

Painting and Wall Covering Contractors

1997

Issued July 1999

EC97C-2352A

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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-- 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
235210	Painting & wall covering contractors	37 480	195 331	4 543 495	13 015 683	12 049 579	8 787 438	3 313 756	306 388
172100	Painting & paper hanging special trade contractors	36 339	191 073	4 472 285	12 742 031	11 809 982	8 613 785	3 247 369	300 571
179910	Special trade contractors, n.e.c. (pt)	1 141	4 258	71 211	273 652	239 596	173 654	66 387	5 817

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	
235210, PAINTING & WALL COVERING CONTRACTORS										
United States	37 480	195 331	160 740	142 809	162 077	179 422	158 651	4 543 495	3 430 534	1
Alabama	460	2 966	2 399	2 397	2 559	2 327	2 315	63 169	44 606	8
Alaska	113	449	336	251	382	448	263	10 707	7 413	10
Arizona	648	4 610	3 811	3 608	3 623	4 076	3 935	90 607	71 214	7
Arkansas	204	1 073	867	808	1 095	859	706	22 623	17 426	14
California	4 402	25 146	21 153	19 239	20 894	22 780	21 699	603 588	470 623	2
Colorado	915	4 166	3 605	3 073	3 649	4 117	3 582	86 944	67 010	6
Connecticut	586	2 262	1 685	1 191	1 750	2 109	1 689	58 176	39 481	6
Delaware	100	501	414	338	468	477	375	11 883	8 820	9
District of Columbia	16	225	186	148	166	261	168	5 511	4 273	5
Florida	2 283	11 697	9 090	8 675	9 261	9 201	9 224	234 117	158 775	3
Georgia	855	5 471	4 512	4 098	4 564	4 983	4 403	121 186	84 312	6
Hawaii *	166	1 262	986	1 034	943	1 041	928	47 794	33 441	5
Idaho	353	1 015	899	647	888	1 161	898	15 145	13 194	12
Illinois	1 597	8 007	6 394	5 534	6 532	7 329	6 180	242 033	186 741	3
Indiana	900	4 877	4 141	3 590	4 086	4 590	4 296	121 295	94 615	5
Iowa	353	1 762	1 413	1 107	1 502	1 584	1 459	32 294	25 315	8
Kansas	441	1 617	1 336	1 255	1 354	1 466	1 270	33 515	26 403	9
Kentucky	438	2 102	1 703	1 482	1 762	1 911	1 656	41 994	32 130	9
Louisiana	349	3 575	2 795	2 405	2 608	3 113	3 055	75 797	55 322	8
Maine	186	799	715	505	768	963	623	13 218	11 565	13
Maryland	875	5 052	4 109	3 697	4 134	4 364	4 239	119 772	88 416	5
Massachusetts	870	3 517	2 720	1 986	2 741	3 402	2 752	95 786	69 500	5
Michigan	1 320	6 256	5 188	4 605	5 483	6 322	4 342	154 972	115 880	7
Minnesota	624	3 365	2 779	2 248	2 756	3 365	2 748	92 750	73 422	5
Mississippi	219	1 001	801	774	714	913	804	18 400	13 681	8
Missouri	892	5 114	4 413	3 860	4 315	5 078	4 399	133 248	105 769	4
Montana	125	399	312	204	319	386	337	7 533	5 196	23
Nebraska	272	1 231	1 074	954	1 099	1 207	1 034	23 831	19 964	8
Nevada	186	1 294	1 148	994	1 171	1 334	1 093	30 124	25 255	11
New Hampshire	185	718	638	397	593	868	695	13 670	11 058	13
New Jersey	1 278	4 785	3 885	3 071	4 061	4 515	3 895	130 511	95 416	4
New Mexico	225	625	540	443	567	564	588	11 569	8 227	17
New York	2 215	10 218	8 291	6 988	8 366	10 062	7 747	273 906	202 940	5
North Carolina	1 310	6 788	5 560	5 326	5 524	5 842	5 548	134 752	98 311	5
North Dakota	95	402	310	261	278	391	309	7 736	5 700	7
Ohio	1 467	7 483	6 083	5 195	6 271	7 184	5 680	178 756	135 174	4
Oklahoma	339	1 572	1 334	1 259	1 387	1 460	1 232	27 421	21 536	10
Oregon	658	3 069	2 299	1 881	2 305	2 736	2 274	64 891	50 415	8
Pennsylvania	1 415	7 533	6 241	5 202	6 556	7 139	6 067	194 110	152 094	3
Rhode Island	263	774	565	389	587	735	550	14 132	10 760	13
South Carolina	603	2 878	2 420	2 310	2 450	2 513	2 405	51 227	37 682	7
South Dakota	115	441	401	357	412	463	373	7 058	6 057	17
Tennessee	513	2 813	2 422	2 314	2 447	2 485	2 442	62 667	45 160	6
Texas	1 871	14 567	12 195	12 422	11 705	12 401	12 251	325 079	240 675	3
Utah	339	1 673	1 509	1 388	1 448	1 729	1 472	31 250	27 296	11
Vermont	149	597	522	332	620	689	448	9 193	7 271	19
Virginia	1 349	7 309	6 107	5 497	6 333	6 488	6 110	146 748	111 832	4
Washington	1 182	5 443	4 555	3 882	4 695	5 262	4 379	135 470	105 025	4
West Virginia	92	413	303	256	288	342	324	8 931	7 182	10
Wisconsin	953	4 106	3 302	2 705	3 292	4 088	3 123	101 177	76 917	7
Wyoming	114	313	275	223	311	298	268	5 225	4 045	22

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 (percent) for column—	
	A	B	C	D	E	F	G	H	B	G
235210, PAINTING & WALL COVERING CONTRACTORS										
United States	13 015 683	12 049 579	8 787 438	3 313 756	966 104	241 717	306 388	1 914 670	1	2
Alabama	157 603	150 527	111 838	39 726	7 076	2 983	6 557	39 775	6	17
Alaska	36 961	34 340	26 823	7 709	2 622	842	596	7 852	16	37
Arizona	242 217	231 088	152 462	78 740	11 128	4 772	3 760	23 476	5	13
Arkansas	69 946	62 699	52 650	10 706	7 247	1 132	2 406	9 715	16	37
California	1 719 469	1 641 481	1 213 315	433 627	77 988	34 881	39 496	241 525	2	6
Colorado	239 246	224 436	164 291	60 166	14 810	3 861	4 345	S	5	16
Connecticut	177 875	164 162	124 377	44 056	13 713	3 184	4 247	25 460	8	12
Delaware	33 102	28 998	18 665	10 333	4 104	812	342	5 842	5	10
District of Columbia	13 262	11 304	9 124	2 180	1 958	224	S	1 305	3	S
Florida	828 874	702 803	503 391	203 321	126 071	15 216	15 089	101 455	4	7
Georgia	416 123	355 117	233 848	122 249	61 006	6 506	9 656	61 787	10	18
Hawaii *	112 265	106 709	87 394	19 826	5 555	2 649	2 161	23 974	5	16
Idaho	53 439	51 942	35 956	16 166	^S 1 497	1 147	1 338	9 837	10	37
Illinois	575 230	547 035	410 139	138 226	28 195	10 915	12 422	86 609	3	7
Indiana	292 573	279 046	206 424	73 098	13 528	5 676	8 506	48 193	3	10
Iowa	85 238	83 090	60 468	23 226	2 148	1 520	^S 4 591	23 216	7	43
Kansas	92 768	86 781	62 191	25 457	^S 5 987	1 457	S	13 900	8	S
Kentucky	117 591	109 774	73 688	36 709	S	2 784	S	16 260	13	S
Louisiana	195 828	186 944	130 359	56 585	8 883	4 619	3 683	27 706	8	11
Maine	43 355	41 566	28 810	12 756	1 789	863	S	8 609	16	S
Maryland	344 168	313 046	239 861	D	31 122	4 458	7 364	38 694	11	8
Massachusetts	260 520	244 521	182 760	61 760	15 999	3 153	4 503	30 626	5	17
Michigan	472 144	445 268	343 375	102 954	26 876	10 787	10 808	62 403	8	11
Minnesota	264 992	249 269	187 407	61 930	15 723	4 720	7 751	48 722	4	9
Mississippi	63 579	56 352	41 798	S	7 227	S	1 589	9 427	9	15
Missouri	340 734	318 866	226 723	92 634	21 868	4 406	12 230	47 212	3	7
Montana	26 841	25 477	21 071	8 636	1 364	353	985	5 206	18	32
Nebraska	65 313	62 308	41 290	21 025	3 005	669	2 153	^S 23 639	5	26
Nevada	78 013	76 223	54 730	21 496	1 789	S	1 709	11 527	9	19
New Hampshire	36 191	34 417	25 389	9 028	1 774	506	866	6 582	12	32
New Jersey	417 316	380 745	283 972	99 642	36 571	7 621	5 282	46 380	3	8
New Mexico	34 764	33 765	23 026	10 739	^S 999	1 005	813	4 288	18	21
New York	770 951	734 391	560 274	175 389	36 560	13 478	12 349	101 787	3	10
North Carolina	411 901	341 714	241 309	101 966	70 187	6 663	7 683	56 967	7	10
North Dakota	29 870	26 633	16 072	10 561	^S 3 237	1 171	1 565	9 631	9	14
Ohio	482 849	458 051	333 168	126 144	24 799	9 634	15 076	92 712	6	14
Oklahoma	91 915	77 253	53 558	23 695	14 662	1 699	2 072	10 285	11	18
Oregon	199 385	178 668	125 928	52 740	^S 20 717	4 460	4 499	23 861	7	29
Pennsylvania	547 677	511 701	387 790	126 505	35 976	10 325	13 655	76 583	3	11
Rhode Island	44 407	42 229	33 772	8 457	2 178	1 032	^S 819	6 694	20	55
South Carolina	149 329	137 729	99 635	D	^S 11 600	2 726	2 849	23 427	8	14
South Dakota	23 248	22 492	15 411	S	^S 756	S	423	2 943	14	24
Tennessee	172 683	154 357	114 686	D	18 326	2 987	5 000	27 983	6	16
Texas	948 590	870 386	596 275	284 810	78 204	18 166	22 401	146 382	5	9
Utah	91 315	88 588	64 370	D	2 727	1 120	5 992	18 783	10	23
Vermont	25 747	24 636	18 740	5 896	S	234	S	S	9	S
Virginia	405 199	371 094	260 178	113 016	34 106	5 409	10 532	64 112	4	8
Washington	380 619	359 431	269 182	91 415	21 188	11 511	7 967	48 277	4	9
West Virginia	20 728	20 215	15 521	D	S	362	474	5 216	11	22
Wisconsin	287 890	269 932	190 088	79 863	^S 17 958	4 771	8 217	52 607	9	17
Wyoming	23 841	19 978	13 869	6 109	^S 3 863	^S 195	^S 431	^S 2 570	29	63

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)
235210, PAINTING & WALL COVERING CONTRACTORS			235210, PAINTING & WALL COVERING CONTRACTORS—Con.		
Number of establishments in business during year	37 480	1	Selected costs	4 279 860	2
Number of proprietors and working partners	19 887	2	Cost of materials, components, and supplies	3 095 936	2
Total number of employees	195 331	1	Cost of construction work subcontracted out to others	966 104	5
Number of construction workers in March	142 809	1	Cost of selected power, fuels, and lubricants	217 820	2
Number of construction workers in May	162 077	1	Cost of electricity	44 686	9
Number of construction workers in August	179 422	1	Cost of natural gas and manufactured gas	9 712	7
Number of construction workers in November	158 651	1	Cost of gasoline and diesel fuel	156 637	2
Average number of construction workers	160 740	1	Cost of on-highway use of gasoline and diesel fuel	130 584	2
Number of other employees in March	34 711	2	Cost of off-highway use of gasoline and diesel fuel	26 054	4
Number of other employees in May	34 414	2	Cost of all other fuels and lubricants	6 784	9
Number of other employees in August	35 083	2	Rental cost for machinery, equipment, and buildings	241 717	2
Number of other employees in November	34 158	2	Rental cost for machinery and equipment	147 012	2
Average number of other employees	34 592	2	Rental cost for buildings	94 706	3
Payroll, all employees	4 543 495	1	Selected purchased services	287 882	2
Payroll, construction workers	3 430 534	1	Purchased communication services	119 297	2
Payroll, other employees	1 112 961	1	Cost of repairs to buildings and other structures	19 714	8
First-quarter payroll, all employees	919 055	1	Cost of repairs to machinery and equipment	148 870	3
Fringe benefits, all employees	1 008 549	1	Value of construction work	13 015 683	1
Legally required expenditures	724 829	1	Value of construction work on government owned projects ..	2 175 022	2
Voluntary expenditures	283 721	1	Value of construction work on federally owned projects ..	514 635	3
Value of business done	13 067 298	1	Value of construction work on state and locally owned projects	1 660 386	2
Value of construction work	13 015 683	1	Value of construction work on privately owned projects	10 840 661	1
Value of construction work subcontracted in from others ..	6 622 779	1	Beginning-of-year gross book value of depreciable assets	1 672 162	2
Other business receipts	51 615	10	Capital expenditures, other than land	306 388	2
Net value of construction	12 049 579	1	Retirements and disposition of depreciable assets	63 880	4
Value added	8 787 438	1	End-of-year gross book value of depreciable assets	1 914 670	2
			Depreciation charges during year	224 228	2
			Number of establishments with inventories	6 669	4
			Value of construction work for establishments with inventories ..	4 280 858	2
			End of 1997, inventories of materials and supplies	96 164	4
			End of 1996, inventories of materials and supplies	91 504	4
			Number of establishments with no inventories	15 888	2
			Value of construction work for establishments with no inventories	5 223 827	2
			Number of establishments not reporting inventories	14 922	2
			Value of construction work for establishments not reporting inventories	3 510 998	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
235210, PAINTING & WALL COVERING CONTRACTORS											
Total	37 480	195 331	4 543 495	13 067 298	13 015 683	12 049 579	8 787 438	3 313 756	966 104	1	1
Establishments with 1 to 4 employees	26 456	45 139	759 579	3 030 995	3 020 921	2 767 768	2 012 657	765 185	253 153	2	3
Establishments with 5 to 9 employees	6 491	40 871	797 631	2 455 635	2 447 154	2 227 485	1 620 668	615 298	219 669	3	4
Establishments with 10 to 19 employees	2 864	38 089	919 719	2 456 693	2 448 405	2 275 675	1 688 252	595 712	172 730	3	3
Establishments with 20 to 49 employees	1 321	38 692	1 053 843	2 648 333	2 640 402	2 498 054	1 786 146	719 839	142 348	3	2
Establishments with 50 to 99 employees	260	17 338	563 097	1 391 667	D	1 286 846	960 198	D	D	1	1
Establishments with 100 to 249 employees	75	10 731	321 353	780 609	D	698 547	502 053	D	D	Z	Z
Establishments with 250 to 499 employees	13	D	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	1	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
235210, PAINTING & WALL COVERING CONTRACTORS											
Total	37 480	195 331	4 543 495	13 067 298	13 015 683	12 049 579	8 787 438	3 313 756	966 104	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	4 285	4 548	45 066	159 879	158 903	153 696	114 426	40 246	S	7	6
Establishments with value of business done \$50,000 to \$99,999	7 836	13 143	161 044	579 710	578 453	555 344	407 843	148 759	23 108	5	4
Establishments with value of business done \$100,000 to \$249,999	11 116	34 028	556 323	1 751 929	1 748 145	1 644 895	1 198 894	449 785	103 251	3	3
Establishments with value of business done \$250,000 to \$499,999	5 394	32 056	629 320	1 859 878	1 853 417	1 737 193	1 299 165	444 490	116 223	4	4
Establishments with value of business done \$500,000 to \$999,999	2 957	31 906	714 154	2 030 870	2 022 325	1 845 073	1 349 313	504 305	177 252	4	4
Establishments with value of business done \$1,000,000 to \$2,499,999	1 734	35 229	960 856	2 583 354	2 571 424	2 394 105	1 754 634	651 401	177 319	2	3
Establishments with value of business done \$2,500,000 to \$4,999,999	475	19 169	604 030	1 616 798	1 613 998	1 526 807	1 117 471	412 136	87 191	1	3
Establishments with value of business done \$5,000,000 to \$9,999,999	197	13 427	472 595	1 355 704	1 352 387	1 193 064	827 357	369 024	159 322	1	4
Establishments with value of business done \$10,000,000 or more	66	10 233	385 706	1 086 779	1 074 320	959 238	687 763	283 934	115 082	Z	Z

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
235210, PAINTING & WALL COVERING CONTRACTORS								
Total	13 015 683	5 039 834	2 615 939	5 184 675	1	2	2	2
Building construction, total	11 062 245	4 558 709	2 330 472	4 173 064	1	2	3	2
Single-family houses, detached and attached	4 309 488	2 114 592	667 530	1 527 366	2	3	4	4
Single-family houses, detached	3 657 054	1 813 103	562 834	1 281 117	2	4	5	4
Single-family houses, attached	652 433	301 489	104 696	246 248	5	8	11	8
Apartment buildings, apartment type condominiums and cooperatives	1 202 598	330 306	207 697	664 595	7	11	13	8
Manufacturing and light industrial buildings	924 273	277 163	185 281	461 829	3	5	4	5
Manufacturing and light industrial warehouses	272 881	117 897	51 719	103 264	2	4	3	4
Hotels and motels	325 284	139 318	81 733	104 233	5	6	9	6
Office buildings	1 509 682	504 567	489 839	515 276	2	3	4	4
All other commercial buildings, nec	852 801	392 681	188 422	271 699	4	4	7	9
Commercial warehouses	221 214	109 899	45 521	65 795	5	6	15	7
Religious buildings	167 498	43 473	51 940	72 085	6	6	16	7
Educational buildings	446 879	176 097	136 709	134 073	4	4	7	6
Health care and institutional buildings	450 669	192 927	154 345	103 397	5	9	6	6
All other nonresidential buildings	378 979	159 790	69 737	149 451	5	10	9	7
Nonbuilding construction, total	1 778 203	481 125	285 467	1 011 611	2	5	6	2
Highways, streets, and related work	562 849	213 850	139 775	209 224	5	10	10	4
Bridges, tunnels, and elevated highways	247 232	41 898	38 011	167 323	2	2	3	2
Blast furnaces, petroleum refineries, chemical complexes, etc	320 793	54 825	30 366	235 603	3	4	6	3
Sewage and water treatment plants	147 077	57 912	37 760	51 405	7	6	13	12
Water storage facilities	183 248	34 891	14 357	134 000	8	13	13	10
Ships	100 890	36 620	S	60 444	3	1	S	4
Other nonbuilding construction, nec	216 113	41 130	21 370	153 613	6	10	10	7
Construction work, nsk	175 235	X	X	X	11	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	
235210, PAINTING & WALL COVERING CONTRACTORS											
Total	37 480	195 331	4 543 495	13 015 683	X	12 049 579	8 787 438	966 104	1	1	5
Establishments not specializing ..	7 248	57 157	1 487 896	3 884 934	X	3 659 592	2 703 229	225 342	2	2	4
Establishments specializing 51 percent or more	30 232	138 175	3 055 599	9 130 749	7 907 438	8 389 987	6 084 210	740 762	1	2	7
Single-family houses, detached and attached											
All establishments specializing	20 500	70 817	1 308 880	4 060 208	3 573 558	3 730 933	2 726 349	329 275	2	3	7
Specialization 100 percent	9 904	29 332	543 607	1 677 398	1 677 398	1 530 601	1 122 490	146 797	4	4	12
Specialization 90 to 99 percent ...	3 442	14 826	272 871	846 672	787 500	778 788	557 961	67 884	6	8	14
Specialization 80 to 89 percent ...	2 731	9 542	177 875	560 660	458 875	525 586	385 727	35 074	7	8	25
Specialization 70 to 79 percent ...	2 326	8 581	159 638	481 784	352 451	447 596	330 542	34 188	8	9	27
Specialization 60 to 69 percent ...	1 710	6 629	121 285	390 802	241 005	348 854	253 781	41 948	8	8	14
Specialization 51 to 59 percent ...	387	1 908	33 603	102 892	56 330	99 508	75 847	3 384	21	18	17
Apartment buildings, apartment type condominiums and cooperatives											
All establishments specializing	2 637	12 720	252 007	861 616	759 230	711 665	523 537	149 951	6	9	27
Specialization 100 percent	S	4 771	90 182	340 414	340 414	271 919	199 729	\$68 495	10	17	42
Specialization 90 to 99 percent ...	S	2 956	59 859	233 986	219 178	177 688	120 218	\$56 297	13	23	48
Specialization 80 to 89 percent ...	347	1 482	29 013	83 253	67 888	75 109	57 590	8 144	17	12	8
Specialization 70 to 79 percent ...	201	1 215	25 076	65 801	47 902	61 537	46 905	4 264	23	17	24
Specialization 60 to 69 percent ...	281	1 882	38 947	117 271	72 089	104 928	83 401	12 342	16	13	15
Specialization 51 to 59 percent ...	\$92	413	8 931	20 891	11 758	20 483	15 694	408	32	26	Z
Office buildings											
All establishments specializing	1 450	11 464	336 784	863 784	687 853	794 961	583 067	68 824	5	4	12
Specialization 100 percent	666	3 314	80 115	227 346	227 346	198 032	140 566	29 314	10	10	26
Specialization 90 to 99 percent ...	242	1 691	45 747	110 461	102 127	103 713	76 863	6 748	14	11	23
Specialization 80 to 89 percent ...	168	1 493	46 279	133 490	107 451	127 183	89 916	6 306	12	12	17
Specialization 70 to 79 percent ...	138	1 750	54 660	141 273	102 154	131 289	97 329	9 984	12	11	30
Specialization 60 to 69 percent ...	198	2 362	76 062	181 465	111 536	170 935	127 303	10 531	8	8	7
Specialization 51 to 59 percent ...	38	855	33 922	69 749	37 239	63 808	51 090	5 941	11	7	4
All other commercial buildings, nec											
All establishments specializing	1 103	6 853	160 417	445 357	368 792	420 904	310 732	24 452	7	8	15
Specialization 100 percent	525	2 728	67 515	178 766	178 766	165 345	125 490	13 421	11	11	19
Specialization 90 to 99 percent ...	S	589	12 600	\$52 313	\$47 818	\$50 854	\$40 696	\$1 459	25	45	42
Specialization 80 to 89 percent ...	40	493	13 934	32 635	27 084	31 756	23 791	879	15	12	32
Specialization 70 to 79 percent ...	161	913	21 341	61 690	44 214	55 735	37 807	\$5 955	16	15	45
Specialization 60 to 69 percent ...	168	1 344	29 609	77 866	47 649	76 325	52 058	1 541	21	20	24
Specialization 51 to 59 percent ...	77	786	15 420	42 088	23 262	40 890	30 891	1 198	20	22	26
Educational buildings											
All establishments specializing	402	1 583	38 541	109 851	84 856	106 018	78 579	3 833	12	12	23
Specialization 100 percent	137	228	3 894	18 760	18 760	18 564	12 910	\$196	33	34	43
Specialization 90 to 99 percent ...	99	290	7 375	21 599	19 950	19 222	13 034	2 377	23	27	36
Specialization 80 to 89 percent ...	S	101	2 659	S	S	D	S	D	27	S	D
Specialization 70 to 79 percent ...	\$47	337	8 845	22 963	16 902	22 715	16 576	\$248	27	25	59
Specialization 60 to 69 percent ...	10	331	8 752	18 805	11 536	D	14 434	D	5	6	D
Specialization 51 to 59 percent ...	S	S	7 016	S	S	S	S	593	S	S	14

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)
235210, PAINTING & WALL COVERING CONTRACTORS		
Total	13 067 298	1
Special trade contractors, total	12 498 255	1
Bridge painting contractor	254 032	4
Paint and wallpaper removal contractor	254 520	7
Painting contractor	10 363 024	1
Paper hanging and wall covering contractor	948 184	3
Ship painting contractor	102 458	1
Traffic lane painting contractor	576 038	5
Other construction activities, nec	459 751	6
Other business activities secondary to construction activities, total	46 114	11
Other business activities, secondary to construction activities, nec	46 114	11
Kind of business activity, nsk	63 178	31

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
235210, PAINTING & WALL COVERING CONTRACTORS											
Total	37 480	195 331	4 543 495	13 015 683	X	12 049 579	8 787 438	966 104	1	1	5
Establishments not specializing	1 127	6 968	165 760	493 753	X	432 065	314 277	61 688	7	6	7
Establishments specializing 51 percent or more	36 352	188 363	4 377 735	12 521 930	11 508 336	11 617 515	8 473 162	904 415	1	1	5
Bridge painting contractor											
All establishments specializing	163	1 806	62 460	193 355	175 209	179 886	123 886	13 470	8	6	4
Specialization 100 percent	114	793	29 619	92 622	92 622	84 491	57 875	8 131	14	7	6
Specialization 90 to 99 percent	14	276	8 850	26 714	25 279	25 674	16 649	1 040	24	15	21
Specialization 80 to 89 percent	22	455	13 676	44 024	36 520	43 545	30 559	479	19	18	6
Specialization 70 to 79 percent	⁵⁷	184	7 127	20 926	15 844	D	12 083	D	8	3	D
Specialization 60 to 69 percent	2	D	D	D	D	D	D	D	D	D	D
Specialization 51 to 59 percent	4	D	D	D	D	5 877	D	D	D	D	D
Paint and wallpaper removal contractor											
All establishments specializing	1 048	4 071	68 561	256 214	241 826	223 958	163 717	32 257	6	7	19
Specialization 100 percent	963	3 450	57 119	210 750	210 750	184 354	137 384	26 397	7	8	22
Specialization 90 to 89 percent	23	S	S	S	S	S	S	S	S	S	S
Specialization 80 to 89 percent	⁵⁴	⁵⁶	⁵⁷²⁶	^{51 406}	^{51 168}	^{51 223}	⁵⁶⁰⁸	⁵¹⁸³	46	46	51
Specialization 70 to 79 percent	⁵¹⁴	77	1 719	4 449	3 177	4 449	3 386	—	38	37	—
Specialization 60 to 69 percent	27	90	2 430	15 601	9 794	10 339	6 639	5 262	26	24	23
Specialization 51 to 59 percent	17	249	4 369	12 769	6 762	12 715	7 819	S	15	22	S
Painting contractor											
All establishments specializing	33 112	170 931	3 919 945	11 014 236	10 109 331	10 219 155	7 520 867	795 081	1	1	6
Specialization 100 percent	24 083	103 285	2 120 280	6 362 747	6 362 747	5 898 299	4 275 329	464 447	2	2	8
Specialization 90 to 99 percent	3 549	28 698	709 914	1 834 521	1 724 773	1 702 934	1 308 441	131 587	3	3	5
Specialization 80 to 89 percent	2 327	16 371	437 710	1 104 615	908 496	1 037 305	790 902	67 310	4	4	19
Specialization 70 to 79 percent	1 532	10 745	298 474	747 819	543 418	704 688	489 499	43 132	5	4	11
Specialization 60 to 69 percent	1 093	8 218	245 759	648 384	400 433	610 456	465 970	37 928	5	4	10
Specialization 51 to 59 percent	528	3 615	107 808	316 150	169 463	265 473	190 727	⁵⁰ 677	6	16	52
Paper hanging and wall covering contractor											
All establishments specializing	1 239	4 599	110 892	316 241	280 262	293 153	217 276	23 089	8	8	15
Specialization 100 percent	851	2 802	63 502	177 295	177 295	163 477	124 410	13 818	11	11	15
Specialization 90 to 99 percent	⁵⁶	344	11 587	30 011	27 723	29 010	19 852	1 001	26	27	18
Specialization 80 to 89 percent	80	210	7 145	19 446	16 276	17 581	11 774	1 865	23	25	36
Specialization 70 to 79 percent	⁵⁰	359	10 245	34 248	25 083	32 480	21 599	⁵¹ 768	33	33	45
Specialization 60 to 69 percent	164	778	16 199	49 348	30 535	45 546	35 478	⁵³ 803	21	20	63
Specialization 51 to 59 percent	³⁸	¹⁰⁶	² 215	⁵ 893	³ 349	⁵ 060	⁴ 163	S	57	57	S
Ship painting contractor											
All establishments specializing	³⁷	1 425	37 741	88 130	81 963	83 014	60 272	5 116	1	1	Z
Specialization 100 percent	11	915	22 078	47 359	47 359	D	31 648	D	Z	Z	D
Specialization 90 to 99 percent	2	D	D	D	D	D	D	D	D	D	D
Specialization 80 to 89 percent	2	D	D	D	D	D	D	D	D	D	D
Specialization 70 to 79 percent	1	D	D	D	D	D	D	D	D	D	D
Specialization 51 to 59 percent	S	⁴⁵	1 754	6 660	3 869	D	3 689	D	44	11	D
Traffic lane painting contractor											
All establishments specializing	563	4 830	164 476	595 730	561 723	575 964	351 170	19 766	6	5	10
Specialization 100 percent	423	3 158	115 588	431 205	431 205	421 618	243 101	9 587	7	7	19
Specialization 90 to 99 percent	21	556	17 412	56 401	52 433	55 509	37 100	891	9	6	12
Specialization 80 to 89 percent	¹⁰	157	4 623	21 570	18 282	⁵¹⁵ 745	11 215	5 825	30	30	4
Specialization 70 to 79 percent	⁴⁸	480	17 156	55 357	41 122	54 008	37 334	1 349	14	14	21
Specialization 60 to 69 percent	⁴⁹	343	6 493	19 736	12 498	18 573	15 779	1 163	38	29	24
Specialization 51 to 59 percent	¹¹	¹³⁶	³ 204	⁵¹¹ 462	⁶ 183	¹⁰ 510	⁶ 641	S	53	46	S

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			
235210, PAINTING & WALL COVERING CONTRACTORS										
United States	13 015 683	22 351	8 758 588	4 058	939 651	15 042	3 317 444	1	1	3
Alabama	157 850	220	87 975	84	20 015	233	49 861	6	11	12
Alaska	46 430	71	27 264	30	9 468	⁵⁴ 3	⁵⁹ 697	12	21	7
Arizona	246 295	391	182 994	85	11 444	253	51 857	5	9	8
Arkansas	64 610	167	51 767	40	3 756	34	9 086	17	21	31
California	1 696 892	2 760	1 239 155	38	25 498	1 617	432 239	2	3	5
Colorado	248 164	628	165 482	61	10 786	286	71 896	5	8	15
Connecticut	198 864	290	95 104	86	31 826	295	71 934	8	11	4
Delaware	44 625	89	26 280	77	16 165	11	2 179	5	6	10
District of Columbia	57 258	3	2 923	102	49 846	13	4 489	14	11	16
Florida	821 425	1 301	590 229	152	38 705	979	192 490	6	9	9
Georgia	398 505	434	277 431	113	20 989	419	100 085	10	15	23
Hawaii *	125 470	138	94 809	⁵⁴ 4	13 205	28	17 455	4	6	2
Idaho	53 014	282	38 658	123	3 611	71	10 745	13	16	17
Illinois	593 611	989	400 681	130	55 742	608	137 188	3	4	6
Indiana	278 818	591	184 298	144	29 398	309	65 122	4	6	9
Iowa	101 557	238	62 041	134	21 883	95	17 634	6	11	6
Kansas	108 292	245	55 080	99	27 334	196	25 878	7	12	11
Kentucky	122 762	150	65 977	124	21 534	289	35 250	10	20	9
Louisiana	220 612	208	146 092	91	31 097	141	43 423	7	11	1
Maine	52 459	132	40 435	10	9 370	⁵⁴ 4	2 654	13	19	Z
Maryland	294 648	469	202 398	70	27 471	406	64 780	11	17	1
Massachusetts	264 232	454	165 687	100	18 448	416	80 097	5	8	14
Michigan	455 320	798	313 112	52	4 374	522	137 835	8	9	10
Minnesota	234 226	424	183 472	69	8 881	200	41 873	5	6	11
Mississippi	63 660	71	34 100	58	6 770	146	22 790	8	14	3
Missouri	302 266	483	206 093	69	14 169	410	82 003	4	6	23
Montana	33 749	87	13 278	⁵² 3	7 128	⁵³ 9	13 343	14	29	4
Nebraska	63 274	195	49 375	⁵² 2	3 520	77	10 378	6	9	30
Nevada	110 625	127	46 625	86	32 613	59	31 388	6	13	5
New Hampshire	33 916	95	20 779	23	2 257	90	10 879	12	23	26
New Jersey	385 077	655	278 785	74	11 232	611	95 060	4	6	5
New Mexico	36 620	133	28 464	⁵⁴ 4	2 417	92	5 739	18	25	24
New York	758 567	1 128	457 130	102	29 185	1 086	272 252	3	4	18
North Carolina	398 288	819	271 232	139	29 553	491	97 503	7	10	17
North Dakota	21 559	65	14 413	⁵⁶ 3	6 269	S	⁵⁸ 76	10	13	19
Ohio	470 364	824	351 984	87	20 702	643	97 678	5	6	20
Oklahoma	94 426	241	62 803	⁵⁶ 3	⁵⁷ 197	98	24 426	14	22	43
Oregon	206 925	445	145 883	126	22 019	213	39 023	11	16	13
Pennsylvania	501 074	810	336 186	157	20 958	605	143 930	3	5	12
Rhode Island	50 450	239	39 564	⁵⁷ 4	7 619	24	3 267	17	21	20
South Carolina	174 020	302	81 520	182	35 844	301	56 656	9	15	23
South Dakota	30 453	70	16 114	⁵⁴ 1	⁵⁷ 690	⁵⁶ 6	6 649	20	33	62
Tennessee	189 563	286	104 886	94	26 329	225	58 348	7	9	23
Texas	941 409	1 002	641 033	89	22 092	869	278 284	5	7	10
Utah	92 508	260	70 469	8	2 471	79	⁵⁹ 19 568	10	13	3
Vermont	28 008	107	14 828	⁵⁵ 5	2 566	⁵⁴ 1	10 614	9	17	19
Virginia	434 039	776	248 250	173	66 421	571	119 368	4	6	9
Washington	366 986	803	281 508	98	21 558	379	63 919	4	5	8
West Virginia	30 011	75	13 303	53	10 629	17	6 080	7	13	11
Wisconsin	286 734	674	207 021	51	8 259	279	71 454	10	11	3
Wyoming	25 173	105	23 613	⁵⁹ 4	1 336	9	224	33	36	16

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 non-building 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

