

ASSESSORS' HANDBOOK
SECTION 581

EQUIPMENT INDEX AND PERCENT GOOD
FACTORS

JANUARY 2001

(USE FOR LIEN DATE JANUARY 1, 2001)

CALIFORNIA STATE BOARD OF EQUALIZATION

JOHAN KLEHS, HAYWARD
DEAN ANDAL, STOCKTON
CLAUDE PARRISH, TORRANCE
JOHN CHIANG, LOS ANGELES
KATHLEEN CONNELL, SACRAMENTO

FIRST DISTRICT
SECOND DISTRICT
THIRD DISTRICT
FOURTH DISTRICT
STATE CONTROLLER

JAMES E. SPEED, EXECUTIVE DIRECTOR



FOREWORD

This handbook section contains several tables of equipment index, percent good, and valuation factors that will aid in the mass appraisal of various types of personal property and fixtures. General instructions and pertinent information regarding the various factors are included in Chapters 1, 2, and 3. The tables are presented in Chapter 4.

Index factors (Tables 1, 2, and 3) may be used to estimate current replacement costs. Table 1, for commercial equipment, was compiled based on equipment price data published by the Marshall and Swift Publication Co., *Marshall Valuation Service*. Table 2, Industrial Machinery and Equipment Index Factors; and Table 3, Agricultural and Construction Equipment Index Factors, were derived using the Bureau of Labor Statistics' *Producer Price Indexes* as a basis. A discussion regarding the use of these factors can be found in Chapter 1.

Percent good factors (Tables 4 and 5) may be used in conjunction with the index factors to estimate replacement cost new less normal depreciation. Table 4, Machinery and Equipment Percent Good Factors, was derived from a system developed by the Iowa State University Engineering Research Center. (See Chapter 2 for more information.) Table 5, Agricultural and Construction Mobile Equipment Percent Good Factors, was derived from a detailed analysis of used equipment sales data.

For agricultural and construction mobile equipment, we suggest using the comparative sales approach if possible. Several valuation guides are available for this purpose (see Chapter 8). If the valuation guides are not used, the cost approach can be employed. The appropriate index factor from Table 3 should be applied to equipment cost along with a percent good factor from Table 5.

Valuation factors (Tables 6, 7, and 8) are intended to be applied directly to historical costs. The valuation factors in Table 6, Computer Valuation Factors, were developed by analyzing resale values of personal, mid-range, and mainframe computers as compared to original costs. The Board initially approved these factors in 1996. The valuation factors for semiconductor manufacturing equipment, Table 7, were approved by the Board in 1994 and continue to be recommended. The interim valuation factors for biopharmaceutical industry equipment and fixtures (Table 8) were adopted by the Board and effective as of the January 1, 1999 lien date.

All of the information presented in this section of the Assessors' Handbook is current for use as of the 2001 lien date, January 1, 2001. We hope the information presented proves useful to all concerned parties, and that it promotes uniformity of assessment. It is suggested that assessors utilize this data for mass appraisal purposes, but that does not preclude reliance on other documented evidence that results in a more accurate determination of assessed value.

Richard C. Johnson, Deputy Director
Property Taxes Department
California State Board of Equalization
January 2001

TABLE OF CONTENTS

CHAPTER 1: USE OF EQUIPMENT INDEX FACTORS	1
COMMERCIAL EQUIPMENT INDEX FACTORS.....	1
INDUSTRIAL EQUIPMENT INDEX FACTORS.....	2
MAXIMUM RECOMMENDED EQUIPMENT INDEX FACTOR	3
SUMMARY	4
CHAPTER 2: USE OF EQUIPMENT PERCENT GOOD FACTORS	5
MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS	5
AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS	6
CHAPTER 3: USE OF VALUATION FACTORS	10
COMPUTER VALUATION FACTORS.....	10
SEMICONDUCTOR MANUFACTURING EQUIPMENT VALUATION FACTORS.....	11
INTERIM VALUATION FACTORS FOR BIOPHARMACEUTICAL INDUSTRY EQUIPMENT & FIXTURES..	12
CHAPTER 4: EQUIPMENT INDEX FACTORS, PERCENT GOOD FACTORS, AND VALUATION FACTORS TABLES	13
TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS	15
TABLE 2: INDUSTRIAL MACHINERY AND EQUIPMENT INDEX FACTORS.....	16
TABLE 3: AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS.....	17
TABLE 4: MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS.....	18
TABLE 5: AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS..	19
TABLE 6: COMPUTER VALUATION FACTORS	20
TABLE 7: SEMICONDUCTOR MANUFACTURING EQUIPMENT VALUATION FACTORS	21
TABLE 8: INTERIM VALUATION FACTORS FOR BIOPHARMACEUTICAL INDUSTRY EQUIPMENT & FIXTURES	22
CHAPTER 5: INDUSTRY CLASSES BY INDEX FACTOR GROUPS	25
CHAPTER 6: EXPLANATION OF INDUSTRY CLASSES	26
CHAPTER 7: CLASSIFICATION OF IMPROVEMENTS AS STRUCTURE ITEMS OR FIXTURES	30
CHAPTER 8: VALUATION GUIDES	35

CHAPTER 1: USE OF EQUIPMENT INDEX FACTORS

The index factors tables found in Chapter 4 of this section of the handbook (Tables 1, 2, and 3) may be used to estimate current replacement costs for various groups of equipment. When an acquisition cost is multiplied by the factor for the year of acquisition, the product approximates the current replacement cost new in most instances.

COMMERCIAL EQUIPMENT INDEX FACTORS

Indexes for 12 classes of equipment are supplied in Chapter 4, Table 1, Commercial Equipment Index Factors. The following example demonstrates how to use the index factors to estimate replacement cost new.

Example 1.1: Estimating Replacement Cost New Using Commercial Equipment Index Factors

A taxpayer acquired office equipment for \$1,000 in 1997. What is the estimated replacement cost new of this office equipment as of the January 1, 2001 lien date?

The appropriate factor is found under the Office column for 1997.

TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS

Year	Bank	Garage	Hospital	Hotel	Laundry & Dry Cleaning	Library	Office
2000	100	100	100	100	100	100	100
1999	102	102	102	102	102	102	102
1998	103	103	104	104	103	103	103
1997	105	104	105	106	105	105	104

The factor is shown in the table as a percentage and must be converted to a decimal. The factor in decimal format is applied to the acquisition cost to compute the replacement cost new.

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New
Office	1997	\$1,000	1.04	\$1,040

In other words, it would require an expenditure of approximately \$1,040 on the 2001 lien date to replace office equipment purchased in 1997 for \$1,000.

INDUSTRIAL EQUIPMENT INDEX FACTORS

Six group indexes are supplied in Chapter 4, Table 2, Industrial Machinery and Equipment Index Factors. Chapter 5 of this handbook contains a listing of industry classes covered by each group index. A detailed description of each industry class follows in Chapter 6. Most groups cover more than one industry class because the cost index factors for these industries are numerically similar.

The following example demonstrates the use of the group factor to compute replacement cost new.

Example 1.2: Estimating Replacement Cost New Using Industrial Machinery and Equipment Index Factors

On the 2001 lien date, what is the replacement cost new for rubber tire manufacturing equipment acquired for \$100,000 in 1997?

The appropriate index factor is found in Group 4 across from the year of acquisition, 1997. Group 4 is used because the listing of industry classes by group includes rubber products in Group 4 (see Chapter 5).

TABLE 2: INDUSTRIAL MACHINERY AND EQUIPMENT INDEX FACTORS

Year	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
2000	100	100	100	100	100	100
1999	101	100	101	101	101	101
1998	101	101	102	102	103	102
1997	102	101	103	103	104	103

The appropriate index factor of 103 percent is converted to a decimal (1.03) and multiplied by the acquisition cost as follows:

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New
Group 4	1997	\$100,000	1.03	\$103,000

In other words, it would require an expenditure of approximately \$103,000 on the 2001 lien date to replace rubber tire manufacturing equipment acquired in 1997 for \$100,000.

MAXIMUM RECOMMENDED EQUIPMENT INDEX FACTOR

Because rapid technological changes have taken place in recent years, Board staff recommends that appraisers use a maximum equipment index factor when valuing equipment. The recommended maximum factor is the factor for an age equal to 125 percent of the estimated average service life. The following example demonstrates the use of the 125 percent maximum.

Example 1.3: Estimating the Maximum Recommended Equipment Index Factor

A taxpayer acquired warehouse equipment for \$15,000 in 1983. What is the maximum recommended equipment index factor if this equipment has a 12 year average service life?

- Average service life of 12 years multiplied by the recommended 125 percent maximum equals 15 years ($12 \times 1.25 = 15$), recommended maximum.
- Since the recommended maximum is 15 years, the appropriate index factor is the index factor corresponding to an item acquired in 1986 (2001 - 15). The index factor is 133 percent.
- Actual age of equipment on 2001 lien date is 18 years (2001 - 1983 = 18). Without using the recommended maximum, the index factor is 139 percent.

TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS

Year	Office	Rest- aurant	Retail	Theater	Ware- House	Service
2000	100	100	100	100	100	100
1999	102	102	102	102	102	102
1998	103	104	103	103	103	103
1986	134	145	140	138	133	139
1985	136	148	141	140	135	141
1984	140	152	146	145	138	145
1983	143	156	150	148	139	148

The following table indicates the estimated replacement cost new of the property using the maximum recommended index factor (1.33) and the index factor using the actual age (1.39). Application of the maximum recommended index factor results with an estimated replacement cost new of \$19,950 to replace warehouse equipment purchased in 1983 for \$15,000. Application of the index factor associated with the actual age of the property results with an estimated replacement cost new of \$20,850 to replace the warehouse equipment purchased in 1983 for \$15,000. The example indicates the difference in the estimate of replacement cost new when the recommended maximum is not used.

Example 1.3 -- continued

	Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New
Maximum	Warehouse	1986 ¹	\$15,000	1.33	\$19,950
Actual	Warehouse	1983	\$15,000	1.39	\$20,850

Use of the 125 percent limit is a recommendation. It is not intended to replace appraiser judgment. If the appraiser believes that using the 125 percent limit is inappropriate, the appraiser should provide a well-supported explanation of the reason for deviating from the recommendation.

SUMMARY

Examples 1.1, 1.2, and 1.3 illustrate the use of Tables 1 and 2. Table 3, Agricultural and Construction Equipment Index Factors, is used in the same manner. (See Chapter 2, Examples 2.2 and 2.3, for complete examples related to agricultural and construction equipment.)

Although this handbook section contains appropriate index factors for many types of taxable equipment found in California, better information is available from other sources in many cases. It may be possible to find actual, current, replacement prices for some types of equipment. Actual current replacement prices are nearly always better indicators of replacement value than indexed acquisition costs.

As discussed in this chapter, the index factor is used to convert acquisition cost to an estimate of replacement cost new. The next chapter discusses the use of percent good factors and tables. The percent good factor converts the replacement cost new to replacement cost new less normal depreciation.

¹ Actual year of acquisition is 1983. The year 1986 represents the recommended maximum.

CHAPTER 2: USE OF EQUIPMENT PERCENT GOOD FACTORS

MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS

Table 4, Machinery and Equipment Percent Good Factors, presented in Chapter 4, is designed to assist the appraiser in estimating replacement cost new less normal depreciation of commercial and industrial equipment in conjunction with index factors as discussed in Chapter 1.² This table was derived using the "individual method" of computation. The rationale and the mathematics of the methods of computation are explained in Assessors' Handbook Section 582 (AH 582), *Explanation of the Derivation of Equipment Percent Good Factors*.

The rate of return used to compute the factors shown in Table 4 is calculated annually and is shown at the top of the table. The column headings represent the average service life expectancy of the equipment under consideration. Each column contains the percent good factor for the corresponding age.³

Example 2.1 carries forward the calculation shown in Chapter 1, Example 1.1, to illustrate use of the percent good factors found in Table 4.

Example 2.1: Estimating Replacement Cost New Less Normal Depreciation

Continuing with the facts from Example 1.1, what is the replacement cost new less normal depreciation on the 2001 lien date for office equipment purchased in 1997 at an acquisition cost of \$1,000?

- Facts derived in Example 1.1: Index factor 1.04, replacement cost new \$1,040.
- Appraiser estimates average service life of 12 years.
- The appropriate percent good factor (73%) can be found in the 12 year life column at year 1997, in Table 4.

TABLE 4: MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS
INDIVIDUAL PROPERTIES—AVERAGE SERVICE LIFE

7.25% Rate of return

Year Acquired	AGE	5 Years	10 Years	12 Years	15 Years	AGE	Year Acquired
2000	1	81	92	94	95	1	2000
1999	2	62	84	87	91	2	1999
1998	3	45	75	80	86	3	1998
1997	4	29	66	73	81	4	1997

² See Table 5, Chapter 4, for agricultural and construction mobile equipment percent good factors, and Example 2.2 for an example of application.

³ Life expectancies are derived from the R-3 survivor curve. No minimum percent good is intended.

Example 2.1 -- continued

The percent good factor is applied to the replacement cost new to compute the replacement cost new less normal depreciation. (The factor, in Table 4, is shown as a percentage and must be converted to a decimal in order to do the computation.)

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New	Percent Good	Replacement Cost Less Normal Depreciation
Office	1997	\$1,000	1.04	\$1,040	.73	\$759

To reiterate, applying the index factor and the percent good factor to office equipment purchased in 1997 for \$1,000 results in an estimated value of \$759 on lien date January 1, 2001. It is important to note that the percent good factor reflects only normal depreciation. Additional value adjustments may be necessary if the property has experienced above- or below-normal loss in value.

AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS

The percent good factors provided in Table 5, Chapter 4, are to be used when determining the loss of value for agricultural and construction mobile equipment. The factors presented were derived from used equipment sales data. Table 5 identifies a pattern of depreciation for three groups of equipment: (1) construction mobile equipment, (2) agricultural mobile equipment - *except* harvesters, and (3) agricultural mobile equipment - harvesters.

Within each group, two columns of percent good figures ("new" and "used") are listed. The column labeled "new" should be used to measure depreciation if the subject property was acquired new; conversely, the column labeled "used" should be applied when the equipment was purchased used.

The following examples demonstrate the use of the agricultural and construction index and percent good factors found in Table 3 and Table 5 respectively.

Example 2.2: Estimating Replacement Cost New Less Normal Depreciation for Construction Equipment Acquired New

On the 2001 lien date, what is the assessable value of a construction motor grader acquired new in 1997 for \$100,000?

The first step is locating the appropriate index. As indicated below the index factor is 104 percent.

TABLE 3: AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS

YEAR	Agricultural	Construction
2000	100	100
1999	100	101
1998	101	102
1997	102	104

The second step is determining the appropriate percent good factor. The percent good factor indicated below for construction equipment purchased new in 1997 is 55 percent.

TABLE 5: AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS

CONSTRUCTION MOBILE EQUIPMENT

Year	Age	New	Used	Age
2000	1	74	91	1
1999	2	66	81	2
1998	3	60	74	3
1997	4	55	68	4

The third step is to apply the factors to the acquisition cost to determine the replacement cost new less normal depreciation, or estimated value.

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New	Percent Good	Replacement Cost Less Normal Depreciation
Construction	1997	\$100,000	1.04	\$104,000	.55	\$57,200

In other words, the estimated value of construction equipment acquired new in 1997 at an acquisition cost of \$100,000 is \$57,200.

**Example 2.3: Estimating Replacement Cost New Less Normal Depreciation
for Construction Equipment Acquired Used**

What is the estimated value of a construction motor grader acquired used in 1997 for \$100,000?

As in Example 2.2, the first step is determining the index factor. The index factor is 104 percent.

**TABLE 3: AGRICULTURAL AND CONSTRUCTION EQUIPMENT
INDEX FACTORS**

YEAR	Agricultural	Construction
2000	100	100
1999	100	101
1998	101	102
1997	102	104

The second step is determining the percent good factor for used construction equipment purchased in 1997 (68%).

**TABLE 5: AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT
PERCENT GOOD FACTORS**

CONSTRUCTION MOBILE EQUIPMENT

Year Acquired	Age	New	Used	Age
2000	1	74	91	1
1999	2	66	81	2
1998	3	60	74	3
1997	4	55	68	4

The third step is to apply the factors to the acquisition cost of the used construction equipment, to determine the replacement cost new less normal depreciation, or estimated value.

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New	Percent Good	Replacement Cost Less Normal Depreciation
Construction	1997	\$100,000	1.04	\$104,000	.68	\$70,720

In other words, the estimated value of construction equipment acquired used in 1997 at an acquisition cost of \$100,000 is \$70,720.

For agricultural and construction mobile equipment, where "new" or "used" status cannot be determined from appraisal data at hand, application of percent good factors associated with the "new" column will provide the more conservative estimate of value. This can be seen by comparing the resulting values in Examples 2.2 and 2.3, since both examples use construction equipment purchased in 1997 for \$100,000 (value of \$57,200 for equipment purchased **new**; value of \$70,720 for equipment purchased **used**).

CHAPTER 3: USE OF VALUATION FACTORS

COMPUTER VALUATION FACTORS

Computer valuation tables were originally developed by the Board in 1995, and amended in 1997. The factors were developed by analyzing resale values of personal, mid-range, and mainframe computers as compared to original costs. These factors, provided in Table 6, Chapter 4, are intended to be applied directly to historical costs. As such, the tables include the effects of price changes (index or trend) and depreciation. Before using these tables, it is critically important to understand what types of equipment are intended to be valued using the tables.

First, the tables are intended to apply to non-production computers. Non-production computers are computers, including related equipment, designed for general business purposes. Non-production computers can be mainframe, mid-range, or personal computers (including networked personal computers). Related equipment includes monitors, printers, scanners, disk drives, cables, and other electronic peripherals commonly used as part of a non-production computer system.

The definition of non-production computers does not include computers embedded in machinery nor does it include equipment or computers specifically designed for use in any other application directly related to manufacturing. For example, equipment used for the manufacture of computers, semiconductors, or other computer components are production computers; therefore, the computer valuation factors are not appropriate for the valuation of such equipment. The following example demonstrates the use of the computer valuation factors.

Example 3.1: Estimating Replacement Cost New Less Normal Depreciation Using Valuation Factors

On the 2001 lien date, what is the estimated value of a mainframe computer acquired in 1998 for \$525,000?

The first step is determining the valuation factor. As shown on the table below, the valuation factor is 35%.

TABLE 6: COMPUTER VALUATION FACTORS

Year Acquired	Age	PERSONAL COMPUTERS (\$25,000 or less)	MID-RANGE COMPUTERS (\$25,000.01 to \$500,000)	MAINFRAME COMPUTERS (\$500,000.01 or more)
2000	1	66	73	79
1999	2	39	47	54
1998	3	24	30	35

Example 3.1 -- continued

Since the valuation factor includes the effect of price changes (index or trend) and depreciation, the second step is to apply the valuation factor to the acquisition cost of the mainframe computer equipment.

Equipment Group	Year of Acquisition	Cost of Acquisition	Valuation Factor	Replacement Cost Less Normal Depreciation
Mainframe Computers	1998	\$525,000	.35	\$183,750

The replacement cost new less normal depreciation of mainframe computer equipment purchased in 1998 for \$525,000 is \$183,750.

SEMICONDUCTOR MANUFACTURING EQUIPMENT VALUATION FACTORS

The semiconductor manufacturing equipment valuation table (Chapter 4, Table 7) presents factors initially approved by the Board in 1994.⁴ The table is based on a 6.5 year economic life. Similar to the computer valuation factors, the semiconductor manufacturing equipment valuation factors are intended to be applied directly to historical costs. The tables include the effects of price changes (index or trend) and depreciation. As shown in the example demonstrating the use of computer valuation factors (Example 3.1), only one factor is applied to the acquisition cost to determine the replacement cost new less normal depreciation.

⁴ For more information regarding the original study and development of these factors, please refer to Letter To Assessor (LTA) 90/36, 92/34, and 94/24.

INTERIM VALUATION FACTORS FOR BIOPHARMACEUTICAL INDUSTRY EQUIPMENT & FIXTURES

In 1999 the Board adopted interim guidelines pertaining to the assessment of specific property owned and/or used by the biopharmaceutical industry.⁵ These guidelines, which were effective as of the January 1, 1999 lien date, included a definition of reporting categories for these types of firms, and a valuation table for use in valuing these types of properties for assessment purposes.⁶

On standard annual property statements, pursuant to these guidelines, biopharmaceutical firms should report specific types of equipment and fixtures as described below:

<u>Form 571-L Category</u>	<u>Description</u>
<u>SCHEDULE A</u>	
Machinery and Equipment	General Laboratory Equipment and High Technology Analytical Instruments
Other Equipment	Commercial Manufacturing Equipment
Tools, Molds, Dies, Jigs	Pilot Scales Manufacturing Equipment
<u>SCHEDULE B</u>	
Fixtures	Fixtures and Process Piping

A sample listing of the equipment and fixtures covered by these descriptions is included in Chapter 4, following Table 8.

Table 8, Interim Valuation Factors for Biopharmaceutical Industry Equipment & Fixtures, presents the Board adopted valuation table for the biopharmaceutical industry. The factors are intended to be applied directly to historical costs for mass appraisal purposes, as are the computer valuation factors and the semiconductor manufacturing equipment valuation factors. (See Example 3.1 for a demonstration of application.) As illustrated in Table 8, a minimum factor of ten percent is to be applied.

⁵ Firms engaged in research and/or manufacturing activities that use organisms, or materials derived from organisms, and their cellular subcellular and molecular components to discover and/or provide products for human or animal therapeutics and diagnostics. Biopharmaceutical activities make use of living organisms to develop and/or produce commercial products, as opposed to conventional pharmaceutical activities, that make use of chemical compounds to develop and/or produce commercial products. Firms engaging in agriculture, animal husbandry, and pharmaceutical delivery in the area of research and/or manufacturing are specifically excluded.

⁶ See also LTA 99/54.

CHAPTER 4: EQUIPMENT INDEX FACTORS, PERCENT GOOD FACTORS, AND VALUATION FACTORS TABLES

(Use for Lien Date January 1, 2001)

INDEX FACTOR TABLES

Table 1: Commercial Equipment Index Factors

These factors are derived using data published by the Marshall and Swift Publication Co., *Marshall Valuation Service*. The indexes are to be used for each appropriate class of equipment.

Table 2: Industrial Machinery and Equipment Index Factors

These indexes are derived from data in the Bureau of Labor and Statistics' *Producer Price Indexes*. See Chapters 5 and 6 for detailed descriptions of each group index.

Table 3: Agricultural and Construction Equipment Index Factors

These indexes are derived from data in the Bureau of Labor Statistics' *Producer Price Indexes*.

PERCENT GOOD FACTOR TABLES

Table 4: Machinery and Equipment Percent Good Factors

These factors are derived from a system developed by the Iowa State University Engineering Research Center (see AH 582). The rate of return used to compute these factors is calculated annually and is shown on the table.

Table 5: Agricultural and Construction Mobile Equipment Percent Good Factors

These factors were derived from a detailed analysis of used equipment sales data.

VALUATION FACTORS TABLES**Table 6: Computer Valuation Factors**

These factors are intended to be applied directly to historical costs of non-production computers, computers, including related equipment, designed for general business purposes.

Table 7: Semiconductor Manufacturing Equipment Valuation Factors

These factors are intended to be applied directly to historical costs of semiconductor manufacturing equipment.

Table 8: Interim Valuation Factors for Biopharmaceutical Industry Equipment and Fixtures

These factors are intended to be applied directly to historical costs of specific property owned and/or used by the biopharmaceutical industry.

TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS

2000 COST = 100

Year	Bank	Garage	Hospital	Hotel	Laundry & Dry Cleaning	Library	Office	Rest- aurant	Retail	Theater	Ware- house	Service	Year
2000	100	100	100	100	100	100	100	100	100	100	100	100	2000
1999	102	102	102	102	102	102	102	102	102	102	102	102	1999
1998	103	103	104	104	103	103	103	104	103	103	103	103	1998
1997	105	104	105	106	105	105	104	106	105	105	104	105	1997
1996	106	106	107	108	107	106	106	108	106	106	105	106	1996
1995	109	110	111	111	110	110	109	112	110	110	108	110	1995
1994	112	113	114	115	113	114	112	115	114	113	112	113	1994
1993	115	115	116	118	116	116	113	118	116	116	114	116	1993
1992	117	116	118	120	117	118	114	120	118	117	116	117	1992
1991	118	119	121	123	119	120	116	123	120	119	118	120	1991
1990	121	122	124	127	123	123	119	127	124	122	121	123	1990
1989	127	128	131	133	129	129	125	134	130	128	126	129	1989
1988	132	133	137	139	134	135	130	140	135	134	130	134	1988
1987	134	135	140	142	136	137	132	142	138	136	132	137	1987
1986	136	136	142	144	138	138	134	145	140	138	133	139	1986
1985	137	138	144	147	140	140	136	148	141	140	135	141	1985
1984	142	142	148	152	144	145	140	152	146	145	138	145	1984
1983	145	145	152	155	146	148	143	156	150	148	139	148	1983
1982	150	152	159	162	153	154	148	164	156	155	145	154	1982
1981	164	169	175	178	168	169	162	180	170	170	161	170	1981
1980	176	186	192	194	185	184	175	197	184	184	175	185	1980
1979	192	204	210	212	201	201	189	216	201	201	191	202	1979
1978	207	220	225	229	216	217	202	233	217	216	206	217	1978
1977	216	231	236	240	227	228	210	245	229	227	217	228	1977
1976	229	244	249	254	240	241	221	261	244	241	235	242	1976
1975	253	273	276	280	269	266	244	288	265	265	256	267	1975
1974	290	314	317	315	314	308	279	332	305	307	289	306	1974
1973	302	324	330	329	324	322	291	344	318	319	297	318	1973
1972	310	337	343	337	334	330	298	353	326	328	307	328	1972
1971	327	357	366	352	355	346	313	368	343	344	327	345	1971
1970	350	378	392	373	376	369	333	385	364	366	345	366	1970
1969	365	394	411	390	390	385	348	401	380	382	357	382	1969
1968	380	406	430	407	405	402	363	417	397	399	370	398	1968
1967	398	419	447	426	419	422	379	433	414	417	382	414	1967
1966	410	431	462	436	430	430	386	442	421	424	391	424	1966
1965	414	440	468	440	432	434	389	444	425	428	393	428	1965
1964	416	446	474	442	435	436	392	445	428	431	396	431	1964
1963	418	449	475	447	435	439	394	449	431	434	398	434	1963
1962	420	453	478	450	436	441	397	452	433	436	399	436	1962
1961	418	455	479	452	429	442	398	452	435	438	396	436	1961
1960	424	460	484	456	428	446	401	452	439	441	397	439	1960
1959	430	471	493	460	433	448	404	459	441	444	408	445	1959
1958	444	487	505	469	437	463	417	480	456	458	420	458	1958

TABLE 2: INDUSTRIAL MACHINERY AND EQUIPMENT INDEX FACTORS

2000 COST = 100

YEAR	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
2000	100	100	100	100	100	100
1999	101	100	101	101	101	101
1998	101	101	102	102	103	102
1997	102	101	103	103	104	103
1996	104	102	104	104	105	105
1995	105	104	106	106	108	108
1994	110	106	110	109	112	111
1993	112	107	112	111	114	113
1992	114	109	113	113	116	115
1991	114	111	115	115	119	118
1990	116	114	118	119	123	122
1989	117	117	122	123	128	127
1988	123	122	127	128	133	133
1987	131	125	133	133	138	137
1986	133	127	135	135	141	139
1985	134	129	137	138	145	141
1984	137	132	140	141	149	145
1983	140	135	144	145	154	148
1982	141	138	147	149	159	151
1981	146	146	155	157	167	160
1980	160	160	171	174	186	176
1979	175	179	190	195	208	200
1978	192	196	208	214	230	221
1977	209	212	226	233	253	242
1976	222	226	241	250	271	262
1975	230	239	256	266	291	279
1974	268	277	298	309	338	326
1973	329	320	350	361	395	382
1972	341	331	364	376	414	398
1971	351	338	374	385	424	407
1970	369	351	390	401	442	421
1969	389	368	411	422	466	445
1968	402	381	426	438	486	463
1967	411	393	443	456	508	481
1966	418	406	457	473	529	500
1965	432	420	474	491	551	523
1964	438	426	480	499	561	537
1963	440	429	485	505	570	545
1962	440	430	488	509	578	548

TABLE 3: AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS

2000 COST = 100		
Year	Agricultural	Construction
2000	100	100
1999	100	101
1998	101	102
1997	102	104
1996	104	106
1995	107	109
1994	111	111
1993	114	113
1992	118	115
1991	121	119
1990	125	122
1989	130	127
1988	135	133
1987	139	136
1986	140	139
1985	140	141
1984	141	143
1983	145	145
1982	152	149
1981	164	159
1980	183	176
1979	204	199
1978	223	220
1977	240	239
1976	259	257
1975	281	276
1974	330	336
1973	377	391
1972	388	406
1971	403	420
1970	419	441
1969	437	463
1968	457	484
1967	475	510

TABLE 4: MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS

INDIVIDUAL PROPERTIES--AVERAGE SERVICE LIFE
7.25% Rate of Return

Year	Acq'd	AGE	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	20	22	25	30	35	40	AGE	Year	Acq'd
2000	1	67	76	81	85	87	89	91	92	93	94	94	95	95	96	97	97	98	98	99	99	99	99	1	2000	
1999	2	38	53	62	69	74	78	81	84	86	87	89	90	91	92	93	94	95	96	97	98	99	2	1999		
1998	3	16	32	45	54	61	67	71	75	78	80	82	84	86	88	89	91	92	94	96	97	98	3	1998		
1997	4	6	17	29	40	49	56	62	66	70	73	76	79	81	84	85	88	90	92	94	96	97	4	1997		
1996	5	1	8	17	28	37	45	52	58	62	66	70	73	75	80	81	84	87	89	93	95	96	5	1996		
1995	6		2	10	18	27	35	43	49	55	59	63	67	70	75	77	81	84	87	91	93	95	6	1995		
1994	7		1	5	11	19	26	34	41	47	52	57	61	64	70	73	77	80	85	89	92	94	7	1994		
1993	8			1	6	12	19	26	33	40	45	50	55	59	66	68	73	77	82	87	91	93	8	1993		
1992	9				3	8	13	20	26	32	39	44	49	53	61	64	69	74	79	85	90	92	9	1992		
1991	10				1	4	9	14	20	26	32	38	43	48	56	59	66	70	76	83	88	91	10	1991		
1990	11					1	6	10	15	21	26	32	37	42	51	55	62	67	74	81	87	90	11	1990		
1989	12						3	7	12	16	22	27	32	37	46	50	57	63	71	79	85	89	12	1989		
1988	13						1	4	9	13	17	22	27	32	41	46	53	60	68	77	83	88	13	1988		
1987	14							1	6	10	13	18	23	27	37	41	49	56	64	75	82	87	14	1987		
1986	15								3	7	11	14	19	23	33	37	45	52	61	72	80	85	15	1986		
1985	16								1	4	8	12	15	19	28	33	41	48	58	70	78	84	16	1985		
1984	17									2	5	9	12	16	25	29	37	45	55	67	76	83	17	1984		
1983	18									1	3	7	10	14	21	25	33	41	52	65	74	81	18	1983		
1982	19										1	5	8	11	18	22	30	38	48	62	72	80	19	1982		
1981	20											2	5	9	15	19	27	34	45	60	70	78	20	1981		
1980	21											1	4	7	13	16	24	31	42	57	68	76	21	1980		
1979	22												1	4	11	14	21	28	39	54	66	75	22	1979		
1978	23													2	9	12	18	25	36	51	64	73	23	1978		
1977	24													1	7	10	16	22	33	49	62	71	24	1977		
1976	25														5	8	14	19	30	46	59	70	25	1976		
1975	26														2	6	12	18	27	43	57	68	26	1975		
1974	27															1	4	10	15	25	41	55	66	27	1974	
1973	28																2	9	14	22	38	53	64	28	1973	
1972	29																1	6	12	20	35	50	62	29	1972	
1971	30																	4	10	18	33	47	60	30	1971	
1970	31																	3	8	17	30	45	58	31	1970	
1969	32																	1	6	15	28	43	56	32	1969	
1968	33																		5	13	26	41	54	33	1968	
1967	34																		2	12	24	38	52	34	1967	
1966	35																		1	10	22	36	49	35	1966	
1965	36																			8	21	33	48	36	1965	
1964	37																			6	19	32	45	37	1964	
1963	38																			4	17	30	43	38	1963	
1962	39																			3	16	28	41	39	1962	
1961	40																			1	14	26	39	40	1961	

NO MINIMUM PERCENT GOOD INTENDED

**TABLE 5: AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT
PERCENT GOOD FACTORS**

Year Acquired	Age	CONSTRUCTION MOBILE EQUIPMENT		AGRICULTURAL MOBILE EQUIPMENT				Age
		New	Used	EXCEPT HARVESTERS		HARVESTERS		
				New	Used	New	Used	
2000	1	74	91	78	92	74	90	1
1999	2	66	81	70	82	64	78	2
1998	3	60	74	64	75	57	69	3
1997	4	55	68	58	68	50	60	4
1996	5	51	62	52	62	43	53	5
1995	6	47	58	47	56	38	46	6
1994	7	42	52	42	50	33	40	7
1993	8	38	47	38	45	29	35	8
1992	9	35	43	34	40	25	30	9
1991	10	31	38	30	36	21	26	10
1990	11	28	34	27	32	19	23	11
1989	12	26	32	25	30	17	21	12
1988	13	24	29	23	28	15	18	13
1987	14	22	27	22	26		16	14
1986	15	20	25	20	23		14	15
1985	16	19	23	18	21		14	16
1984	17	16	20		19			17
1983	18	13	17		17			18
1982	19	12	13					19
1981	20	11	11					20
1980	21		9					21

NO MINIMUM PERCENT GOOD INTENDED

USE OF TABLE 5

The percent good table is designed to assist the appraiser in determining total loss of value once replacement cost new (RCN) has been determined for the captioned equipment.

The table, derived from used equipment sales data, identifies a pattern of depreciation for three groups of equipment. Within each group two columns of percent good figures, "new" and "used," are listed. The column labeled "new" should be used to measure depreciation if the subject property was acquired new; conversely, the column labeled "used" should be applied when the equipment was purchased used.

TABLE 6: COMPUTER VALUATION FACTORS

Year Acquired	Age	PERSONAL COMPUTERS (\$25,000 or less)	MID-RANGE COMPUTERS (\$25,000.01 to \$500,000)	MAINFRAME COMPUTERS (\$500,000.01 or more)
2000	1	66	73	79
1999	2	39	47	54
1998	3	24	30	35
1997	4	15	19	22
1996	5	10	12	14
1995	6	6	8	9
1994	7	4	5	6
1993	8	2	3	4
1992	9	2	2	2

USE OF TABLE 6

Computer valuation tables were originally developed by the Board in 1995, and amended in 1997, by analyzing resale values of personal, mid-range, and mainframe computers as compared to original costs.⁷ These factors are intended to be applied directly to historical costs of non-production computers. Non-production computers are computers, including related equipment, designed for general business purposes. Non-production computers do not include computers embedded in machinery and do not include equipment or computers specifically designed for use in any other application directly related to manufacturing. No estimates of economic lives are stated or implied, since the tables were not derived by analyzing price indexes and economic life patterns.

⁷ Prior to January 2000, computer valuation tables were distributed via Letter To Assessor (LTA). For more information regarding the original study and development of these factors, please refer to LTA's 97/18, 96/27, and 96/19.

TABLE 7: SEMICONDUCTOR MANUFACTURING EQUIPMENT VALUATION FACTORS

Year Acquired	Age	SEMICONDUCTOR MANUFACTURING EQUIPMENT
2000	1	80
1999	2	62
1998	3	47
1997	4	34
1996	5	24
1995	6	16
1994	7	10

USE OF TABLE 7

The semiconductor manufacturing equipment valuation table was initially approved by the Board in 1994.⁸ The Board recommends the above table for use when valuing semiconductor manufacturing equipment. The table is based on a 6.5 year economic life. These factors are intended to be applied directly to historical costs.

⁸ For more information regarding the original study and development of these factors, please refer to LTA's 90/36, 92/34, and 94/24.

TABLE 8: INTERIM VALUATION FACTORS FOR BIOPHARMACEUTICAL INDUSTRY EQUIPMENT & FIXTURES

Year Acquired	Age	SCHEDULE A			SCHEDULE B
		Machinery & Equipment (A-1)	Other Equip. (A-3)	Tools, Molds, Dies, Jigs (A-4)	Fixtures (B-2)
2000	1	85	92	89	92
1999	2	69	83	78	83
1998	3	54	75	67	75
1997	4	40	66	56	66
1996	5	28	57	45	57
1995	6	18	49	35	49
1994	7	11	40	26	40
1993	8	10	33	19	33
1992	9	10	26	13	26
1991	10	10	20	10	20
1990	11	10	15	10	15
1989	12	10	11	10	11
Prior	Prior Years	10	10	10	10

USE OF TABLE 8

The interim valuation factor table pertaining to the assessment of specific property owned and/or used by the biopharmaceutical industry was adopted by the Board in 1999, and became effective as of the lien date January 1, 1999. For mass appraisal purposes, these factors are intended to be applied directly to the historical costs of property for each category. As illustrated, a minimum percent good factor of ten percent applies.

Following is a sample listing of the equipment and fixtures included in these schedules and categories. Other types of equipment (office equipment, computers, etc.) should be valued using the index factors and percent good factors or the valuation factors presented in the remainder of the handbook as appropriate.

SCHEDULE A**Machinery and Equipment***(Schedule A-1)*

<u>General Laboratory Equipment</u>	<u>Hi-tech Analytical Instruments</u>
Analytical Balances Anesthetic Machines Animal Cages Autoclaves Autosamplers Bacteria Identification Systems Cameras used in research Centrifuges (and rotors) Chart Recorders Conductivity Monitors Control Valves (laboratory scale) Densitometers Digital Counters Evaporator Fermentors (< 100 liters) Fume Hoods (portable) Glass Handling Equipment Glassware Washers Glucose Analyzers Ice Machines Imaging Equipment Incubators Liquid Samplers Micromanipulators Microscopes Microtomes Optical Scanning Detectors Organic Synthesizers Osmometers Ovens pH Analyzers Pipettes Pumps (laboratory scale) Radiation Monitors Reactor Vessels (<100 liters) Refrigerators and Freezers Sample Handling Equipment Samplers Shakers Sterilizers Stirrers Ultrasonic Cleaning Systems Waterbaths	Cell Fusion Devices Cell Sorting Instruments – FACS Chemstations – computer controlled Cryostats Chromatography – Desktop Cytometry Instruments DNA Sequencers and Analyzers DNA Synthesizers and Purifiers Electrolyte Analyzers Electron Scanning Microscopes Electrophoresis – Gas or Liquid Mass Spectrometers – NMR, FTIR, AA, MALDI Molecular Imaging Equipment Particle Counters and Analyzers Peptide Synthesizers and Sequencers Protein Synthesizers Scintillation Counters Spectrometers Spectrophotometers Thermal Analysis Instruments Viscometers X-Ray Diffractometers Other unspecified equipment that is similar in character, scale and technology

Other Equipment*(Schedule A-3)*

Air Sampler	Commercial Scale Stainless Steel Tanks and Vessels
Clean Room Monitor	Custom Roller Bottle Apparatus
Commercial Scale Agitator	Equipment Skids
Commercial Scale Control Devices	Filter Housings, Stainless Steel
Commercial Scale Fermentation Tanks and Controls	Floor Scale
Commercial Scale Glycol System	Flow Meter
Commercial Scale Mix Tanks, Stainless Steel	Piping and tubing between Production Vessels
Commercial Scale Mixers	Roller Bottle Machine Capper
Commercial Scale Pumps	Roller Bottle Machine Unit
Commercial Scale Purification Vessels and Devices	Roller Racks
Commercial Scale RO Water Unit and System	Sanitary Valves (personal property)
	WFI Water Still
	Other Commercial Scale Control Devices
	Other Commercial Scale Tanks, Vessels and Devices

Tools, Molds, Dies, Jigs*(Schedule A-4)*

Mobile Pilot Plants	Skids
Pilot Scale Fermentation Control	Small Fermentors (< 500 liters)
Pilot Scale Mixers	Small Scale Process Control Devices
Pilot Scale Pumps and Hose Apparatus	Individual components aggregated into pilot scale manufacturing equipment systems
Pilot Scale Purification Vessels and Devices	

SCHEDULE B**Fixtures***(Schedule B-2)*

Benches and Counters, Built-in	HVAC systems and ductwork unique to process
Cabinets, Built-in	Individual components aggregated into fixtures
Casework, Metal	Piping and plumbing related to process
Casework, Wood	RO, DI, WFI Water Piping
Clean In Place Equipment	Safety Stations and First Aid Cabinets
Clean Room Air Ducts/Handlers	Clean Room Special Wall Surfaces
Clean Room Filter Units	Steam supply unique to process
Clean Room Fixtures, not specified	Walk-in freezers and refrigerator units
Clean Room Special Floor Surfaces	Wall Cases, Built-in
Cleanrooms	Waste disposal equipment unique to process
Electric supply systems unique to process	Water supply systems unique to process (WFI)
Emergency Generators (for process)	Water, electric, and gas hook-ups to lab stations
Feedwater System	Other items meeting the definition of a fixture as specified in Property Tax Rule 122.5
Fiber optic communication systems for process	
Fume Hoods (built-in)	

CHAPTER 5: INDUSTRY CLASSES BY INDEX FACTOR GROUPS

Group No. 1

- Petroleum Refining

Group No. 2

- Electronic Equipment
- Mining
- Professional and Scientific Instruments

Group No. 3

- Cement Manufacturing
- Chemicals and Allied Products
- Food and Kindred Products
- Glass and Glass Products
- Petroleum Exploration and Production
- Stone and Clay Products Except Cement
- Sugar and Sugar Products
- Vegetable Oil Products

Group No. 4

- Aerospace
- Electrical Equipment Manufacturing
- Primary Metals
- Pulp and Paper
- Rubber Products

Group No. 5

- Grain and Grain Mill Products
- Leather and Leather Products
- Lumber, Wood Products, and Furniture
- Motor Vehicles and Parts
- Paper Finishing
- Plastics Products
- Printing and Publishing
- Textile Mill Products

Group No. 6

- Fabricated Metal Products
- Machinery, Except Electrical Metal Working and Transportation

CHAPTER 6: EXPLANATION OF INDUSTRY CLASSES

Group No. 1

Petroleum Refining

Includes the distillation, fractionation, and catalytic cracking of crude petroleum into gasoline and its other components.

Group No. 2

Electronic Equipment

Includes the manufacture of electronic communications, detection, guidance, control, radiation, computation, test, and navigation equipment, and components thereof. Excludes manufacturers which, in addition to electronic equipment, also produce other equipment included under electrical equipment.

Mining

Includes the mining and quarrying of metallic and nonmetallic minerals and the milling, benefaction, and other primary preparation of such materials.

Professional and Scientific Instruments

Includes the manufacture of mechanical measuring, engineering, laboratory, and scientific research instruments; optical instruments and lenses; surgical, medical, and dental instruments and equipment; ophthalmic equipment; photographic equipment; and watches and clocks.

Group No. 3Cement Manufacturing

Includes the manufacture of cement. Excludes the manufacture of concrete and concrete products.

Chemicals and Allied Products

Includes the manufacture of basic chemicals such as acids, alkalis, salts, organic and inorganic chemicals; chemical products to be used in further manufacture, such as synthetic fibers and plastics materials; and finished chemical products, such as pharmaceuticals, cosmetics, soaps, fertilizers, paints, varnishes, explosives, and compressed and liquefied gases.

Food and Kindred Products

Includes the manufacture of foods and beverages, such as meat and dairy products; baked goods; canned, frozen, and preserved products; confectionery and related products; and soft drinks and alcoholic beverages. Excludes the manufacture of grain and grain mill products, sugar and sugar products, and vegetable oils and vegetable oil products.

Glass and Glass Products

Includes the manufacture of flat, blown, or pressed glass products, such as plate, safety, and window glass, glass containers, glassware, and fiberglass. Excludes the manufacture of lenses.

Petroleum Exploration and Production

Includes the exploration, drilling, maintenance, and production activities of petroleum and natural gas producers. Includes gathering pipelines and related storage facilities of such producers. Excludes gathering pipelines and related storage facilities of pipeline companies.

Stone and Clay Products, Except Cement

Includes the manufacture of structural clay products, such as brick, tile, and pipe; pottery and related products, such as vitreous-china, plumbing fixtures, earthenware, and ceramic insulating material; concrete; asphalt building materials; concrete, gypsum, and plaster products; cut and finished stone; and abrasive, asbestos, and miscellaneous nonmetallic mineral products.

Sugar and Sugar Products

Includes the manufacture of raw sugar, syrup, or finished sugar from sugar cane or sugar beets.

Vegetable Oil Products

Includes the manufacture of vegetable oils and vegetable oil products.

Group No. 4

Aerospace

Includes the manufacture of aircraft, spacecraft, rockets, missiles, and component parts.

Electrical Equipment Manufacturing

Includes the manufacture of electric household appliances, electronic equipment, batteries, ignition systems, and machinery used in the generation and utilization of electrical energy.

Pulp and Paper

Includes the manufacture of pulp from wood, rags, and other fibers and the manufacture of paper and paperboard from pulp. Excludes paper finishing.

Primary Metals

Includes the smelting, reducing, refining, and alloying of ferrous and nonferrous metals from ore, pig, or scrap, and the manufacture of castings, forgings, and other basic ferrous and nonferrous metals products.

Rubber Products

Includes the manufacture of finished rubber products, and the recapping, retreading, and rebuilding of tires.

Group No. 5

Grain and Grain Mill Products

Includes the manufacture of blended and prepared flours, cereals, feeds, and other grain and grain mill products.

Leather and Leather Products

Includes the manufacture of finished leather products, the tanning, currying, and finishing of hides and skins, and the processing of fur pelts.

Lumber, Wood Products, and Furniture

Includes the manufacture of lumber, plywood, veneers, furniture, flooring, and other wood products. Excludes the manufacture of pulp and paper.

Cont. Group No. 5Motor Vehicles and Parts

Includes the manufacture of automobiles, trucks, buses, and their component parts. Excludes the manufacture of glass, tires, and stampings.

Paper Finishing

Includes paper finishing and conversion into cartons, bags, envelopes, and similar products.

Plastics Products

Includes the manufacture of processed, fabricated, and finished plastics products. Excludes the manufacture of basic plastics materials.

Printing and Publishing

Includes printing, publishing, lithographing, and printing services, such as bookbinding, typesetting, photoengraving, and electrotyping.

Textile Mill Products

Includes the manufacture of spun, woven, or processed yarns and fabrics from natural or synthetic fibers. Excludes finishing and dyeing.

Group No. 6Fabricated Metal Products

Includes the manufacture of fabricated metal products, such as cans, tinware, hardware, metal structural products, stampings, and a variety of metal and wire products.

Machinery, Except Electrical, Metal Working, and Transportation

Includes the manufacture of machinery, such as engines and turbines, farm machinery, construction and mining machinery, food products machinery, textile machinery, woodworking machinery, paper industry machinery, compressors, pumps, ball and roller bearings, blowers, industrial patterns, process furnaces and ovens, office machines, and service industry machines and equipment.

CHAPTER 7: CLASSIFICATION OF IMPROVEMENTS AS STRUCTURE ITEMS OR FIXTURES

The intent of the following listing is to classify property without regard to ownership. The listing does not necessarily indicate appraisal responsibility by a real property appraiser or an auditor–appraiser. It should be used as a guide for classifying improvements reported on Schedule B of the Business Property Statement.

Section 122.5 of Title 18 of the California Code of Regulations (Property Tax Rule 122.5) provides a definition of "fixtures" and is controlling. For ease of use the general concepts used as a basis for the segregation of improvements to "structure item" or "fixtures" categories are as follows.⁹

Primary Test:

Rule 122.5(d) states that "...Intent is the primary test of classification." To determine intent the appraiser should look to what is "reasonably manifested by outward appearance."

Structure Item:

An improvement will be classified as a "structure item" when its primary use or purpose is for housing or accommodation of personnel, personalty, or fixtures; or when the improvement has no direct application to the process or function of the trade, industry, or profession.

Fixture:

An improvement will be classified as a "fixture" if its use or purpose directly applies to or augments the process or function of a trade, industry, or profession.

Dual Purpose:

Items which have a dual purpose will be classified according to their primary purpose.

Examples:

The following pages list a variety of improvements and their typical classifications as structure items or fixtures. It must be emphasized that the listing is illustrative as a guide only. Proper classification as a fixture or structure item is determined according to the actual use or purpose of the property.

⁹ See also Assessors' Handbook Section 504 (AH 504), *Assessment of Personal Property and Fixtures*, for additional information.

STRUCTURE ITEMS

Air conditioning—office and building cooling

Auxiliary power generation equipment—for building purposes

Awnings

Batch plants—buildings, fences, paving, yard lights, and spur tracks

Boilers—office and building heating

Building renovations

Butane and propane installations—used for heating buildings

Car washes—all buildings, canopies, interior and exterior walls, fences, paving, and normal plumbing

Carpets and floor coverings affixed to floor—wall-to-wall carpeting and specially installed strip or area carpeting, tile, terrazzo coverings

Central heating and cooling plants

Chutes—built-in

Coin-operated laundries—restroom, sanitary plumbing fixtures

Conveyors—for moving people

Cooling towers—other than used in a trade or production process

Crane ways

Dock elevators

Elevators—including machinery and power wiring

FIXTURES

Air conditioning—process cooling

Air lines

Auxiliary power generation equipment—for trade or production purposes

Back bars

Batch plant—scales, silos, hoppers, bins, machinery

Boilers—for manufacturing process

Bowling lanes

Burglar alarm systems

Butane and propane installations—used for trade or production purposes

Car washes—special plumbing, wiring, and car washing equipment

Compressors—air

Conveyors—for moving materials and products

Cooling towers—used in a trade or production process

Counters

Cranes—traveling

Environmental control devices—used in the production process

Fans and ducts—used for processing

STRUCTURE ITEMS

Environmental control devices—if an integral part of the structure

Escalators

External window coverings

Fans and ducts—which are part of an air circulation or exhaust system for the building

Fences—outside of building

Flagpoles

Heating—boilers—used in office or building heating

Kiosk—permanently attached

Movie sets—which are a complete building

Paint spray rooms—if an integral part of the building

Parking lot gates

Partitions—floor to ceiling

Pipelines and pipe supports—used to convey air, water, steam, oil, or gas to operate the facilities in a building

Pits—not used in the trade or process

Pneumatic tube systems

Radiators—steam

Railroad spurs

Refrigeration systems—that are an integral part of the building

FIXTURES

Fences and railings—inside of buildings

Furnaces—process

Furnishings—built-in, i.e., wall-hung desks

Heating—boilers—for the manufacturing process

Hoists

Incinerators—commercial and industrial

Ice dispensers—coin operated

Kilns—beehive, tunnel, or cylinder type, and equipment

Kilns—lumber

Laundromat—plumbing, wiring, and concrete work for equipment

Lighting fixtures—lighting associated with a commercial or industrial process

Machinery foundations and pits—not part of normal flooring or foundation

Miniature golf courses

Movie sets—which are not a complete building

Ovens

Paint spray booths

Partitions—annexed—less than floor to ceiling

Pipelines and pipe supports—used to convey air, water, steam, oil, or gas to equipment used in the production process

STRUCTURE ITEMS

Refrigerators—walk in—which are an integral part of the building—excluding operating equipment

Restaurants—rough plumbing to fixtures

Renovations to building structures

Security—Banks and Financial

Fire alarm systems

Safes-embedded

Night depository –(if an integral part of the building)

Teller cages

Vault alarm system

Vaults

Service stations—canopies, paving, sign, pylons

Shelving—originally designed as an integral part of the building

Shielded or clean rooms—if an integral part of the building

Signs—include supporting structure, which forms an integral part of the building, including sign blades, pylons, or marquee structures serving as canopies. Exclude sign cabinet (face) and lettering

Silos or tanks—whose primary function or intent is to store property for a time period, such as storage tank farms and grain and liquid petroleum storage facilities

Smog control devices—when attached to incinerator or building heating plant

FIXTURES

Pits—used as wine and sugar clarifiers, skimming pits, grease pits, sump pits, and pits used to house machinery in the manufacturing

Plumbing—special purpose

Power wiring, switch gear, and power panels—for manufacturing process

Refrigeration systems—that are not an integral part of the building

Refrigerators—walk in—unitized—including operating equipment

Restaurant equipment—plumbing fixtures, stainless steel or galvanized sinks in kitchens, bars, soda fountains, garbage disposals, dishwashers, hoods, etc.

Roller skating surface

Scales—including platform and pit

Security—Banks and Financial

Cameras (surveillance)—attached to walls or columns

Drive-up and walk-up windows—unitized security type

Night depository –(if not an integral part of the building)

Man traps

Vault doors

Service Stations—gasoline storage tanks, pumps, air and water wells

STRUCTURE ITEMS

Sprinkler systems—where primary function is the protection of a building or structure

Store fronts

Television and radio antenna towers

Trout ponds—concrete

Theaters—drive-in—buildings, screen and structures, fencing, paving, lighting

Water systems at golf courses

FIXTURES

Shelving—other than that which is an integral part of the building

Shielded or clean rooms—if not an integral part of the building

Signs—sign cabinets and free standing signs, including supports

Silos or tanks—whose primary function is as part of a process, including temporary process holding such as breweries or refineries

Ski lifts, tows, trams

Sky slides

Smog control devices—attached to process device

Theaters—auditorium equipment—seating, screens, stage equipment, sound, lighting, and projection

Theaters—drive in—heater and speaker uprights, wiring and units, projection equipment, signs

Trash compactors and paper shredders

Wash basins—special purpose water softeners for commercial or industrial purposes

CHAPTER 8: VALUATION GUIDES

There are numerous valuation guides available that contain sale-derived market values of agricultural and construction mobile equipment. The appraiser should utilize these valuation guides in making the appraisal estimate when sufficient information regarding the equipment's make, model, etc., is available. The index factors and percent good factors from Table 3 and Table 5 respectively should be used when sufficient information cannot be obtained from value guides or other market information.

Valuation guides that we are aware of include the following:

Agricultural Equipment

Used Tractor Price Guide, Intertec Publishing Corporation

Phone: (800) 262-1954 or (913) 967-1719

Internet Address: www.intertecbooks.com

Official Guide - Tractors and Farm Equipment (Guides 2000), Iron Solutions

Phone: (877) 266-4766 ext. 6256

Internet Address: www.ironolutions.com

Farm Equipment Guide, Heartland Ag Business Group

Phone: (800) 673-4763

Internet Address: www.farmequipmentguide.com

Construction Equipment

Green Guide for Construction Equipment, Primedia Information Inc.

Phone: (408) 467-6762

Internet Address: www.primediadir.com