	227	13 675	470 131	1 580 470	1 559 941	1 397 974	936 158	482 346	161 966	2	3
Establishments with value of business done \$10,000,000 or more	154	19 776	797 258	3 076 332	2 994 669	2 630 170	1 633 449	1 078 384	364 499	Z	1

Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Type of construction	Value of construction work				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction	Maintenance and repair	A	B	C	D
	A	B	C	D	A	B	C	D
235910, STRUCTURAL STEEL ERECTION CONTRACTORS								
Total	8 009 223	6 037 072	1 267 460	627 870	2	2	2	3
Building construction, total	5 751 932	4 640 151	860 677	251 103	2	2	2	4
Single-family houses, detached and attached	172 450	136 224	27 479	8 748	9	11	21	19
Apartment buildings, apartment type condominiums and cooperatives	91 627	66 850	9 806	S	12	11	20	S
Manufacturing and light industrial buildings	1 016 470	722 131	195 701	98 638	3	3	3	5
Manufacturing and light industrial warehouses	523 215	432 144	72 510	18 561	9	10	7	13
Hotels and motels	220 132	185 078	28 795	6 258	2	3	4	11
Office buildings	1 089 821	928 603	128 870	32 348	2	2	5	5
All other commercial buildings, nec	680 437	567 560	92 075	20 803	4	4	8	9
Commercial warehouses	558 231	497 068	46 083	15 080	6	7	8	15
Religious buildings	99 973	77 843	20 303	1 828	6	6	8	22
Educational buildings	571 758	449 983	110 781	10 994	4	4	6	16
Health care and institutional buildings	341 692	256 948	72 151	S	3	4	3	S
Public safety buildings	149 177	115 136	31 924	2 118	2	2	2	8
Amusement, social, and recreational buildings	78 357	58 492	16 958	2 907	3	2	7	27
All other nonresidential buildings	158 590	146 091	7 242	5 257	8	8	13	14
Nonbuilding construction, total	2 180 470	1 396 921	406 783	376 766	4	5	4	3
Highways, streets, and related work	219 842	155 596	42 520	21 726	6	5	11	24
Bridges, tunnels, and elevated highways	400 448	206 637	158 731	35 081	6	6	9	13
Sewers, water mains, and related facilities	80 530	63 339	11 740	5 451	15	14	25	28
Power plants	119 735	71 826	24 865	23 044	7	9	7	7
Blast furnaces, petroleum refineries, chemical complexes, etc	218 460	56 931	55 461	106 068	Z	1	Z	Z
Sewage and water treatment plants	133 294	103 185	25 853	4 256	4	4	6	6
Water storage facilities	365 827	297 311	12 117	56 399	19	23	23	15
Tank storage facilities other than water	458 961	295 850	57 658	105 452	4	4	7	5
Other nonbuilding construction, nec	183 373	146 245	17 839	19 289	6	7	6	2
Construction work, nsk	76 821	X	X	X	12	X	X	X

Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in Table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

Item	Number of establishments	Total number of employees	Payroll, all employees	Value of construction work		Net value of construction work	Value added	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
				D	E						
A	B	C	D	E	F	G	H	B	D	H	
235910, STRUCTURAL STEEL ERECTION CONTRACTORS											
Total	4 238	72 301	2 387 071	8 009 223	X	7 216 973	4 863 623	792 249	1	2	4
Establishments not specializing ..	1 421	31 757	1 101 887	3 575 245	X	3 228 953	2 202 286	346 292	2	2	6
Establishments specializing 51 percent or more	2 817	40 544	1 285 184	4 433 978	3 740 127	3 988 020	2 661 337	445 957	2	2	5
Manufacturing and light industrial buildings											
All establishments specializing	451	6 065	187 321	568 051	481 734	514 711	387 230	53 339	5	5	15
Specialization 100 percent	326	2 904	90 016	261 477	261 477	237 495	181 236	23 981	8	7	8
Specialization 90 to 99 percent ...	27	806	23 664	58 774	55 159	56 196	46 736	2 578	9	7	9
Specialization 80 to 89 percent ...	17	256	8 670	40 336	32 902	30 652	18 283	9 684	24	37	71
Specialization 70 to 79 percent ...	32	889	27 578	82 837	59 661	74 119	60 076	8 719	14	17	47
Specialization 60 to 69 percent ...	38	718	19 605	58 851	36 607	55 336	41 398	3 515	20	17	22
Specialization 51 to 59 percent ...	11	492	17 788	65 775	35 928	60 913	39 500	4 862	12	9	4
Office buildings											
All establishments specializing	139	4 794	170 568	595 449	467 535	534 444	362 437	61 005	3	4	7
Specialization 100 percent	39	988	30 470	104 350	104 350	97 577	69 147	6 773	9	11	54
Specialization 90 to 99 percent ...	14	498	18 183	56 667	53 429	48 105	26 141	8 562	13	10	1
Specialization 80 to 89 percent ...	15	1 034	39 049	161 338	136 067	146 449	99 128	14 889	10	10	13
Specialization 70 to 79 percent ...	24	941	33 574	103 126	74 691	93 549	64 012	9 577	5	4	1
Specialization 60 to 69 percent ...	36	1 017	36 654	118 071	71 442	103 896	75 812	14 175	6	6	Z
Specialization 51 to 59 percent ...	11	316	12 638	51 897	27 556	44 867	28 197	7 030	4	1	Z
All other commercial buildings, nec											
All establishments specializing	310	3 829	107 027	322 346	269 617	296 187	212 195	26 159	9	8	19
Specialization 100 percent	163	1 790	46 831	139 380	139 380	129 856	103 911	9 524	15	14	32
Specialization 90 to 99 percent ...	¹⁶ 236	236	7 651	21 651	20 445	18 031	12 562	³ 620	33	37	66
Specialization 80 to 89 percent ...	11	206	6 349	22 410	18 115	20 539	14 457	1 871	24	21	9
Specialization 70 to 79 percent ...	83	814	22 914	74 120	53 164	66 341	43 812	⁷ 779	20	19	43
Specialization 60 to 69 percent ...	23	451	12 431	36 274	22 601	35 685	20 698	590	19	12	20
Specialization 51 to 59 percent ...	15	331	10 851	28 511	15 911	25 736	16 755	2 775	15	13	5
Commercial warehouses											
All establishments specializing	226	2 195	61 909	274 462	244 551	216 597	139 476	57 864	11	15	29
Specialization 100 percent	146	1 084	29 075	148 789	148 789	108 327	68 734	40 461	16	18	36
Specialization 90 to 99 percent ...	S	300	9 431	35 950	33 685	31 149	23 107	4 801	39	27	26
Specialization 80 to 89 percent ...	S	188	5 875	D	D	D	D	D	20	D	D
Specialization 70 to 79 percent ...	³² 477	477	12 726	38 063	28 481	34 507	25 694	3 556	25	22	16
Specialization 60 to 69 percent ...	¹⁶ D	D	D	S	S	S	S	S	D	S	S
Specialization 51 to 59 percent ...	2	D	D	D	D	D	D	D	D	D	D
Water storage facilities											
All establishments specializing	135	1 853	58 768	298 984	277 620	260 587	121 008	38 397	13	23	30
Specialization 100 percent	97	1 067	31 816	183 521	183 521	158 400	67 959	²⁵ 121	19	37	45
Specialization 90 to 99 percent ...	S	S	S	S	S	S	S	S	S	S	S
Specialization 80 to 89 percent ...	4	425	15 363	69 565	58 260	D	28 354	D	Z	Z	D
Specialization 70 to 79 percent ...	⁶ D	²⁷ D	²⁶⁰ D	⁸⁴⁰ D	⁶³⁰ D	⁸³³ D	⁴¹⁴ D	⁷ D	55	54	66
Specialization 60 to 69 percent ...	⁵ D	⁹¹ D	² 561	¹⁰ 670	⁶ 402	9 020	⁶ 341	¹ 650	41	42	65
Specialization 51 to 59 percent ...	5	48	1 687	9 262	4 772	D	3 234	D	Z	Z	D
Tank storage facilities other than water											
All establishments specializing	201	3 653	125 992	454 739	392 915	408 014	228 955	46 725	5	4	5
Specialization 100 percent	145	1 711	50 597	189 178	189 178	171 363	97 186	17 815	8	7	6
Specialization 90 to 99 percent ...	5	145	5 820	21 165	19 851	19 006	14 941	2 159	Z	Z	Z
Specialization 80 to 89 percent ...	S	1 278	D	179 030	143 700	159 768	81 036	19 262	3	4	11
Specialization 70 to 79 percent ...	¹⁸ D	D	1 725	D	D	D	D	D	D	D	D
Specialization 60 to 69 percent ...	14	358	13 435	39 972	24 144	36 565	22 727	3 407	28	21	5
Specialization 51 to 59 percent ...	2	D	D	D	D	D	D	D	D	D	D

Table 9. **Dollar Value of Business Done for Establishments With Payroll by Kind-of-Business Activity: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

Primary and other kinds of business activities	Dollar value of business done	Relative standard error of estimate (percent)
235910, STRUCTURAL STEEL ERECTION CONTRACTORS		
Total	8 152 672	2
Heavy construction, total	30 773	6
Rental of construction machinery or equipment to others, with an operator	30 773	6
Special trade contractors, total	7 530 036	2
Curtain wall installation contractor	501 980	5
Glass and glazing contractor	149 500	6
Millwright and machine rigging contractor	92 483	6
Precast concrete installation contractor	430 931	6
Reinforcing steel contractor	1 370 903	3
Storage tanks, metal, erection contractor	1 021 264	7
Structural steel erection contractor	3 962 974	2
Other construction activities, nec	430 112	5
Other business activities secondary to construction activities, total	142 640	5
Manufacturing—products manufactured and sold to others, secondary to construction activities	43 218	13
Other business activities, secondary to construction activities, nec	11 293	26
Rental of construction machinery or equipment to others, without an operator, secondary to construction activities	31 816	5
Retail trade, secondary to construction activities	56 312	4
Kind of business activity, nsk	19 111	7

Table 10. Selected Statistics for Establishments With Payroll by Specialization in Kind-of-Business Activity: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization by major activity of construction work. If number of establishments or dollar value of business done for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the dollar value of business done by kind of business activity was not provided in Table 9. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Item	Number of establishments	Total number of employees	Payroll, all employees	Value of construction work		Net value of construction work	Value added	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—		
				For all kinds of business	For specialized kinds of business				B	D	H
	A	B	C	D	E	F	G	H	B	D	H
235910, STRUCTURAL STEEL ERECTION CONTRACTORS											
Total	4 238	72 301	2 387 071	8 009 223	X	7 216 973	4 863 623	792 249	1	2	4
Establishments not specializing	334	7 642	262 854	806 725	X	700 378	499 888	106 347	4	3	4
Establishments specializing 51 percent or more	3 904	64 659	2 124 216	7 202 498	6 583 070	6 516 595	4 363 736	685 903	2	2	4
Curtain wall installation contractor											
All establishments specializing	196	3 891	124 105	535 062	411 636	496 119	284 621	38 943	5	6	9
Specialization 100 percent	124	1 292	35 808	148 539	148 539	134 376	80 640	14 163	10	11	22
Specialization 90 to 99 percent	1	D	D	D	D	D	D	—	D	D	—
Specialization 80 to 89 percent	5	D	D	D	D	D	D	D	D	D	D
Specialization 70 to 79 percent	26	1 117	39 420	165 099	126 588	152 045	100 345	13 054	8	7	1
Specialization 60 to 69 percent	20	718	25 067	128 260	80 726	120 346	55 228	7 915	14	17	17
Specialization 51 to 59 percent	21	544	18 218	69 633	36 583	D	33 671	D	10	10	D
Precast concrete installation contractor											
All establishments specializing	210	2 968	96 128	333 931	316 124	310 777	214 969	23 154	8	7	12
Specialization 100 percent	154	2 222	71 212	256 244	256 244	239 214	171 933	17 030	11	9	14
Specialization 90 to 99 percent	11	341	8 616	31 557	29 276	27 815	20 392	3 742	11	11	23
Specialization 80 to 89 percent	11	147	5 118	13 680	11 488	D	9 698	D	27	23	D
Specialization 70 to 79 percent	²⁵ S	S	S	S	S	S	10 687	349	S	S	Z
Specialization 60 to 69 percent	⁸ S	³² S	⁹⁶² S	⁴ 148	² 136	D	² 259	D	58	69	D
Reinforcing steel contractor											
All establishments specializing	716	13 718	439 060	1 303 829	1 207 725	1 247 560	887 037	56 269	4	3	4
Specialization 100 percent	649	10 065	298 925	902 845	902 845	877 137	616 589	25 708	5	4	5
Specialization 90 to 99 percent	21	873	35 921	109 571	104 905	101 887	71 615	7 684	6	4	Z
Specialization 80 to 89 percent	12	626	23 750	72 563	63 471	70 704	43 618	¹ 859	12	13	56
Specialization 70 to 79 percent	8	497	18 960	56 710	41 287	D	36 026	D	5	6	D
Specialization 60 to 69 percent	15	1 263	47 473	125 180	75 992	112 701	94 688	12 479	6	4	1
Specialization 51 to 59 percent	10	395	14 031	36 959	19 226	D	24 501	D	19	26	D
Storage tanks, metal, erection contractor											
All establishments specializing	354	7 369	255 998	995 365	963 455	885 895	492 150	109 470	4	7	11
Specialization 100 percent	291	6 244	221 015	861 548	861 548	766 392	426 279	95 156	5	8	12
Specialization 90 to 99 percent	9	170	5 120	23 954	22 621	21 752	8 367	2 202	Z	Z	Z
Specialization 80 to 89 percent	14	430	12 746	43 253	35 120	39 966	22 518	3 287	Z	Z	Z
Specialization 70 to 79 percent	21	212	5 975	29 522	21 964	24 827	16 570	⁴ 695	27	31	48
Specialization 60 to 69 percent	¹⁵ S	276	10 143	32 632	19 781	28 896	16 337	3 736	21	15	5
Specialization 51 to 59 percent	4	38	1 000	4 456	2 421	4 062	2 080	394	Z	Z	Z
Structural steel erection contractor											
All establishments specializing	2 392	36 479	1 202 995	4 015 505	3 665 324	3 558 761	2 472 504	456 744	2	2	6
Specialization 100 percent	1 695	23 993	778 762	2 570 904	2 570 904	2 277 446	1 573 123	293 458	3	3	7
Specialization 90 to 99 percent	178	3 017	104 160	339 292	319 013	300 610	209 502	38 682	7	7	27
Specialization 80 to 89 percent	116	3 382	117 094	389 804	321 539	333 906	232 915	55 898	8	5	5
Specialization 70 to 79 percent	172	2 606	82 479	277 283	202 796	251 617	173 016	25 666	8	12	32
Specialization 60 to 69 percent	149	1 818	64 296	221 633	137 132	201 599	139 255	20 034	9	7	1
Specialization 51 to 59 percent	82	1 664	56 204	216 589	113 940	193 584	144 693	²³ 005	9	17	45

Table 11. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1997

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. * Indicates geographic change, but not applicable to this sector. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Location of construction work	Construction work done by establishments located in this state		Construction work done by establishments not located in this state		Construction work done by establishments not reporting		Relative standard error of estimate (percent) for column—			
	Value of construction work done in this state	Number	Value of construction work	Number	Value of construction work	Number	Value of construction work	A	C	E
	A	B	C	D	E	F	G			
235910, STRUCTURAL STEEL ERECTION CONTRACTORS										
United States	8 009 223	2 894	5 228 791	2 275	1 424 370	1 298	1 356 061	2	2	4
Alabama	146 844	45	65 107	82	43 195	10	38 542	9	11	27
Alaska	21 459	12	D	13	D	1	D	24	D	D
Arizona	103 544	50	55 330	26	13 562	37	^{§34} 652	15	17	7
Arkansas	28 380	^{§31}	17 236	25	8 561	S	S	12	15	11
California	1 241 106	324	1 026 207	42	72 572	159	142 327	3	4	1
Colorado	119 974	51	86 159	22	12 726	^{§36}	^{§21} 089	12	14	8
Connecticut	210 917	25	175 475	25	17 939	34	17 504	3	3	4
Delaware	35 348	7	23 713	19	8 360	^{§4}	^{§3} 275	8	10	8
District of Columbia	31 813	—	—	20	31 813	—	—	1	—	1
Florida	289 118	105	219 001	73	29 034	75	41 082	5	7	5
Georgia	222 673	93	104 022	101	^{§64} 819	41	53 832	16	15	48
Hawaii *	56 774	14	45 659	9	8 805	S	S	8	9	Z
Idaho	49 111	29	28 052	34	14 776	6	6 283	11	15	21
Illinois	389 197	106	259 356	97	67 277	99	62 564	6	8	7
Indiana	232 573	80	143 045	73	52 966	13	36 562	8	13	7
Iowa	79 753	^{§37}	45 872	57	26 351	22	^{§7} 530	13	25	Z
Kansas	68 533	^{§44}	28 421	74	34 259	^{§18}	^{§5} 853	8	16	4
Kentucky	102 725	22	40 198	70	47 385	12	^{§15} 143	12	34	3
Louisiana	181 944	75	88 336	56	43 528	10	50 080	5	9	1
Maine	9 496	4	D	7	D	3	D	2	D	D
Maryland	114 327	39	46 518	48	37 292	10	30 517	3	7	5
Massachusetts	181 463	58	D	40	D	10	D	7	D	D
Michigan	350 641	83	252 558	59	22 467	44	75 616	12	17	4
Minnesota	125 470	46	103 477	^{§44}	20 863	11	1 130	5	6	3
Mississippi	79 686	^{§31}	29 939	51	29 254	^{§23}	20 492	13	22	16
Missouri	190 292	79	81 121	50	37 441	12	71 731	4	10	7
Montana	15 067	^{§16}	D	5	D	1	D	22	D	D
Nebraska	47 483	^{§51}	26 925	60	12 266	^{§19}	S	16	13	5
Nevada	165 405	25	D	36	D	2	D	2	D	D
New Hampshire	9 284	2	D	29	7 424	^{§4}	D	5	D	6
New Jersey	199 815	113	128 404	27	22 217	^{§41}	49 194	8	8	1
New Mexico	28 129	^{§11}	21 608	21	4 049	3	2 472	17	21	29
New York	472 192	206	282 580	59	83 101	90	106 511	5	7	3
North Carolina	167 947	89	92 296	74	63 688	10	^{§11} 963	11	21	9
North Dakota	15 984	9	D	16	D	1	D	19	D	D
Ohio	372 843	93	293 920	61	24 399	70	54 524	6	8	8
Oklahoma	68 609	32	64 857	24	3 385	4	366	13	13	13
Oregon	161 612	^{§55}	124 573	58	22 262	24	14 777	24	31	33
Pennsylvania	257 808	81	138 687	78	90 653	^{§39}	28 467	6	10	4
Rhode Island	S	6	3 455	7	1 891	^{§6}	10 362	S	12	2
South Carolina	89 404	47	38 072	89	34 289	^{§20}	^{§17} 043	6	14	4
South Dakota	22 213	^{§18}	^{§9} 678	^{§58}	10 055	^{§8}	^{§2} 480	26	48	31
Tennessee	162 776	55	95 032	45	23 819	45	43 925	14	22	5
Texas	500 561	151	345 962	42	25 515	143	129 084	4	4	5
Utah	79 348	49	64 250	19	9 623	7	5 475	11	14	12
Vermont	9 716	8	D	3	D	1	D	7	D	D
Virginia	143 468	74	91 044	69	37 653	18	14 771	8	13	3
Washington	184 702	137	120 205	60	48 029	13	16 467	10	12	23
West Virginia	35 220	^{§19}	14 014	44	21 206	—	—	5	8	6
Wisconsin	111 307	54	68 278	62	16 596	9	26 433	5	9	4
Wyoming	9 463	^{§3}	D	13	D	1	D	21	D	D

Appendix A.

Explanation of Terms

ALL EMPLOYEES

Comprise all full-time and part-time employees on the payroll of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not. Number of employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

BEGINNING-OF-YEAR GROSS BOOK VALUE OF DEPRECIABLE ASSETS (\$1,000)

Gross value of depreciable assets, usually original costs of the assets, at the beginning of the year. Depreciable assets are the fixed tangible property of the establishment for which depreciation accounts are ordinarily maintained.

BEGINNING-OF-YEAR INVENTORIES OF MATERIALS AND SUPPLIES (\$1,000)

The inventories of materials and supplies owned at the beginning of the reporting year by establishments with payroll. Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials that are owned by others but held by the reporting establishment. Builders who built on their own account for sale were requested to exclude work in progress and finished units not sold from inventories. Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories, even if these inventories were held at a separate location.

CAPITAL EXPENDITURES, OTHER THAN LAND (\$1,000)

Capital expenditures are those that were or will be charged to the fixed assets accounts and for which depreciation accounts are ordinarily maintained. Includes the cost of capital improvements that were made during the year that increased the value of property or adapted it for another use. Capital expenditures for leasehold improvements made to property leased from others are also included. Land expenditures are not included as capital expenditures. If any building or equipment had been acquired under a capital leasing arrangement that meet

the criteria set down by the Financial Accounting Standards Board (FASB), respondents were instructed to report the original cost or market value as a fixed asset and as a capital expenditure, if acquired in the reporting year. If the lease qualified as an operating lease, respondents were instructed not to include the value of the building and equipment as a fixed asset or capital expenditure. If capital expenditures were not recorded directly at the establishment level but handled centrally at a company or division level, respondents were requested to report appropriate estimates for the individual establishments.

CONSTRUCTION WORK DONE BY ESTABLISHMENTS LOCATED IN THIS STATE: NUMBER

Includes the number of establishments physically located and doing construction work in the same state.

CONSTRUCTION WORK DONE BY ESTABLISHMENTS LOCATED IN THIS STATE: VALUE OF CONSTRUCTION WORK (\$1,000)

Includes the value of construction work done by establishments physically located and doing construction work in the same state.

CONSTRUCTION WORK DONE BY ESTABLISHMENTS NOT LOCATED IN THIS STATE: NUMBER

Includes the number of establishments not located in the state where the construction work is done. Establishment location is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted with some exceptions. A relatively permanent office is one that has been established for the management of more than one project or job and is expected to be maintained on a continuing basis.

CONSTRUCTION WORK DONE BY ESTABLISHMENT NOT LOCATED IN THIS STATE: VALUE OF CONSTRUCTION WORK (\$1,000)

Includes the value of construction work done by establishments not located in the state where the construction work is done. Establishment location is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted with some exceptions. A relatively permanent

office is one that has been established for the management of more than one project or job and is expected to be maintained on a continuing basis.

CONSTRUCTION WORK DONE BY ESTABLISHMENTS NOT REPORTING: NUMBER (\$1,000)

Includes the number of establishments that did not report the state location of construction work on their census forms and establishments that did not complete a construction census form. Data were estimated for establishments that did not complete a census form.

CONSTRUCTION WORK DONE BY ESTABLISHMENTS NOT REPORTING: VALUE OF CONSTRUCTION WORK (\$1,000)

Includes the value of construction work done by establishments that did not report the state location of construction work on their census forms and establishments that did not complete a construction census form. Data were estimated for establishments that did not complete a census form.

CONSTRUCTION WORKERS

Includes all payroll workers up through the working supervisor level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category and are included in the other employees category.

COST OF ALL OTHER FUELS AND LUBRICANTS (\$1,000)

Costs for fuels and lubricants purchased during the year from other companies or received from other establishments of the company and not included as costs in any of these categories: natural gas; manufactured gas; gasoline; and diesel fuel.

COST OF CONSTRUCTION WORK SUBCONTRACTED OUT TO OTHERS (\$1,000)

All costs for construction work subcontracted out to other construction contractors during the reporting year. Excluded from this item are costs to the reporting establishment for its purchases of materials, components, and supplies provided to a subcontractor for use, such costs are reported under costs for materials, components, and supplies. Also excluded are costs for the rental of machinery or equipment.

COST OF ELECTRICITY (\$1,000)

Costs for electric energy purchased during the year from other companies or received from other establishments of the company.

COST OF GASOLINE AND DIESEL FUEL (\$1,000)

Costs for gasoline and diesel fuel purchased during the year from other companies or received from other establishments of the company.

COST OF OFF-HIGHWAY USE OF GASOLINE AND DIESEL FUEL (\$1,000)

Includes the costs for gasoline and diesel fuel purchased during the reporting year for off-highway use. Off-highway fuel use is the use of fuel for trade, business, or income producing activity. In most cases, off-highway fuel use does not include use in a highway vehicle registered or required to be registered for use on public highways.

COST OF ON-HIGHWAY USE OF GASOLINE AND DIESEL FUEL (\$1,000)

Costs for gasoline and diesel fuel purchased during the year to fuel highway vehicles. A highway vehicle is any self-propelled vehicle designed to carry a load over public highways, whether or not also designed to perform other functions. Examples of vehicles designed to carry a load over public highways are passenger automobiles, trucks, and truck tractors. If a vehicle can be used for a combination of on-highway and off-highway uses and has one fuel tank, the fuel use is not considered off-highway. An example of this is a concrete-mixer truck where the truck engine operates both the engine and the mixing unit by a power take-off and is fueled by a single tank. None of the fuel used in this vehicle is off-highway because of the on-highway use. If the vehicle has separate fuel tanks and engines, the fuel in a tank used for non-highway use may be considered off-highway use.

COSTS OF MATERIALS, COMPONENTS, AND SUPPLIES (\$1,000)

Includes the costs for materials, components, and supplies used by establishments in the construction or reconstruction of buildings, structures, or other facilities and costs for materials bought and resold to others. Also includes costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use. Supplies include expendable tools which are charged to current accounts. Freight and other direct charges representing only that amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company. Excluded from this item are the cost of fuels, lubricants, electric energy, industrial and other specialized machinery

and equipment such as printing presses; computer systems, that are not an integral part of a structure; and materials furnished to contractors by the owners of projects.

COST OF MATERIALS, COMPONENTS, SUPPLIES, AND FUELS (\$1,000)

Includes the costs for materials, components, supplies used by establishments in the construction or reconstruction of buildings, structures, or other facilities and costs for materials bought and resold to others. Also includes the costs for fuels that include gasoline, diesel fuel, and lubricants, and electric energy purchased during the year from other companies or received from other establishments of the company and costs for natural and manufactured gas, fuel oil, coal and coke products. Excluded from this item are industrial and other specialized machinery and equipment, such as printing presses; computer systems, that are not an integral part of a structure; materials furnished to contractors by the owners of projects.

COST OF NATURAL GAS AND MANUFACTURED GAS (\$1,000)

Costs for natural gas and manufactured gas purchased during the year from other companies or received from other establishments of the company.

COST OF REPAIRS TO BUILDING AND OTHER STRUCTURES (\$1,000)

Includes the cost of all repairs made to structures by outside companies or from other establishments of the same company. It includes only the cost of repairs necessary to maintain property. It excludes the cost of improvements that increase the value of property or the cost of adapting it for another use. Such costs are included in capital expenditures.

COST OF REPAIRS TO MACHINERY AND EQUIPMENT (\$1,000)

Includes the cost of all repairs made to machinery and equipment by outside companies or from other establishments of the same company. It includes only the cost of repairs necessary to maintain the machinery.

COST OF SELECTED POWER, FUELS, AND LUBRICANTS (\$1,000)

Included are costs for fuels including gasoline, diesel fuel, and lubricants, and electric energy purchased during the year from other companies or received from other establishments of the company. Also included are costs for natural gas, manufactured gas, fuel oil, coal and coke products.

DEPRECIATION CHARGES DURING YEAR (\$1,000)

The depreciation expenses of the establishment in the reporting year. These expenses are charged against depreciable assets which are the fixed tangible property of the establishment for which depreciation accounts are ordinarily maintained.

DOLLAR VALUE SIZE CLASS

Displays data for establishments with payroll that fall within each range of value of business done.

END-OF-YEAR GROSS BOOK VALUE OF DEPRECIABLE ASSETS (\$1,000)

The gross value of depreciable assets, plus any capital expenditures for new and use depreciable assets in the reporting year, minus the gross value of depreciable assets sold, retired, scrapped, destroyed, etc. in the reporting year.

END-OF-YEAR INVENTORIES OF MATERIALS AND SUPPLIES (\$1,000)

The inventories of materials and supplies owned at the end of the reporting year by establishments with payroll. Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others but held by the reporting establishment. Builders who build on their own account for sale were requested to exclude work in progress and finished units not sold from inventories. Inventories of multiestablishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

FIRST-QUARTER PAYROLL (\$1,000)

Includes the gross earnings paid in the first quarter of the reporting year to all employees on the payroll of construction establishments. The first-quarter payroll period is January through March. Includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if unincorporated.

FRINGE BENEFITS (\$1,000)

Includes expenditures made by the employer for legally required and voluntary fringe benefit programs for employees.

LEGALLY REQUIRED EXPENDITURES (\$1,000)

Includes expenditures made by the employer for Social Security contributions, unemployment compensation, workman's compensation, and state temporary disability payments.

NET VALUE OF CONSTRUCTION WORK (\$1,000)

The value of construction work less the cost of construction work subcontracted out to others.

**NUMBER OF CONSTRUCTION WORKERS:
QUARTERLY PAY PERIOD**

Refers to the number of construction workers employed during a quarterly pay period. January to March includes the reported number of construction workers employed during the pay period including March 12. April to June includes the reported number of construction workers employed during the pay period including May 12. July to September includes the reported number of construction workers employed during the pay period including August 12. October to December includes the reported number of construction workers employed during the pay period including November 12.

NUMBER OF ESTABLISHMENTS

Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF ESTABLISHMENTS NOT REPORTING
INVENTORIES**

Includes all establishments with payroll that did not report a dollar amount for inventories of materials and supplies during the reporting year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

NUMBER OF ESTABLISHMENTS WITH INVENTORIES

Includes all establishments with payroll that reported a dollar amount of inventory. Includes the number of establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF ESTABLISHMENTS WITH NO
INVENTORIES**

Includes all establishments with payroll that reported having no inventories of materials and supplies during the reporting year. Includes establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF OTHER EMPLOYEES: QUARTERLY PAY
PERIOD**

Refers to the number of other employees employed during a quarterly pay period. January to March includes the reported number of other workers employed during the pay period including March 12. April to June includes the reported number of other workers employed during the pay period including May 12. July to September includes the reported number of other workers employed during the pay period including August 12. October to December includes the reported number of other workers employed during the pay period including November 12.

**NUMBER OF PROPRIETORS AND WORKING
PARTNERS**

These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

OTHER BUSINESS RECEIPTS (\$1,000)

Includes business receipts not reported as value of construction work. This includes business receipts from retail and wholesale trade, rental of equipment without operator, manufacturing, transportation, legal services, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here. Excluded are receipts from other business operations in foreign countries, and nonoperating income such as interest and dividends.

OTHER EMPLOYEES

Includes payroll employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

PAYROLL (\$1,000)

Includes the gross earnings paid in the reporting year to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to deductions such as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if unincorporated.

PAYROLL: CONSTRUCTION WORKERS (\$1,000)

Includes the gross earnings paid in the reporting year to all construction workers on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to deductions such as employees' Social security contributions, withholding taxes, group insurance, union dues, and savings bonds.

PAYROLL: OTHER EMPLOYEES (\$1,000)

Includes the gross earnings paid in the reporting year to all other employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacations and sick leave pay, prior to deductions such as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Payroll of other employees excludes salaries of the proprietor or partners, if unincorporated.

PRIMARY AND OTHER KINDS OF BUSINESS ACTIVITIES

Displays dollar value of business done by primary construction business activity. Primary construction activity is construction activity that generates fifty-one percent or more of an establishment's dollar value of business done. Also displayed are other kinds of business activities. Other kinds of business activities include business receipts not reported as value of construction work. This item includes business receipts from retail and wholesale trade, rental of equipment without an operator, manufacturing, transportation, legal services, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included in other kinds of business activities.

PURCHASED COMMUNICATION SERVICES (\$1,000)

Includes all costs for communication services purchased from other companies or from other establishments of the company.

RENTAL COSTS FOR BUILDINGS (\$1,000)

Includes all costs for renting or leasing space and buildings. It excludes costs under agreements that are in effect conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

RENTAL COSTS FOR MACHINERY AND EQUIPMENT (\$1,000)

Includes all costs for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, and scaffolding. It excludes costs for the rental of

land. It also excludes costs under agreements that in effect are conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

RENTAL COSTS FOR MACHINERY, EQUIPMENT, AND BUILDINGS (\$1,000)

Includes all costs for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It excludes costs for the rental of land. It also excludes costs under agreements that in effect are conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

RETIREMENTS AND DISPOSITION OF DEPRECIABLE ASSETS (\$1,000)

Includes the gross value of depreciable assets sold, retired, scrapped, destroyed, abandoned, etc., during the year. The values shown are the acquisition costs of the retired assets. This item also includes the value of assets (at acquisition cost rather than current market value) transferred to other establishments of the same company.

SELECTED COSTS (\$1,000)

Includes the costs for materials, components, and supplies; costs for construction work subcontracted out to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

SELECTED PURCHASED SERVICES (\$1,000)

Includes all costs for communication and repair to buildings and other structure services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies or from other establishments of the same company. It includes only the cost of repairs necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property or the cost of adapting it for another use. Such costs are included in capital expenditures.

SPECIALIZATION PERCENT

Displays data for establishments with payroll that fall within each percent range of specialization.

TYPE OF CONSTRUCTION

Provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in the reporting year. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function.

For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose; i.e., office and residential, or commercial, they were to classify the building by major purpose. In addition, all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types.

Building Construction

- **Single-family houses, detached.** Includes all fully detached residential buildings constructed for one family use.
- **Single-family houses, attached, including townhouses and townhouse-type condominiums.** Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken party or lot line wall from ground to roof.
- **Apartment buildings, apartment type condominiums, and cooperatives.** Includes apartment rentals, high-rise, low-rise, or any structures containing two or more housing units other than attached single-family houses.
- **All other residential buildings.** Includes dormitories, fraternity and sorority houses, and other nonhousekeeping residential structures.
- **Manufacturing and light industrial buildings.** Includes all manufacturing and light industrial buildings and plants that are used to house production and assembly activities. Note that industrial parks should be classified under its primary usage such as warehouses, office space, commercial or industrial type buildings. Heavy industrial facilities such as blast furnaces, petroleum refineries, and chemical complexes are not included in this category but are reported under nonbuilding construction.
- **Manufacturing and light industrial warehouses.** Includes all warehouses which are intended for industrial activities.
- **Hotels and motels.** Includes hotels, motels, bed-and-breakfast inns, and tourist cabins intended for transient accommodations. Also included are hotel and motel conference centers.
- **Office buildings.** Includes all buildings that are used primarily for office space or for government administrative offices. Also included are banks or financial buildings that are three stories or more. Medical office buildings are reported under hospitals and institutional buildings.
- **All other commercial buildings, nec (not elsewhere classified) such as stores, restaurants, and automobile service stations.** Includes all buildings that are intended for use primarily in the retail and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Commercial warehouses.** Includes distribution buildings and mini-storage units intended for commercial use. Also included are storage warehouses.
- **Religious buildings.** Includes all buildings that are intended for religious services or functions such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings.** Includes all buildings that are used directly in administrative and instructional activities such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories that are not a part of a manufacturing or commercial establishment, are also included.
- **Health care and institutional buildings.** Includes hospitals, medical office buildings and all other buildings that are intended to provide health and institutional care such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Public safety buildings.** Included detention centers, prisons, fire stations, and rescue squad buildings.
- **Farm buildings, nonresidential.** Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings.** Includes buildings that are used primarily for entertainment, social, and recreational activities such as sports arenas, convention centers, theaters, music halls, golf and country club buildings, skating rinks, fitness centers, bowling alleys, and indoor swimming pools.
- **All other nonresidential buildings.** Includes nonresidential buildings that are not classified elsewhere such as fire stations, post offices, bus and air passenger terminals and hangars, and prisons.

Nonbuilding Construction

- **Highways, streets, and related work such as installation of guardrails, highway signs, and lighting.** Includes streets, roads, alleys, sidewalks,

curbs and gutters, culverts, right-of-way drainage, erosion control, and lighting. Also includes earthwork protective structures when used in connection with road improvements.

- **Airport runways and related work.** Includes runways, taxiways, aprons, and related work.
- **Private driveways and parking areas.** Includes all nonstructural parking areas and private driveways of all surface types.
- **Bridges and elevated highways.** Includes viaducts and overpasses, roads, highways, railroads, and causeways built on structural supports.
- **Tunnels.** Includes highway, pedestrian, railroad, and water distribution tunnels.
- **Sewers, sewer lines, septic tanks, and related facilities.** Includes sanitary and storm sewers, pumping stations, septic systems, and related facilities.
- **Water mains and related facilities.** Includes water supply systems, pumping stations, and related facilities.
- **Pipeline construction other than sewer or water-lines.** Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Power and communication transmission lines, towers, and related facilities.** Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, and electric light and power facilities.
- **Power plants and cogeneration plants, except hydroelectric.** Includes electric and steam generating plants, cogenerating plants, and nuclear plants.
- **Power plant, hydroelectric.** Includes all types of hydroelectric power generating plants.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.** Includes coke ovens and mining appurtenances such as tipples and washeries.
- **Sewage treatment plants.** Includes sewage treatment and waste disposal plants.
- **Water treatment plants.** Includes water filtration and water softening plants.
- **Urban mass transit.** Includes subways, street cars, and light rail systems.
- **Railroad construction.** Includes the construction of railroad beds, tracks, freight yards, and signal towers for systems other than urban mass transit.
- **Conservation and development construction.** Includes land reclamation, irrigation projects, drainage canals, levees, jetties, breakwaters, and flood control projects.
- **Dam and reservoir construction.** Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Dry/Solid waste disposal.** Includes all dry/solid waste disposal sites where non hazardous waste is buried.
- **Harbor and port facilities.** Includes docks, piers, and wharves.
- **Marine construction.** Includes dredging, underwater rock removal, breakwaters, navigational channels, and locks.
- **Outdoor swimming pools.** Includes wading pools and reflecting pools.
- **Water storage facilities.** Includes aqueducts, water towers, and water tanks.
- **Tank storage facilities other than water.** Includes gasoline and oil storage tanks.
- **Fencing.** Includes all types of fencing.
- **Recreational facilities.** Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Billboards.** Includes all type of billboards.
- **Heavy military construction.** Includes all military nonbuilding such as missile sites and testing facilities, launch sites and underground command centers.
- **Ships.** Includes special trade contractors working on ships and boats such as painters, carpenters, joiners, electricians, etc.
- **Oilfields.** The majority of construction work occurring in oil fields is classified in Sector 21, Mining. For example, pipeline construction on oil and gas leases are classified in mining only up to the point where the distribution company takes over. At that point, pipeline construction activity is classified in Sector 23, Construction. Some secondary mining construction activities are classified in the construction sector. Examples of this include: road construction; land clearing contracting; land drainage contracting; and land leveling contracting.
- **Other nonbuilding construction, nec.** Includes all types of nonbuilding construction not elsewhere classified.

VALUE ADDED (\$1,000)

Value added is equal to value of business done, less costs for construction work subcontracted out to others and costs for materials, components, supplies, and fuels.

VALUE OF BUSINESS DONE (\$1,000)

Value of business done is the sum of value of construction work and other business receipts.

VALUE OF CONSTRUCTION WORK (\$1,000)

Includes the value of construction work done by general contractors, heavy construction contractors, and special trades contractors. Included are new construction, additions, alterations or reconstruction, and maintenance and repair construction work. Also includes the value of any construction work done by the reporting establishments for themselves. Speculative builders were instructed to include the value of buildings and other structures built or being built for sale in the reporting year, but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease. Establishments engaged in the sale and installation of construction components such as plumbing, heating, and central air-conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators were instructed to include both the value for the installation and the receipts covering the price of the items installed. Excluded are the cost of industrial and other special machinery and equipment that are not an integral part of a structure, and value of work done from business operations in foreign countries.

VALUE OF CONSTRUCTION WORK: ADDITIONS, ALTERATIONS, OR RECONSTRUCTION (\$1,000)

Includes construction work which adds to the value or useful life of an existing building or structure or that adapts a building or structure to a new or different use. Included are major replacements of building systems, such as the installation of a new roof or heating system and the resurfacing of streets or highways. This contrasts to the repair of a hole in a roof or the routine patching of highways and streets that would be classified as maintenance and repair.

VALUE OF CONSTRUCTION WORK DONE IN THIS STATE (\$1,000)

Includes the value of construction work done in a state by general contractors, heavy construction contractors, and special trades contractors.

VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS WITH INVENTORIES (\$1,000)

The value of construction work for establishments with payroll that reported a dollar amount of inventory in the reporting year.

VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS WITH NO INVENTORIES (\$1,000)

The value of construction work for establishments with payroll that reported having no dollar amount of inventory in the reporting year.

VALUE OF CONSTRUCTION WORK: FOR SPECIALIZED TYPE (\$1,000)

Includes value of construction work for one of two specialized categories: types of construction; and kind-of-business activity. A construction establishment specializes in a type of construction when fifty-one percent or more of the construction work done is in one construction industry. The construction establishment reports each type of construction it performs as a percent of value of construction work. Types of construction refers to the types of buildings, structures, or facilities constructed or worked on by construction establishments in the reporting year. Specialization in types of construction displays data for establishments with payroll that falls within each percent range of specialization. A construction establishment specializes in a kind-of-business activity when fifty-one percent or more of the construction work done by the establishment is performed in one type of business activity. The construction establishment reports each kind-of-business activity engaged in as a percent of value of construction work. Kind-of-business activity refers to the kinds of business activities construction establishments perform throughout the reporting year. The following are examples of kind-of-business activity: highway and street construction; electrical contracting; carpentry contracting; and concrete contracting. Specialization in kind-of-business activity displays data for establishments with payroll that fall within each percent range of specialization.

VALUE OF CONSTRUCTION WORK: MAINTENANCE AND REPAIR (\$1,000)

Includes incidental construction work that keeps a property in ordinary working condition. Excluded are trash and snow removal, lawn maintenance and landscaping, cleaning and janitorial services.

VALUE OF CONSTRUCTION WORK: NEW CONSTRUCTION (\$1,000)

Includes the complete, original building of structures and essential service facilities and the initial installation of integral equipment such as elevators and plumbing, heating, and air-conditioning supplies and equipment.

VALUE OF CONSTRUCTION WORK ON FEDERALLY OWNED PROJECTS (\$1,000)

The value of construction work for projects owned by the Federal government.

VALUE OF CONSTRUCTION WORK ON GOVERNMENT OWNED PROJECTS (\$1,000)

The value of construction work for the sum total of all projects owned by Federal, state, and local governments.

VALUE OF CONSTRUCTION WORK ON PRIVATELY OWNED PROJECTS (\$1,000)

The value of construction work for construction projects other than government owned projects.

VALUE OF CONSTRUCTION WORK ON STATE AND LOCALLY OWNED PROJECTS (\$1,000)

The value of construction work for the sum total of all projects owned by state and local governments.

VALUE OF CONSTRUCTION WORK SUBCONTRACTED IN FROM OTHERS (\$1,000)

Includes the value of construction work done by reporting establishments as subcontractors to other contractors or builders. Establishments were asked to report the

approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS NOT REPORTING INVENTORIES (\$1,000)

The value of construction work for establishments that did not report a dollar amount for inventories of materials and supplies, and the value of construction work for establishments that did not complete a census form.

VOLUNTARY EXPENDITURES (\$1,000)

Includes expenditures made by the employer for life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Appendix B.

NAICS Codes, Titles, and Descriptions

23 CONSTRUCTION

The Construction sector comprises establishments primarily engaged in the construction of buildings and other structures, heavy construction (except buildings), additions, alterations, reconstruction, installation, and maintenance and repairs. Establishments engaged in demolition or wrecking of buildings and other structures, clearing of building sites, and sale of materials from demolished structures are also included. This sector also includes those establishments engaged in blasting, test drilling, landfill, leveling, earthmoving, excavating, land drainage, and other land preparation. The industries within this sector have been defined on the basis of their unique production processes. As with all industries, the production processes are distinguished by their use of specialized human resources and specialized physical capital. Construction activities are generally administered or managed at a relatively fixed place of business, but the actual construction work is performed at one or more different project sites.

This sector is divided into three subsectors of construction activities: (1) building construction and land subdivision and land development; (2) heavy construction (except buildings), such as highways, power plants, and pipelines; and (3) construction activity by special trade contractors.

Establishments classified in Subsector 233, Building, Developing, and General Contracting and Subsector 234, Heavy Construction, usually assume responsibility for an entire construction project, and may subcontract some or all of the actual construction work. Operative builders who build on their own account for sale, and land subdividers and land developers, who engage in subdividing real property into lots for sale, are included in Subsector 233, Building, Developing, and General Contracting. (Special trade contractors are included in Subsector 234, Heavy Construction, if they are engaged in activities primarily relating to heavy construction, such as grading for highways.) Establishments included in these subsectors operate as general contractors, design-builders, engineer-constructors, joint-venture contractors, and turnkey construction contractors. Establishments identified as construction management firms are also included.

Establishments classified in Subsector 235, Special Trade Contractors, are primarily engaged in specialized construction activities, such as plumbing, painting, and electrical work, and work for builders and general contractors under subcontract or directly for project owners. Establishments engaged in demolition or wrecking of

buildings and other structures, dismantling of machinery, excavating, shoring and underpinning, anchored earth retention activities, foundation drilling, and grading for buildings are also included in this subsector.

“Force account” construction is construction work performed by an establishment primarily engaged in some business other than construction, for its own account and use, and by employees of the establishment. This activity is not included in this industry sector unless the construction work performed is the primary activity of a separate establishment of the enterprise.

The installation of prefabricated building equipment and materials, such as elevators and revolving doors, is classified in the Construction sector. Installation work incidental to sales by employees of a manufacturing or retail establishment is classified as an activity of those establishments.

233 Building, Developing, and General Contracting

Industries in the Building, Developing, and General Contracting subsector comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repair) of building projects. Builders, developers, and general contractors, as well as land subdividers and land developers are included in this subsector. Establishments identified as construction management firms for building projects are also included. The construction work may be for others and performed by custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors, or may be on their own account for sale and performed by speculative or operative builders.

2331 Land Subdivision and Land Development

This NAICS Industry Group includes establishments classified in NAICS Industry 23311, Land Subdivision and Land Development.

23311 Land Subdivision and Land Development

This industry comprises establishments primarily engaged in subdividing real property into lots and/or developing building lots for sale.

233110 Land Subdivision and Land Development

This U.S. industry comprises establishments primarily engaged in subdividing real property into lots and/or developing building lots for sale.

The data published with NAICS code 233110 include the following SIC industries:

6552 Land subdividers and developers, except cemeteries

2332 Residential Building Construction

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23321, Single-Family Housing Construction; and 23322, Multifamily Housing Construction.

23321 Single-Family Housing Construction

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of single family residential housing units (e.g., single family detached houses, town houses, or row houses where each housing unit is separated by a ground-to-roof wall and where no housing units are constructed above or below). This industry includes establishments responsible for additions and alterations to mobile homes and on-site assembly of modular and prefabricated houses. Establishments identified as single family construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include single family housing custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

233210 Single-Family Housing Construction

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of single family residential housing units (e.g., single family detached houses, town houses, or row houses where each housing unit is separated by a ground-to-roof wall and where no housing units are constructed above or below). This industry includes establishments responsible for additions and alterations to mobile homes and on-site assembly of modular and prefabricated houses. Establishments identified as single family construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include single family housing custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233210 include the following SIC industries:

1521 General contractors—single-family houses
1531 Operative builders (pt)
8741 Management services (pt)

23322 Multifamily Housing Construction

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of multifamily residential housing units (e.g., highrise, garden, and town house apartments where each unit is not separated by a ground-to-roof wall). The units may be constructed for sale as condominiums or cooperatives, or for rental as apartments. Establishments identified as multifamily construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include multifamily housing general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

233220 Multifamily Housing Construction

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of multifamily residential housing units (e.g., highrise, garden, and town house apartments where each unit is not separated by a ground-to-roof wall). The units may be constructed for sale as condominiums or cooperatives, or for rental as apartments. Establishments identified as multifamily construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include multifamily housing general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233220 include the following SIC industries:

1522 General contractors—residential buildings, other than single-family (pt)
1531 Operative builders (pt)
8741 Management services (pt)

2333 Nonresidential Building Construction

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23331, Manufacturing and Industrial Building Construction; and 23332, Commercial and Institutional Building Construction.

23331 Manufacturing and Industrial Building Construction

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of manufacturing and industrial buildings (e.g., plants, mills, factories). Establishments identified as manufacturing and industrial building construction management firms are also included in

this industry. Kinds of establishments include manufacturing and industrial building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

233310 Manufacturing and Industrial Building Construction

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of manufacturing and industrial buildings (e.g., plants, mills, factories). Establishments identified as manufacturing and industrial building construction management firms are also included in this industry. Kinds of establishments include manufacturing and industrial building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233310 include the following SIC industries:

- 1531 Operative builders (pt)
- 1541 General contractors—industrial buildings and warehouses (pt)
- 8741 Management services (pt)

23332 Commercial and Institutional Building Construction

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of commercial and institutional buildings (e.g., stores, schools, hospitals office buildings, public warehouses). Establishments identified as commercial and institutional building construction management firms are also included in this industry. Kinds of establishments include commercial and institutional building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

233320 Commercial and Institutional Building Construction

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of commercial and institutional buildings (e.g., stores, schools, hospitals office buildings, public warehouses). Establishments identified as commercial and institutional building construction management firms are also included in this industry. Kinds of establishments include commercial and institutional building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233320 include the following SIC industries:

- 1522 General contractors—residential buildings, other than single-family (pt)
- 1531 Operative builders (pt)
- 1541 General contractors—industrial buildings and warehouses (pt)
- 1542 General contractors—nonresidential buildings, except industrial buildings and warehouses
- 8741 Management services (pt)

234 Heavy Construction

Industries in the Heavy Construction subsector group establishments that engage in the construction of heavy engineering and industrial projects (except buildings), for example, highways, power plants, and pipelines. The construction work performed may include new work, reconstruction, or repairs. Establishments identified as heavy construction management firms are also included. Establishments in this subsector usually assume responsibility for entire nonbuilding projects but may subcontract some or all of the actual construction work. Special trade contractors are included in this group if they are engaged in activities primarily related to heavy construction, for example, grading for highways. Kinds of establishments include heavy construction general contractors, design builders, engineer-constructors, and joint-venture contractors.

2341 Highway, Street, Bridge, and Tunnel Construction

This NAICS Industry Group includes establishments classified in the following NAICS industries: 23411, Highway and Street Construction; and 23412, Bridge and Tunnel Construction.

23411 Highway and Street Construction

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of highways (except elevated), streets, roads, or airport runways; (2) establishments identified as highway and street construction management firms; and (3) establishments identified as special trade contractors engaged in performing subcontract work primarily related to highway and street construction (e.g., grading for highways, installing guardrails, public sidewalk construction). Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include highway and street general contractors, design builders, engineer-constructors, and joint-venture contractors.

234110 Highway and Street Construction

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of highways (except elevated),

streets, roads, or airport runways; (2) establishments identified as highway and street construction management firms; and (3) establishments identified as special trade contractors engaged in performing subcontract work primarily related to highway and street construction (e.g., grading for highways, installing guardrails, public sidewalk construction). Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include highway and street general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234110 include the following SIC industries:

- 1611 Highway and street construction contractors, except elevated highways
- 8741 Management services (pt)

23412 Bridge and Tunnel Construction

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of bridges, viaducts, elevated highways, and tunnels; (2) establishments identified as bridge and tunnel construction management firms; and (3) establishments identified as special trade contractors primarily engaged in performing subcontract work related to bridge and tunnel construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include bridge and tunnel general contractors, design builders, engineer-constructors, and joint-venture contractors.

234120 Bridge and Tunnel Construction

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of bridges, viaducts, elevated highways, and tunnels; (2) establishments identified as bridge and tunnel construction management firms; and (3) establishments identified as special trade contractors primarily engaged in performing subcontract work related to bridge and tunnel construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include bridge and tunnel general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234120 include the following SIC industries:

- 1622 Bridge, tunnel, and elevated highway construction contractors
- 8741 Management services (pt)

2349 Other Heavy Construction

This industry group comprises establishments primarily engaged in heavy nonbuilding construction (except highway, street, bridge, and tunnel construction).

23491 Water, Sewer, and Pipeline Construction

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, rehabilitation, or repairs) of water mains, sewers, drains, gas mains, natural gas pumping stations, and gas and oil pipelines; (2) establishments identified as water, sewer, and pipeline construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to water, sewer, and pipeline construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include water, sewer, and pipeline general contractors, design builders, engineer-constructors, and joint-venture contractors.

234910 Water, Sewer, and Pipeline Construction

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, rehabilitation, or repairs) of water mains, sewers, drains, gas mains, natural gas pumping stations, and gas and oil pipelines; (2) establishments identified as water, sewer, and pipeline construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to water, sewer, and pipeline construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include water, sewer, and pipeline general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234910 include the following SIC industries:

- 1623 Water, sewer, pipeline, and communications and power line construction (pt)
- 8741 Management services (pt)

23492 Power and Communication Transmission Line Construction

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of electric power and communication transmission lines and towers, radio and television transmitting/receiving towers, cable laying, and cable television lines; (2) establishments identified as power and communication transmission line construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to power and communication transmission line construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include power and communication transmission line general contractors, design builders, engineer-constructors, and joint-venture contractors.

234920 Power and Communication Transmission Line Construction

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of electric power and communication transmission lines and towers, radio and television transmitting/receiving towers, cable laying, and cable television lines; (2) establishments identified as power and communication transmission line construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to power and communication transmission line construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include power and communication transmission line general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234920 include the following SIC industries:

- 1623 Water, sewer, pipeline, and communications and power line construction (pt)
- 8741 Management services (pt)

23493 Industrial Nonbuilding Structure Construction

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy industrial nonbuilding structures, such as chemical complexes or facilities, cement plants, petroleum refineries, industrial incinerators, ovens, kilns, power plants (except hydroelectric plants), and nuclear reactor containment structures; (2) establishments identified as industrial nonbuilding construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to industrial nonbuilding construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include industrial nonbuilding general contractors, design builders, engineer-constructors, and joint-venture contractors.

234930 Industrial Nonbuilding Structure Construction

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy industrial nonbuilding structures, such as chemical complexes or facilities, cement plants, petroleum refineries, industrial incinerators, ovens, kilns, power plants (except hydroelectric plants), and nuclear reactor containment structures; (2) establishments identified as industrial nonbuilding construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to industrial nonbuilding construction.

Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include industrial nonbuilding general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234930 include the following SIC industries:

- 1629 Heavy construction, n.e.c. (pt)
- 8741 Management services (pt)

23499 All Other Heavy Construction

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy nonbuilding construction projects (except highway, street, bridge, tunnel, water lines, sewer lines, pipelines, power and communication transmission lines, and industrial nonbuilding structures); (2) establishments identified as all other heavy construction management firms; (3) establishments primarily engaged in construction equipment rental with an operator; and (4) establishments identified as special trade contractors engaged in activities related primarily to all other heavy construction. Typical projects constructed by establishments in this industry include athletic fields, dams, dikes, docks, drainage projects, golf courses, harbors, parks, reservoirs, canals, sewage treatment plants, water treatment plants, hydroelectric plants, subways, and other mass transit projects. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include heavy construction general contractors, design builders, engineer-constructors, and joint-venture contractors.

234990 All Other Heavy Construction

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy nonbuilding construction projects (except highway, street, bridge, tunnel, water lines, sewer lines, pipelines, power and communication transmission lines, and industrial nonbuilding structures); (2) establishments identified as all other heavy construction management firms; (3) establishments primarily engaged in construction equipment rental with an operator; and (4) establishments identified as special trade contractors engaged in activities related primarily to all other heavy construction. Typical projects constructed by establishments in this industry include athletic fields, dams, dikes, docks, drainage projects, golf courses, harbors, parks, reservoirs, canals, sewage treatment plants, water treatment plants, hydroelectric plants, subways, and other mass transit projects. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include heavy construction general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234990 include the following SIC industries:

- 1629 Heavy construction, n.e.c. (pt)
- 7353 Heavy construction equipment, rental and leasing (pt)
- 8741 Management services (pt)

235 Special Trade Contractors

Industries in the Special Trade Contractors subsector engage in specialized construction activities, such as plumbing, painting, and electrical work. Those establishments that engage in activities primarily related to heavy construction, such as grading for highways, are classified in Subsector 234, Heavy Construction. The activities of this subsector may be subcontracted from builders or general contractors or it may be performed directly for project owners. The construction work performed may include new work, additions, alterations, or maintenance and repairs. Special trade contractors usually perform most of their work at the job site, although they may have shops where they perform prefabrication and other work.

2351 Plumbing, Heating, and Air-Conditioning Contractors

This NAICS Industry Group includes establishments classified in NAICS Industry 23511, Plumbing, Heating, and Air-Conditioning Contractors.

23511 Plumbing, Heating, and Air-Conditioning Contractors

This industry comprises establishments primarily engaged in one or more of the following: (1) installing plumbing, heating, and air-conditioning equipment; (2) servicing plumbing, heating, and air-conditioning equipment; and (3) the combined activity of selling and installing plumbing, heating, and air-conditioning equipment. The plumbing, heating, and air-conditioning work performed includes new work, additions, alterations, and maintenance and repairs. The activities performed by these establishments range from duct fabrication and installation at the site to installation of refrigeration equipment, installation of sprinkler systems, and installation of environmental controls.

235110 Plumbing, Heating, and Air-Conditioning Contractors

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) installing plumbing, heating, and air-conditioning equipment; (2) servicing plumbing, heating, and air-conditioning equipment; and (3) the combined activity of selling and installing plumbing, heating, and air-conditioning equipment. The plumbing, heating, and air-conditioning work performed includes new work, additions, alterations, and

maintenance and repairs. The activities performed by these establishments range from duct fabrication and installation at the site to installation of refrigeration equipment, installation of sprinkler systems, and installation of environmental controls.

The data published with NAICS code 235110 include the following SIC industry:

- 1711 Plumbing, heating, and air-conditioning special trade contractors

This definition comes from the 1997 NAICS manual. However, for this industry, the 1997 Economic Census--Construction did not fully implement the conversion to NAICS. Data for NAICS industry 235110 do not include establishments whose primary activity is boiler cleaning. The NAICS definitions will be fully implemented with the 2002 Economic Census.

2352 Painting and Wall Covering Contractors

This NAICS Industry Group includes establishments classified in NAICS Industry 23521, Painting and Wall Covering Contractors.

23521 Painting and Wall Covering Contractors

This industry comprises establishments primarily engaged in interior or exterior painting and interior wall covering. The painting and wall covering work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by these establishments range from bridge, ship, and traffic lane painting to paint and wall covering removal.

235210 Painting and Wall Covering Contractors

This U.S. industry comprises establishments primarily engaged in interior or exterior painting and interior wall covering. The painting and wall covering work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by these establishments range from bridge, ship, and traffic lane painting to paint and wall covering removal.

The data published with NAICS code 235210 include the following SIC industries:

- 1721 Painting and paper hanging special trade contractors
- 1799 Special trade contractors, n.e.c. (pt)

2353 Electrical Contractors

This NAICS Industry Group includes establishments classified in NAICS Industry 23531, Electrical Contractors.

23531 Electrical Contractors

This industry comprises establishments primarily engaged in one or more of the following: (1) performing electrical work at the site (e.g., installing wiring); (2) servicing electrical equipment at the site; and (3) the combined activity of selling and installing electrical equipment. The electrical work performed includes new work, additions, alterations, and maintenance and repairs.

235310 Electrical Contractors

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) performing electrical work at the site (e.g., installing wiring); (2) servicing electrical equipment at the site; and (3) the combined activity of selling and installing electrical equipment. The electrical work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235310 include the following SIC industry:

1731 Electrical work special trade contractors

2354 Masonry, Drywall, Insulation, and Tile Contractors

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23541, Masonry and Stone Contractors; 23542, Drywall, Plastering, Acoustical, and Insulation Contractors; and 23543, Tile, Marble, Terrazzo, and Mosaic Contractors.

23541 Masonry and Stone Contractors

This industry comprises establishments primarily engaged in masonry work, stone setting, and other stone work. The masonry work, stone setting, and other stone work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the construction of foundations made of block, stone, or brick to glass block laying; exterior marble, granite and slate work; and tuck pointing.

235410 Masonry and Stone Contractors

This U.S. industry comprises establishments primarily engaged in masonry work, stone setting, and other stone work. The masonry work, stone setting, and other stone work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the construction of foundations made of block, stone, or brick to glass block laying; exterior marble, granite and slate work; and tuck pointing.

The data published with NAICS code 235410 include the following SIC industry:

1741 Masonry, stone setting, and other stone work special trade contractors

23542 Drywall, Plastering, Acoustical, and Insulation Contractors

This industry comprises establishments primarily engaged in drywall, plaster work, acoustical, and building insulation work. The drywall, plaster work, acoustical, and insulation work performed includes new work, additions,

alterations, and maintenance and repairs. Plaster work includes applying plain or ornamental plaster, including installation of lathing to receive plaster.

235420 Drywall, Plastering, Acoustical, and Insulation Contractors

This U.S. industry comprises establishments primarily engaged in drywall, plaster work, acoustical, and building insulation work. The drywall, plaster work, acoustical, and insulation work performed includes new work, additions, alterations, and maintenance and repairs. Plaster work includes applying plain or ornamental plaster, including installation of lathing to receive plaster.

The data published with NAICS code 235420 include the following SIC industries:

1742 Plastering, drywall, acoustical, and insulation work special trade contractors

1743 Terrazzo, tile, marble, and mosaic work special trade contractors (pt)

1771 Concrete work special trade contractors (pt)

23543 Tile, Marble, Terrazzo, and Mosaic Contractors

This industry comprises establishments primarily engaged in (1) setting and installing ceramic tile, marble (interior only), terrazzo, and mosaic and/or (2) mixing marble particles and cement to make terrazzo at the job site. The tile, marble, terrazzo, and mosaic work performed includes new work, additions, alterations, and maintenance and repairs.

235430 Tile, Marble, Terrazzo, and Mosaic Contractors

This U.S. industry comprises establishments primarily engaged in (1) setting and installing ceramic tile, marble (interior only), terrazzo, and mosaic and/or (2) mixing marble particles and cement to make terrazzo at the job site. The tile, marble, terrazzo, and mosaic work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235430 include the following SIC industry:

1743 Terrazzo, tile, marble, and mosaic work special trade contractors (pt)

2355 Carpentry and Floor Contractors

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23551, Carpentry Contractors; and 23552, Floor Laying and Other Floor Contractors.

23551 Carpentry Contractors

This industry comprises establishments primarily engaged in framing, carpentry, and finishing work. The carpentry work performed includes new work, additions,

alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the installation of doors and windows to paneling, steel framing work, and ship joinery.

235510 Carpentry Contractors

This U.S. industry comprises establishments primarily engaged in framing, carpentry, and finishing work. The carpentry work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the installation of doors and windows to paneling, steel framing work, and ship joinery.

The data published with NAICS code 235510 include the following SIC industry:

1751 Carpentry work special trade contractors

23552 Floor Laying and Other Floor Contractors

This industry comprises establishments primarily engaged in the installation of resilient floor tile, carpeting, linoleum, and wood or resilient flooring. The floor laying and other floor work performed includes new work, additions, alterations, and maintenance and repairs.

235520 Floor Laying and Other Floor Contractors

This U.S. industry comprises establishments primarily engaged in the installation of resilient floor tile, carpeting, linoleum, and wood or resilient flooring. The floor laying and other floor work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235520 include the following SIC industry:

1752 Floor laying and other floor work special trade contractors, n.e.c.

2356 Roofing, Siding, and Sheet Metal Contractors

This NAICS Industry Group includes establishments classified in NAICS Industry 23561, Roofing, Siding, and Sheet Metal Contractors.

23561 Roofing, Siding, and Sheet Metal Contractors

This industry comprises establishments primarily engaged in the installation of roofing, siding, sheet metal work, and roof drainage-related work, such as downspouts and gutters. Activities performed by these establishments also include treating roofs (i.e., by spraying, painting, or coating), copper smithing, tin smithing, installing skylights, installing metal ceilings, flashing, duct work, and capping. The roofing, siding, and sheet metal work performed includes new work, additions, alterations, and maintenance and repairs.

235610 Roofing, Siding, and Sheet Metal Contractors

This U.S. industry comprises establishments primarily engaged in the installation of roofing, siding, sheet metal work, and roof drainage-related work, such as downspouts and gutters. Activities performed by these establishments also include treating roofs (i.e., by spraying, painting, or coating), copper smithing, tin smithing, installing skylights, installing metal ceilings, flashing, duct work, and capping. The roofing, siding, and sheet metal work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235610 include the following SIC industry:

1761 Roofing, siding, and sheet metal work special trade contractors

2357 Concrete Contractors

This NAICS Industry Group includes establishments classified in NAICS Industry 23571, Concrete Contractors.

23571 Concrete Contractors

This industry comprises establishments primarily engaged in the use of concrete and asphalt to produce parking areas, building foundations, structures, and retaining walls, and in the use of all materials to produce patios, private driveways, and private walks. Activities performed by these establishments include grout and shotcrete work. The concrete work performed includes new work, additions, alterations, and maintenance and repairs.

235710 Concrete Contractors

This U.S. industry comprises establishments primarily engaged in the use of concrete and asphalt to produce parking areas, building foundations, structures, and retaining walls, and in the use of all materials to produce patios, private driveways, and private walks. Activities performed by these establishments include grout and shotcrete work. The concrete work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235710 include the following SIC industry:

1771 Concrete work special trade contractors (pt)

2358 Water Well Drilling Contractors

This NAICS Industry Group includes establishments classified in NAICS Industry 23581, Water Well Drilling Contractors.

23581 Water Well Drilling Contractors

This industry comprises establishments primarily engaged in drilling, tapping, and capping of water wells, and geothermal drilling. The water well drilling work performed includes new work, servicing, and maintenance and repairs.

235810 Water Well Drilling Contractors

This U.S. industry comprises establishments primarily engaged in drilling, tapping, and capping of water wells, and geothermal drilling. The water well drilling work performed includes new work, servicing, and maintenance and repairs.

The data published with NAICS code 235810 include the following SIC industry:

1781 Water well drilling special trade contractors

2359 Other Special Trade Contractors

This industry group comprises establishments primarily engaged in specialized construction activities (except plumbing, painting, electrical, masonry, drywall, insulation, tile, carpentry, flooring work, roofing, siding, sheet metal, concrete, and water well drilling).

23591 Structural Steel Erection Contractors

This industry comprises establishments primarily engaged in one or more of the following: (1) erecting metal, structural steel, and similar products of prestressed or precast concrete to produce structural elements, building exteriors, and elevator fronts; (2) setting rods, bars, rebar, mesh, and cages, to reinforce poured-in-place concrete; and (3) erecting cooling towers and metal storage tanks. The structural steel erection work performed includes new work, additions, alterations, reconstruction, and maintenance and repairs.

235910 Structural Steel Erection Contractors

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) erecting metal, structural steel, and similar products of prestressed or precast concrete to produce structural elements, building exteriors, and elevator fronts; (2) setting rods, bars, rebar, mesh, and cages, to reinforce poured-in-place concrete; and (3) erecting cooling towers and metal storage tanks. The structural steel erection work performed includes new work, additions, alterations, reconstruction, and maintenance and repairs.

The data published with NAICS code 235910 include the following SIC industry:

1791 Structural steel erection special trade contractors

23592 Glass and Glazing Contractors

This industry comprises establishments primarily engaged in installing glass (i.e., glazing work) and/or tinting glass. The glass work performed includes new work, additions, alterations, and maintenance and repairs. 235920 Glass and Glazing Contractors This U.S. industry comprises establishments primarily engaged in installing

glass (i.e., glazing work) and/or tinting glass. The glass work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235920 include the following SIC industries:

1793 Glass and glazing work special trade contractors

1799 Special trade contractors, n.e.c. (pt)

23593 Excavation Contractors

This industry comprises establishments primarily engaged in preparing land for building construction. Activities performed by these establishments are drilling shafts, foundation digging, foundation drilling, and grading. The excavation work performed includes new work, additions, alterations, and repairs.

235930 Excavation Contractors

This U.S. industry comprises establishments primarily engaged in preparing land for building construction. Activities performed by these establishments are drilling shafts, foundation digging, foundation drilling, and grading. The excavation work performed includes new work, additions, alterations, and repairs.

The data published with NAICS code 235930 include the following SIC industry:

1794 Excavation work special trade contractors

23594 Wrecking and Demolition Contractors

This industry comprises establishments primarily engaged in the wrecking and demolition of buildings and other structures, including underground tank removal and the dismantling of steel oil tanks, except those for hazardous materials. The establishments engaged in wrecking and demolition work may or may not sell materials derived from demolishing operations.

235940 Wrecking and Demolition Contractors

This U.S. industry comprises establishments primarily engaged in the wrecking and demolition of buildings and other structures, including underground tank removal and the dismantling of steel oil tanks, except those for hazardous materials. The establishments engaged in wrecking and demolition work may or may not sell materials derived from demolishing operations.

The data published with NAICS code 235940 include the following SIC industry:

1795 Wrecking and demolition work special trade contractors

23595 Building Equipment and Other Machinery Installation Contractors

This industry comprises establishments primarily engaged in one or more of the following: (1) the installation or dismantling of building equipment, machinery or

other industrial equipment (except plumbing, heating, air conditioning or electrical equipment); (2) machine rigging; and (3) millwrighting. Types of equipment installed include automated and revolving doors, conveyor systems, dumbwaiters, dust collecting equipment, elevators, small incinerators, pneumatic tubes systems, and built-in vacuum cleaning systems. The building equipment and other machinery installation work performed includes new work, additions, alterations, and maintenance and repairs.

235950 Building Equipment and Other Machinery Installation Contractors

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) the installation or dismantling of building equipment, machinery or other industrial equipment (except plumbing, heating, air conditioning or electrical equipment); (2) machine rigging; and (3) millwrighting. Types of equipment installed include automated and revolving doors, conveyor systems, dumbwaiters, dust collecting equipment, elevators, small incinerators, pneumatic tubes systems, and built-in vacuum cleaning systems. The building equipment and other machinery installation work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235950 include the following SIC industry:

1796 Installation or erection of building equipment, special trade contractors, n.e.c.

23599 All Other Special Trade Contractors

This industry comprises establishments primarily engaged in specialized construction work, (except plumbing, painting, electrical, masonry, drywall, insulation, tile, carpentry, flooring, roofing, siding, sheet metal work, concrete work, glass and glazing, structural steel erection, excavation, wrecking and demolition, and building equipment installation work). Activities undertaken by these

establishments include constructing swimming pools and fences, house moving, waterproofing, dewatering, damp-proofing, fireproofing, and sandblasting; installing antennas, artificial turf, awnings, countertops, fire escapes, forms for poured concrete, gasoline pumps, lightning conductors, ornamental metal, shoring systems, and signs (on buildings); and specialized activities, such as bathtub refinishing, coating and glazing of concrete surfaces, gas leakage detection, insulation of pipes and boilers, mobile home site setup and tie-down, posthole digging, radon remediation, scaffolding work, and on-site welding. The other special trade work performed includes new work, additions, alterations, and maintenance and repairs.

235990 All Other Special Trade Contractors

This U.S. industry comprises establishments primarily engaged in specialized construction work, (except plumbing, painting, electrical, masonry, drywall, insulation, tile, carpentry, flooring, roofing, siding, sheet metal work, concrete work, glass and glazing, structural steel erection, excavation, wrecking and demolition, and building equipment installation work). Activities undertaken by these establishments include constructing swimming pools and fences, house moving, waterproofing, dewatering, damp-proofing, fireproofing, and sandblasting; installing antennas, artificial turf, awnings, countertops, fire escapes, forms for poured concrete, gasoline pumps, lightning conductors, ornamental metal, shoring systems, and signs (on buildings); and specialized activities, such as bathtub refinishing, coating and glazing of concrete surfaces, gas leakage detection, insulation of pipes and boilers, mobile home site setup and tie-down, posthole digging, radon remediation, scaffolding work, and on-site welding. The other special trade work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235990 include the following SIC industry:

1799 Special trade contractors, n.e.c. (pt)

Appendix C.

Coverage and Methodology

THE SAMPLE FRAME

The universe for the construction sector includes approximately 650,000 establishments. This includes only those construction establishments with at least one paid employee in 1997. Census reports were mailed to a sample of approximately 130,000 establishments.

The sample frame consisted of the entire construction universe; there were no subpopulations that were explicitly removed from the sample frame. The sample frame was compiled from a list of all construction companies in the active records of the Internal Revenue Service (IRS) and the Social Security Administration (SSA) which are subject to the payment of Federal Insurance Contributions Act taxes. Under special arrangements to safeguard their confidentiality, the U.S. Census Bureau obtains information on the location and classification of the companies, as well as their payroll and receipts data from these sources. Unfortunately, these sources do not provide establishment level information for companies with multiple locations. For multilocation companies, the establishment level information is directly obtained from the U.S. Census Bureau's Company Organization Survey.

While the IRS-SSA list usually provided sufficient classification information to assign a company to the proper economic sector, there were cases for which the information was incomplete or missing. A classification form was mailed to companies with insufficient information to be assigned to an industry. This form requested information on the nature of the company's activities. Companies determined to be in scope of the construction sector subsequent to the census mailout were treated as a supplement to the universe rather than part of the sample frame.

SAMPLE SELECTION

The major objective of the sample design was to provide a sample that would provide reliable estimates for each state and construction industry. A stratified random sample was designed. Within each state by industry cell, six strata were defined.

- Stratum 1 was comprised of approximately 12,000 establishments of companies that had operations of any type at more than one location. These establishments of multiunit companies were included in the construction sample with certainty.
- Strata 2-6 were comprised of single-location companies. For each industry, payroll cut-offs were determined at the U.S. level and used to define the payroll ranges for each of the strata 2-6 across all states.

All establishments in stratum 2 were included in the construction sample with certainty. These consisted of the largest single-location construction companies.

For strata 3-6, a random sample of establishments was selected. The general strategy was to sample the strata containing larger establishments at a higher rate than those containing small establishments. The minimum sample rate was 1 in 20.

For five industries, the U.S. population in the sample frame was quite small. For these industries, all establishments in the sample frame were included in the sample with certainty. These industries were as follows:

- SIC 1622: Bridge, Tunnel, and Elevated Highway Construction Contractors
- SIC 1795: Wrecking and Demolition Work
- SIC 1796: Installation or Erection of Building Equipment, Not Elsewhere Classified
- SIC 7353: Equipment Rental with Operators
- SIC 8741: Construction Management

ESTIMATION AND VARIANCES

Based on the response data, establishments were assigned to the appropriate NAICS industry. At each level of tabulation, unbiased estimates were derived by summing the weighted establishment data where the establishment sample weight was equal to the inverse of its probability of selection for the construction sample.

Variations of the estimated items were derived at the state level, industry, and by stratum using standard stratified random sample formulas. Variations were then aggregated to the publication levels for the computation of the relative standard errors.

RELIABILITY OF THE ESTIMATES

The estimates developed from the sample can differ somewhat from the results of a survey covering all companies in the sample lists but are otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the construction sector is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data. They are presented in the form of relative standard errors which are the standard errors divided by the estimated values to which they refer.

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals, or ranges, that would include the comparable, complete-coverage value for specified percentages of all the possible samples.

The complete-coverage value would be included in the range:

- From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
- From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
- From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference is that the comparable complete-survey result would fall within the indicated ranges and the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection; reporting; coding; transcription; imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the U.S. Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To

some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables of this publication having an associated standard error exceeding 75 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each establishment covered in the construction sector was classified in one of twenty eight industries in accordance with the industry definitions in the 1997 NAICS (North American Industry Classification System) manual. The U.S. Census Bureau first used NAICS to classify industries for 1997 economic census data. Prior to this the U.S. Census Bureau used SIC (Standard Industrial Classification) for industry classification. The differences between NAICS and SIC are outlined in Appendix A of the 1997 NAICS manual.

In the NAICS system, an industry is generally defined as a group of establishments that use similar processes or have similar business activities. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added, value of business, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the construction sector for 1997, there are 3 subsectors (three-digit NAICS), 14 industry groups (four-digit NAICS), and 28 NAICS industries (five- and six-digit NAICS). The five-digit NAICS is supposed to be the level at which there is comparability with the Canadian and Mexican classification systems. However, agreement had not been reached with these countries at the time of the 1997 Economic Census regarding the classification of construction industries. The 28 five- and six-digit NAICS construction industries are the result of an expansion and a restructuring of the 26 four-digit SIC industries of 1987.

ESTABLISHMENT BASIS OF REPORTING

The construction sector is conducted on an establishment basis. A construction establishment is defined as a relatively permanent office or other place of business where the usual business activities related to construction

are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such establishment activities include, but are not limited to, estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each establishment operated during any part of the census year. The construction sector figures represent a tabulation of records for individual establishments rather than for companies.

If an establishment was engaged in construction and one or more distinctly different lines of economic activity at the same place of business, it was requested to file a separate report for each activity, provided that the activity was of substantial size and separate records were maintained. If a separate establishment report could not be prepared for each activity, then a construction report was

requested covering all activities of that establishment providing that the value of construction work exceeded the gross receipts from each of its other activities.

DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the industry, geographic area, or other groupings contains varying amounts of duplication. This is because the construction work of one firm may be subcontracted to other construction firms and may also be included in the subcontractors' value of construction work. Also, part of the value of construction results from the use of products of nonconstruction industries as input materials. These products are counted in the nonconstruction industry as well as part of the value of construction. Value added avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or geographic areas. Value added for construction industries is defined as the dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Detailed SIC Code Titles: 1997

[The SIC code title shown in Table 1 is a standard SIC title from the Standard Industrial Classification Manual. A more detailed title description for the SIC code shown in Table 1 is included in this appendix]

SIC code	Detailed industry title description	SIC code	Detailed industry title description
15	GENERAL BUILDING CONTRACTORS	17	SPECIAL TRADE CONTRACTORS (EXCLUDING LEAD PAINT REMOVAL AND ASBESTOS ABATEMENT)—Con.
152100	General contractors—single-family houses	175100	Carpentry work
152210	General contractors—hotel and motel construction	175200	Floor laying and other floor work, n.e.c
152220	General contractors—residential buildings, other than single-family, except hotel and motel construction	176100	Roofing, siding, and sheet metal work
153110	Operative builders, single-family housing construction	177110	Stucco construction
153120	Operative builders, multifamily housing construction	177120	Concrete work, except stucco construction
153130	Operative builders, manufacturing and light industrial building construction	178100	Water well drilling
153140	Operative builders, commercial and institutional building construction	179100	Structural steel erection
154110	General contractors—commercial warehouse construction	179300	Glass and glazing work
154120	General contractors—industrial buildings and warehouse construction	179400	Excavation work
154200	General contractors—nonresidential buildings, other than industrial buildings and warehouses	179500	Wrecking and demolition work
		179600	Installation or erection of building equipment, n.e.c
		179910	Paint and wallpaper stripping and wallpaper removal contractors
		179920	Tinting glass contractors
		179940	All other special trade contractors
16	HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION	65	REAL ESTATE—CONSTRUCTION LAND SUBDIVIDERS AND DEVELOPERS
161100	Highway and street construction, except elevated highways	655200	Land subdividers and developers, except cemeteries
162200	Bridge, tunnel, and elevated highway construction	73	BUSINESS SERVICES—CONSTRUCTION EQUIPMENT RENTAL AND LEASING, WITH OPERATOR
162310	Water, sewer, and pipeline construction	735320	Heavy construction equipment rental and leasing, with operator
162320	Power and communication transmission line construction	87	ENGINEERING AND MANAGEMENT SERVICES—CONSTRUCTION MANAGEMENT FOR BUILDINGS AND HEAVY CONSTRUCTION
162910	Industrial nonbuilding construction	874121	Construction management—single-family housing construction
162920	Other heavy construction	874122	Construction management—multifamily housing construction
17	SPECIAL TRADE CONTRACTORS (EXCLUDING LEAD PAINT REMOVAL AND ASBESTOS ABATEMENT)	874123	Construction management—manufacturing and industrial building construction
171100	Plumbing, heating, and air-conditioning	874124	Construction management—commercial and institutional building construction
172100	Painting and paper hanging	874131	Construction management—highway and street construction
173100	Electrical work	874132	Construction management—bridge and tunnel construction
174100	Masonry, stone setting, and other stone work	874133	Construction management—water, sewer, and pipeline construction
174200	Plastering, drywall, acoustical, and insulation work	874134	Construction management—power and communication transmission line construction
174310	Fresco work	874135	Construction management—industrial nonbuilding construction
174320	Terrazzo, tile, marble, and mosaic work, except fresco work	874136	Construction management—all other heavy construction

