

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 64 DRIVE THRU BANK (NO VAULT)**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
12	\$65.60	<b>STORY HEIGHT: FIRST FLOOR AREA</b>  <b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>  <b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>  <b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF OFFICE AREAS</b>  <b>FRAMING: WOOD JOIST</b>  <b>REMARKS/ADDITIONAL FEATURES:</b>  <b>ABUNDANT FLUORESCENT LIGHTING</b>  <b>ADD FOR HEATING/COOLING ADD FOR SPRINKLER SYSTEM</b>
		<b>FLOOR COVER/FINISH: VINYL/CARPET</b>  <b>INTERIOR FINISH: DRYWALL/PANEL</b>  <b>PLUMBING: 08-12 FIXTURES</b>  <b>OTHER FEATURES: DRIVE UP WINDOWS, RECORD VAULT</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 67 SELF SERVICE  
CAR WASH**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>12</b>	<b>\$27.05</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>  <b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>  <b>EXTERIOR WALLS: JUMBO BRICK</b>  <b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF BAYS</b>  <b>FRAMING: RIGID STEEL JOIST/TRUSS</b>  <b>REMARKS/ADDITIONAL FEATURES:</b>  <b>FLOURESCENT LIGHTING</b>
		<b>FLOOR COVER/FINISH: CONCRETE SLAB</b>  <b>INTERIOR FINISH: EXPOSED BRICK/BLOCK</b>  <b>PLUMBING: FLOOR DRAINS</b>  <b>OTHER FEATURES:</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 69 DAY CARE CENTER**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>12</b>	<b>\$48.85</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE TO SEPARATE OFFICE/ CLASSROOMS/KITCHEN AREA</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: CONCRETE SLAB/VINYL/CARPET</b>
<b>ADD FOR HEATING/COOLING</b>		<b>INTERIOR FINISH: PAINTED BLOCK/DRYWALL</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 10-15 FIXTURES</b>
		<b>OTHER FEATURES:</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 71 VETERINARY CLINIC**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>10</b>	<b>\$51.15</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ABUNDANT FOR SEPARATION OF TREATMENT/EXAM ROOMS</b>
		<b>FRAMING: WOOD FRAME</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: VINYL/CARPET</b>
<b>ADD FOR HEATING/COOLING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		
<b>ADD FOR ELEVATORS</b>		<b>PLUMBING: 15-20 FIXTURES</b>
		<b>OTHER FEATURES: FLOOR DRAINS/KENNEL AREAS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 73 LUMBER STORAGE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$15.85</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: RIGID STEEL FRAME</b>
		<b>PARTITIONS/COMMON WALLS: MINIMAL</b>
		<b>FRAMING: RIGID STEEL FRAME</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: CONCRETE SLAB</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>INTERIOR FINISH: NONE</b>
		<b>PLUMBING: NONE</b>
		<b>OTHER FEATURES: OVERHEAD DOORS MINIMAL</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 75 OPEN OFFICE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>10</b>	<b>\$46.75</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FIRE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: MINIMAL</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: VINYL/CARPET</b>
<b>ADD FOR HEATING/COOLING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 08-10 FIXTURES</b>
		<b>OTHER FEATURES:</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 76 PARKING GARAGE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$29.00</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>  <b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>  <b>EXTERIOR WALLS: POURED CONCRETE COLUMNS</b>  <b>PARTITIONS/COMMON WALLS: MINIMAL</b>  <b>FRAMING: REINFORCED CONCRETE</b>  <b>REMARKS/ADDITIONAL FEATURES: ADD FOR ELEVATORS ADD FOR SPRINKLER SYSTEM</b>  <b>FLOOR COVER/FINISH: NONE</b>  <b>INTERIOR FINISH: NONE</b>  <b>PLUMBING: NONE</b>  <b>OTHER FEATURES:</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 77 STORAGE/ SUPPORT AREA**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$24.75</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: MINIMAL</b>
		<b>FRAMING: STEEL FRAME</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: FINISHED CONCRETE SLAB</b>
<b>ADD FOR HEATING/COOLING</b>		<b>INTERIOR FINISH: PAINTED BLOCK</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		
<b>ADD FOR MAJOR ENCLOSURES AND MEZZANINES</b>		<b>PLUMBING: 0-5 FIXTURES</b>
<b>ADD FOR FREIGHT ELEVATORS</b>		<b>OTHER FEATURES: OVERHEAD/ROLLING DOORS WOOD OR STEEL</b>



**BASE PRICE FOR COMMERCIAL SCHEDULE MA 78 COLD STORAGE FACILITIES**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$31.20</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>  <b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>  <b>EXTERIOR WALLS: FACE BRICK/PRE-FAB PANELS LOAD BEARING WALLS</b>  <b>PARTITIONS/COMMON WALLS: SMALL OFFICE AREAS</b>  <b>FRAMING: STEEL BAR JOIST</b>  <b>FLOOR COVER/FINISH: CONCRETE SLAB</b>  <b>INTERIOR FINISH: EXPOSED BRICK/PANELS</b>  <b>PLUMBING: 5-10 FIXTURES</b>  <b>OTHER FEATURES: OVERHEAD/ROLLING DOORS METAL/STEEL</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		
<b>ADD FOR HEATING/COOLING (CREATURE COMFORT ONLY) ADD FOR SPRINKLER SYSTEM</b>		

**BASE PRICE FOR COMMERCIAL SCHEDULE MA79 FOOD SHOP**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$ 37.25</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: MINIMAL</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: VINYL/HEAVY LINOLEUM</b>
<b>ABUNDANT FLOUURESCENT LIGHTING</b>		
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>INTERIOR FINISH: DRYWALL/PANEL/EXPOSED BRICK</b>
<b>ADD FOR HEATING/COOLING</b>		<b>PLUMBING: 10-15 PLUMBING FIXTURES</b>
		<b>OTHER FEATURES: ALUM/PLATE GLASS STORE FRONT AVERAGE DISPLAY AREA GLASS DOORS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 80 TRUCK TERMINAL**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
14	\$35.25	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: OFFICE/LOUNGE AREA</b>
		<b>FRAMING: STEEL FRAME</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: CONCRETE SLAB/VINYL</b>
<b>ADD FOR MAJOR ENCLOSURES</b>		<b>INTERIOR FINISH: PAINTED BLOCK/EXPOSED BRICK</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 03-10 FIXTURES</b>
<b>ADD FOR HEATING/COOLING</b>		<b>OTHER FEATURES: OVERHEAD DOORS (ABUNDANT) DOCK BUMPERS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 81 OFFICE/SHOP/WAREHOUSE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>10</b>	<b>\$36.25</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: LIGHT STEEL OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF OFFICE/SHOP/STORAGE AREAS</b>
		<b>FRAMING: RIGID STEEL FRAME</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: VINYL/CARPET/FINISHED CONCRETE</b>
<b>ADD FOR HEATING/COOLING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL/EXPOSED STEEL</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 05-08 FIXTURES</b>
		<b>OTHER FEATURES: OVERHEAD/PEDESTRIAN DOORS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 82 DRUG STORE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$91.65</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF RETAIL/STORAGE AREA</b>
		<b>FRAMING: LIGHT STEEL</b>
<b>REMARKS/ADDITIONAL FEATURES</b>		<b>FLOOR COVER/FINISH: VINYL/HEAVY LINOLEUM</b>
<b>ABUNDANT FLUORESCENT LIGHTING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL/PLASTER PAINTED BLOCK</b>
<b>ADD FOR HEATING/COOLING ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 8-10 FIXTURES</b>
		<b>OTHER FEATURES: ALUM/GLASS STORE FRONT AUTOMATIC DOORS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 83 WINERY**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
14	\$69.50	<b>STORY HEIGHT: FIRST FLOOR AREA</b>  <b>FOUNDATION/BASEMENT: CONTINOUS FOOTING OR POURED CONCRETE SLAB</b>  <b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>  <b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF RETAIL/DINING/PROCESS AREAS</b>  <b>FRAMING: WOOD FRAME</b>  <b>REMARKS/ADDITIONAL FEATURES:</b>  <b>ADD FOR HEATING/COOLING</b>  <b>ADD FOR SPRINKLER SYSTEM</b> <b>ADD FOR ELEVATORS</b>  <b>FLOOR COVER/FINISH: VINYL/CARPET</b>  <b>INTERIOR FINISH: DRYWALL/PANEL</b>  <b>PLUMBING: 10-15 FIXTURES</b>  <b>OTHER FEATURES: FLOOR DRAINS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 84 AUTO PARTS STORE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$57.75</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: ORNAMENTAL BLOCK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF RETAIL/STORAGE AREA</b>
		<b>FRAMING: LIGHT STEEL</b>
<b>REMARKS/ADDITIONAL FEATURES</b>		<b>FLOOR COVER/FINISH: VINYL/HEAVY LINOLEUM</b>
<b>ABUNDANT FLUORESCENT LIGHTING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL/PLASTER PAINTED BLOCK</b>
<b>ADD FOR HEATING/COOLING ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 8-10 FIXTURES</b>
		<b>OTHER FEATURES: ALUM/GLASS STORE FRONT AUTOMATIC DOORS</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 86 PRO SHOP**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$ 68.10</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>  <b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>  <b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>  <b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF RETAIL AND SUPPORT AREAS</b>  <b>FRAMING: WOOD JOIST</b>  <b>FLOOR COVER/FINISH: VINYL/LINOLEUM/CARPET</b>  <b>INTERIOR FINISH: DRYWALL/PANEL</b>  <b>PLUMBING: 10-15 PLUMBING FIXTURES</b>  <b>OTHER FEATURES:</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		
<b>ADD FOR SPRINKLER SYSTEM</b>		
<b>ADD FOR HEATING/COOLING</b>		



**BASE PRICE FOR COMMERCIAL SCHEDULE CONV. STORE/FAST FOOD STORE**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>14</b>	<b>\$75.85</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF RETAIL/RESTAURANT/STORAGE AREAS</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES</b>		<b>FLOOR COVER/FINISH: VINYL/HEAVY LINOLEUM</b>
<b>ABUNDANT FLUORESCENT LIGHTING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL/PLASTER PAINTED BLOCK</b>
<b>ADD FOR HEATING/COOLING ADD FOR SPRINKLER SYSTEM</b>		<b>PLUMBING: 10-15 FIXTURES</b>
		<b>OTHER FEATURES: QUARRY TILE FLOOR FLOOR DRAINS</b>

**MAIN AREA RATES**

<b>MA CODE</b>	<b>OCCUPANCY</b>	<b>WOOD (W)</b>	<b>MASON. (M)</b>	<b>CONC/ST. (C) (S)</b>	<b>R.S.F. (R)</b>	<b>HEIGHT ADJ.</b>
01	Apartment Garden	45.25	47.75	----	42.75	----
02	Apartment Townhouse	45.25	47.75	----	42.75	----
03	Armory	40.85	43.00	49.45	38.35	H2
04	Auditorium	45.10	47.44	54.60	42.60	H2
05	Auto Dealership	43.75	46.25	47.75	41.25	H2
06	Bank	82.50	85.00	87.50	80.00	H1
07	Beauty/Barber Shop	44.75	47.25	----	42.25	H1
08	Cafeteria	53.85	56.35	----	51.35	H1
09	Car Wash (Auto.)	27.00	29.50	----	24.50	H1
10	Church	64.40	67.80	78.00	62.00	H1
11	Classroom	46.85	49.35	50.85	44.35	H1
12	Condo/Townhouse	90.05	95.45	95.45	----	H1
13	Dwelling Conversion	90.05	95.45	95.45	----	H1
14	Country Club/Club House	51.50	54.00	----	49.00	H1
15	Department Store	45.35	47.85	49.35	42.85	H2
16	Discount Store	42.35	44.85	46.35	39.85	H2
17	Dormitory	45.65	48.10	55.30	43.15	H2
18	Duplex/Triplex	81.85	86.75	84.40	----	H1
19	Gymnasium	43.95	46.45	----	41.45	H2
20	Fire/Police Station	45.00	47.50	----	42.50	H2
21	Fraternity House	45.65	48.10	55.25	43.15	H2
22	Hangar	25.25	27.75	30.25	22.75	H2
23	Hospital	75.00	77.50	79.50	----	H2
24	Hotel	51.50	54.00	55.50	49.00	H1
25	Manufacturing	23.00	25.50	27.00	21.50	H2
26	Laboratory	70.00	72.50	74.00	67.50	H2
27	Laundry/Cleaners	42.25	45.00	----	39.50	H1
28	Library	49.50	51.00	52.50	47.00	H1
29	Loft	30.00	32.50	34.00	27.50	H2
30	Manufactured Home	57.75	60.50	----	----	----
31	Motel	51.50	54.00	55.50	49.00	H1
32	Office	50.95	53.45	54.95	48.45	H1
33	Restaurant	55.00	58.00	59.50	53.00	H1
34	Retail Store	42.50	45.00	46.50	40.00	H1
35	Service Garage	28.50	31.00	32.50	26.00	H2
36	Service Station	50.75	53.25	----	48.25	H2
37	Single Family Home	90.05	95.45	95.45	----	----
38	Supermarket	43.45	45.95	47.45	40.95	H2
39	Theatre	59.50	62.00	----	57.00	H2
40	Warehouse	21.50	24.00	25.50	19.00	H2
41	Convenience Store	65.00	67.50	69.00	62.50	H1
42	Nursing/Retirement Home	82.50	85.00	86.50	80.00	H1
43	Bowling Alley	43.65	46.15	----	41.15	H2
44	Funeral Home	52.00	54.50	----	49.50	H1

# Schedule of Values

# Chatham County 2017

MA CODE	OCCUPANCY	WOOD (W)	MASON. (M)	CONC/ST. (C) (S)	R.S.F. (R)	HEIGHT ADJ.
45	Radio/TV Station	56.95	59.45	----	54.45	H1
46	Medical Office	70.00	72.50	74.00	67.50	H1
47	Government Building	53.90	56.40	57.90	51.40	H2
48	Research & Development	70.00	72.50	74.00	67.50	H2
49	Convalescent Home	82.50	85.00	86.50	80.00	H1
50	Heavy Industrial	56.25	57.38	60.75	48.38	H2
51	Transit Warehouse	35.25	37.75	----	32.75	H2
52	Community Building	32.75	35.25	----	30.25	H2
53	Health Club	44.00	46.50	----	41.50	H1
54	Automotive Center	28.50	31.00	----	26.00	H2
55	Mini-Lube	105.00	107.50	----	102.50	H2
56	Dairy Sales	41.65	44.15	----	39.15	H2
57	Service Shop	23.75	26.25	----	21.25	H2
58	Neighborhood Shops	48.40	50.90	52.40	45.90	H2
59	Regional Shops	53.75	56.25	57.75	51.25	H2
60	Community Shops	48.40	50.90	52.40	45.90	H2
61	Skating Rink	43.10	45.60	----	40.60	H2
62	Dist. Warehouse	25.30	27.80	29.30	22.80	H2
63	Mini Warehouse	19.25	25.00	----	16.75	H1
64	Drive-Thru Bank	65.60	68.10	69.60	63.10	H1
65	Apartment House	45.25	47.75	----	42.75	----
66	Post Office	51.15	56.15	57.65	48.65	H1
67	Car Wash Self-Serve	27.05	29.55	----	24.55	H1
68	Dispensary/Urgent Care	55.75	58.25	----	53.25	H1
69	Day Care	48.85	51.35	----	46.35	H1
70	Fast Food Restaurant	88.50	88.50	88.50	88.50	H1
71	Veterinary Clinic	51.15	53.65	55.15	48.65	H1
72	Group Care Home	82.50	85.00	86.50	80.00	H1
73	Lumber Storage	15.85	18.35	----	13.35	H2
74	Jail/Prison	53.90	56.40	57.90	51.40	H1
75	Open Office	46.75	49.25	----	44.25	H1
76	Parking Garage	296.00	31.50	33.00	26.50	H1
77	Storage	24.75	27.25	28.75	22.25	H1
78	Cold Storage Facility	34.35	36.85	38.35	31.85	H2
79	Food Shoppe	37.25	39.75	41.25	34.75	H1
80	Truck Terminal	35.25	37.75	39.25	32.75	H2
81	Office/Shop/Warehouse	36.25	38.75	----	33.75	H2
82	Drug Store	91.65	94.90	96.90	88.40	H1
83	Winery	69.50	73.00	----	62.55	H1
84	Auto Parts Store	55.00	57.75	63.25	49.50	H1
85	Kennel	56.25	59.05	----	50.60	H1
86	Pro Shop	64.85	68.10	----	58.35	H2
87	Conv. Store/Fast Food	72.25	75.85	83.10	65.000	H1

**Story Adjustment for commercial buildings**

STA	Upper floor	90% of first floor price
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AREA PERIMETER RATIO

Code	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP
Perim.	150	175	200	250	300	400	500	600	700	800	1000	1200	1400	1600	1800	2000
Sq. Ft.																
1000	122%	126%	130%	132%	---	---	---	---	---	---	---	---	---	---	---	---
1500	111%	115%	119%	123%	126%	---	---	---	---	---	---	---	---	---	---	---
2000	104%	107%	111%	117%	120%	125%	---	---	---	---	---	---	---	---	---	---
2500	100%	103%	105%	110%	115%	120%	124%	---	---	---	---	---	---	---	---	---
3000	97%	100%	102%	106%	110%	119%	120%	---	---	---	---	---	---	---	---	---
4000	94%	96%	98%	100%	104%	110%	117%	119%	---	---	---	---	---	---	---	---
5000	92%	94%	95%	97%	100%	105%	110%	115%	---	---	---	---	---	---	---	---
6000	91%	92%	93%	95%	98%	102%	106%	110%	---	---	---	---	---	---	---	---
8000	89%	90%	91%	92%	94%	97%	100%	104%	107%	110%	---	---	---	---	---	---
10000	---	---	90%	91%	93%	95%	97%	100%	103%	105%	110%	115%	---	---	---	---
12000	---	---	89%	90%	91%	93%	95%	97%	100%	102%	106%	110%	115%	---	---	---
14000	---	---	---	---	90%	92%	94%	96%	98%	100%	103%	106%	110%	114%	---	---
16000	---	---	---	---	---	91%	93%	94%	96%	97%	100%	104%	107%	110%	---	---
18000	---	---	---	---	---	90%	92%	93%	95%	96%	99%	102%	104%	107%	110%	---
20000	---	---	---	---	---	89%	91%	92%	94%	95%	97%	100%	103%	105%	108%	110%
25000	---	---	---	---	---	88%	90%	91%	92%	93%	95%	97%	99%	101%	103%	105%
30000	---	---	---	---	---	87%	89%	90%	91%	92%	93%	95%	97%	98%	100%	102%
35000	---	---	---	---	---	86%	88%	89%	90%	91%	92%	93%	95%	96%	98%	99%
40000	---	---	---	---	---	85%	87%	88%	89%	90%	91%	92%	94%	95%	96%	98%
50000	---	---	---	---	---	---	---	---	88%	89%	90%	91%	92%	93%	94%	95%
75000	---	---	---	---	---	---	---	---	85%	86%	87%	88%	89%	90%	91%	92%
100000	---	---	---	---	---	---	---	---	---	84%	85%	86%	87%	88%	89%	90%
199999	---	---	---	---	---	---	---	---	---	---	---	85%	86%	87%	88%	89%

**Wall Height Adjustment**

Code	Height	Adjust.
H1	All	100.0%
H2	8	88.0%
H2	9	90.0%
H2	10	92.0%
H2	11	94.5%
H2	12	96.0%
H2	13	98.0%
H2	14	100.0%
H2	15	102.0%
H2	16	104.0%
H2	17	105.0%
H2	18	108.0%
H2	19	110.5%
H2	20	113.0%
H2	21	115.5%
H2	22	118.0%
H2	23	120.0%
H2	24	123.0%
H2	25	125.0%
H2	26	128.0%
H2	27	131.0%

Code	Height	Adjust.
H2	28	133.0%
H2	29	135.5%
H2	30	138.0%
H2	31	141.0%
H2	32	144.0%
H2	33	147.0%
H2	34	149.0%
H2	35	151.0%
H2	36	154.5%
H2	37	158.0%
H2	38	161.5%
H2	39	163.0%
H2	40	165.0%
H2	41	169.0%
H2	42	172.0%
H2	43	175.0%
H2	44	177.0%
H2	45	179.0%
H2	46-49	186.0%
H2	50-Over	193.0%

AR Code	Heat A/C	Rate
51	No Heat	----
52	Unit (Wall)	\$0.90
53	Elect. Base	\$2.00
54	Water/Steam	\$2.00
55	Hot Air	\$2.00
56	Unit Heat	\$0.90
57	Heat & A/C	\$3.50
58	Heat Pump	\$3.50
59	Duct Cooling	\$3.50
60	HVAC	\$5.25
61	Ind. Unit	\$0.90
62	Ind. Heat	\$1.50
63	Ind. Heat/AC	\$3.00

**Sprinklers**

SP Code	Type	Rate
01	Wet	\$1.25
02	Dry	\$1.50

**Elevators/Escalator**

Code	Type	Rate
ES	Escalator	\$90,000.00
FE	Freight	\$ 40,000.00
PE	Passenger	\$ 75,000.00
XS	Extra Stops	\$ 7,500.00

**Commercial Plumbing**

PL Code	Type	Rate
PC	Comm.	\$ 960.00

**Commercial Finished Basement Rates**

CF CODE	Description	Wood (W)	Masonry (M)	Steel (S)	Concrete (C)
01	Apartment	\$ 40.75	\$ 40.75	\$ 40.75	\$ 40.75
02	Retail	\$ 38.25	\$ 38.25	\$ 38.25	\$ 38.25
03	Office	\$ 45.85	\$ 45.85	\$ 45.85	\$ 48.85
04	Warehouse	\$ 19.35	\$ 19.35	\$ 19.35	\$ 19.35
05	Manufacturing	\$ 20.70	\$ 20.70	\$ 20.70	\$ 20.70
06	Fast Food	\$ 72.00	\$ 72.00	\$ 72.00	\$ 72.00
07	Storage	\$ 22.25	\$ 22.25	\$ 22.25	\$ 22.25
08	Government	\$ 48.50	\$ 48.50	\$ 48.50	\$ 48.50
09	Classroom	\$ 42.15	\$ 42.15	\$ 42.15	\$ 42.15
10	Restaurant	\$ 49.95	\$ 49.95	\$ 49.95	\$ 49.95
11	Hotel/Motel	\$ 46.35	\$ 46.35	\$ 46.35	\$ 46.35

**Commercial Unfinished Basement Rates**

CU CODE	Description	Wood (W)	Masonry (M)	Steel (S)	Concrete (C)
01	Apartment	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
02	Retail	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
03	Office	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
04	Warehouse	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
05	Manufacturing	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
06	Fast Food	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
07	Storage	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
08	Government	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
09	Classroom	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
10	Restaurant	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
11	Hotel/Motel	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50

# Schedule of Values

# Chatham County 2017

AC		SIZE	UNIT
CODE	DESCRIPTION	ADJ.	RATE

01	Brick Addition	M12	\$53.90-\$72.90
02	Brick Garage Fin	M11	\$23.40-\$31.65
03	Brick Garage Unfin	M11	\$19.55-\$26.45
04	Canopy	M21	\$9.15-\$12.40
05	Carport	M13	\$14.60-\$19.75
06	Covered Porch	M21	\$21.75-\$29.45
07	Loading Dock	M21	\$13.60-\$18.40
08	Enclosed Frame Porch	M22	\$36.40-\$49.25
09	Enclosed Glass Porch	M22	\$47.20-\$63.85
10	Enc. Masonry Porch	M22	\$37.90-\$51.30
11	Frame Addition	M12	\$51.35-\$69.45
12	Frame Deck	M21	\$13.05-\$17.65
13	Frame Garage Fin	M11	\$22.25-\$30.15
14	Frame Garage Unfin	M11	\$18.00-\$24.40
15	Frame/Metal Storage	M22	\$20.65-\$27.95
16	Frame Garage W/Living	M21	\$55.00-\$65.00
17	Full Screen Porch	M22	\$23.95-\$32.40
18	Overhead Doors	--	--
19	Half Screen Porch	M22	\$24.95-\$33.75
20	Masonry Stoop	M12	\$11.50-\$16.60
21	Masonry Storage	M22	\$21.65-\$29.30
22	Mezzanine Display	M12	\$21.40-\$36.00
23	Above Avg. Exterior	M12	\$36.65-\$49.55
24	Average Exterior	M12	\$33.40-\$45.20
25	Brick Garage W/Living	M21	\$55.00-\$68.00
26	Concrete Slab	M14	\$4.00-\$6.40
27	Frame Overhang	M12	\$40.00-\$50.00
27M	Masonry Overhang	M12	\$40.00-\$50.00
28	Frame Bay	M12	\$45.90-\$62.10
28M	Masonry Bay	M12	\$48.20-\$65.20
29	Mezzanine Office	M12	\$24.45-\$36.00
30	Attached Brick Office	M12	\$53.55-\$72.45
31	Attached Frame Office	M12	\$44.00-\$69.00
32	Masonry Warehouse	M12	\$23.00-\$31.10
33	Miscellaneous Storage	M12	\$20.65-\$27.95
34	Attached Warehouse	M12	\$21.90-\$29.60
35	Sun Room	M22	\$43.50-\$58.90
36	Semi Interior Finish	M12	\$7.05-\$9.55
37	Patio	M14	\$8.80-\$11.90
38	Finished Basement Addn	M12	\$39.10-\$52.90
39	Enc. Br Carport/Gar	M12	\$39.80-\$53.80

AC		SIZE	UNIT
CODE	DESCRIPTION	ADJ.	RATE

40	Enc. Fr Carport/Gar	M12	\$37.55-\$50.80
41	Brick Garage W/U Attic	M11	\$40.00-\$52.00
42	Fr. Garage W/U Attic	M11	\$40.00-\$53.00
43	Fr. Garage W/Unf Attic	M11	\$30.00-\$40.00
44	Brick Garg W/Unf Attic	M11	\$30.00-\$40.00
45	Commercial Canopy	M21	\$19.10-\$25.90
46	Metal Warehouse	M12	\$20.00-\$26.00
47	Above Avg. Enclosure	M12	\$23.80-\$41.70
48	Average Enclosure	M12	\$20.15-\$31.35
51	Lean To Shed	M14	\$3.40-\$5.80
52	Hot Tub/Sauna		\$3,000-\$4,500
53	2 St. Covered Porch	M21	\$32.70-\$44.30
54	2nd Floor Frame Addn	M12	\$33.90-\$45.90
55	2nd Floor Brick Addn	M12	\$35.60-\$48.20
56	Balcony	M21	\$20.00-\$30.00
57	Commer Drive-Thru		
58	Penthouse	M12	\$16.15-\$21.85
59	Indoor Pool	M12	\$42.50-\$65.50
60	Bank Vault	--	\$75.00-\$188.40
61	Bank Drive In Window	--	\$7,000-\$12,650
62	Cooler-Chiller	--	\$8.30-\$11.20
63	Cooler-Freezer	--	\$10.40-\$14.10
64	Cooler-Sharp Freeze	--	\$14.10-\$19.10
65	Dock Levelers	--	\$4,250-\$7,500
66	Covered Dock	M21	\$18.45-\$24.95
67	Enclosed Dock	M21	\$22.25-\$30.15
68	Record Vault	--	\$48.00-\$68.40
69	Greenhouse	M21	\$35.70-\$56.00
70	Unfin. Upper Level	M12	\$10.70-\$14.50
71	Attached R.S.F. Office	M12	\$40.00-\$62.15
72	Minimum Enclosure	M12	\$7.65-\$12.00
73	Attached Frame Shop	M12	\$20.05-\$28.50
74	Attached Brick Shop	M12	\$21.50-\$31.50
75	Attached R.S.F Shop	M12	\$19.50-\$26.50
76	Auto Showroom	M12	\$51.70-\$70.00
77	Roof Monitor	M12	\$3.50-\$7.50
78	Unfin Basement Addn	M12	\$20.80-\$28.20
79	Outdoor Kitchen	--	\$4,250-\$5,750



**ATTACHMENT CODE  
SIZE ADJUSTMENT**

<b>M11</b>	
<b>AREA</b>	<b>ADJ.</b>
001-150	110
151-200	108
201-250	106
251-300	104
301-350	102
351-600	100
601-650	98
651-700	96
701-750	94
751-800	92
801-UP	90

<b>M12</b>	
<b>AREA</b>	<b>ADJ.</b>
001-050	110
051-100	105
101-150	102
151-400	100
401-550	98
551-700	96
701-850	94
851-1000	92
1001-UP	90

<b>M13</b>	
<b>AREA</b>	<b>ADJ.</b>
001-150	110
151-200	105
201-250	102
251-400	100
401-600	98
601-700	96
701-800	94
801-900	92
901-UP	90

<b>M14</b>	
<b>AREA</b>	<b>ADJ.</b>
001-040	100
041-080	98
081-150	96
151-300	94
301-UP	90

<b>M21</b>	
<b>AREA</b>	<b>ADJ.</b>
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

<b>M22</b>	
<b>AREA</b>	<b>ADJ.</b>
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

**COMMERCIAL OUTBUILDINGS AND YARD ITEMS**

<b>MS Code</b>	<b>DESCRIPTION</b>	<b>SIZE ADJ.</b>	<b>SQFT/UNIT RATE</b>	<b>DEP. TABLE</b>
01	Paving Asphalt	M11	\$ 2.00	D1
06	Concrete Paving	M11	\$ 2.50	D1
07	Loading Dock	M21	\$ 12.50	D2
09	Fence 6 FT	M11	\$ 12.50	D1
11	Grain Annex Concrete	---	\$ 2.25	D3
12	Grain Bin Metal	---	\$ 2.00	D1
13	Grain Elevators Concrete	---	\$ 4.10	D3
15	Green House	M14	\$ 7.50	D2
18	Lumber Shed Pole 3 Side	M14	\$ 7.50	D2
19	Lighting (Single)	---	\$ 1,800.00	D1
19M	Lighting (Multiple)	---	\$ 2,250.00	D1
22	Railroad Siding	---	\$ 75.00	D1
39	Water Tank (Tower)	---	\$ 1.75	D3
43A	Campground Tent Site	---	\$ 1,500.00	D1
43C	Campground RV Site	---	\$ 2,500.00	D1
43P	Mobile Home Hook-Up	---	\$ 4,000.00	--
51	Self Service Booth	M11	\$ 82.50	D3
52	Lumber Shed R.S.F. Open	M14	\$ 7.50	D2
53	Quonset Building	M11	\$ 9.50	D3
54	Office Field	M11	\$ 40.00	D3
56	Water Tank (No Tower)	---	\$ .75	D3
57	Fruit Package Barn	M14	\$ 20.00	D2
58	Styrene Insulation	---	\$ 2.05	D3
60	Golf Course VG	---	\$ 150,000.00	D3
65	Water Reservoir Concrete	---	\$ 0.50	D2
66	Bleachers	---	---	---
67	Guard House Brick	M11	\$ 82.50	D3
69	Field House	---	\$ 25.00	---
71	Industrial Stack	---	---	---
72	Service Station Canopy	M11	\$ 22.50	D3
73	Mini-Warehouse	---	\$ 20.00	D3
74	Hanger (Pole No Doors)	M11	\$ 20.50	D3
75	Cold Storage Bldg	M14	\$ 22.75	D2
84	Greenhouse Glass	M14	\$ 15.95	D2
86	Golf Course GD	---	\$ 125,000.00	D3
87	Golf Course AV	---	\$ 100,000.00	D3
88	Golf Course FR	---	\$ 75,000.00	D3
89	Golf Course Par 3	---	\$ 40,000.00	D3
90	Restroom Structure	M11	\$ 30.25	D3
91	Truck Scales	---	\$ 51,000.00	---
92	Plumbing Fixture	---	\$ 1,050.00	D3
93	Central A/C	M12	\$ 3.00	D3
94	Modular Classroom	---	\$ 25,000.00	D3
95	Golf Course EX	---	\$ 200,000.00	D3
98	Construction In Progress	---	---	---
99	Misc.	---	---	---
100	Burial Sites	---	\$ 1,100.00	D1
101	Crypts	---	\$ 4,000.00	D1
102	Cremation Garden	---	\$ 300.00	D1
103	Niches	---	\$ 1,000.00	D1
104	Garden of Peace	---	\$ 650.00	D1

**MISC. STRUCTURE  
SIZE ADJUSTMENT**

<b>A1</b>	
<b>AREA</b>	<b>ADJ.</b>
001-150	110
151-200	108
201-250	106
251-300	104
301-350	102
351-600	100
601-650	98
651-700	96
701-750	94
751-800	92
801-UP	90

<b>A2</b>	
<b>AREA</b>	<b>ADJ.</b>
001-050	110
051-100	105
101-150	102
151-400	100
401-550	98
551-700	96
701-850	94
851-1000	92
1001-UP	90

<b>A3</b>	
<b>AREA</b>	<b>ADJ.</b>
001-150	110
151-200	105
201-250	102
251-400	100
401-600	98
601-700	96
701-800	94
801-900	92
901-UP	90

<b>A4</b>	
<b>AREA</b>	<b>ADJ.</b>
001-040	100
041-080	98
081-150	96
151-300	94
301-UP	90

<b>A5</b>	
<b>AREA</b>	<b>ADJ.</b>
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

<b>A6</b>	
<b>AREA</b>	<b>ADJ.</b>
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

**MULTI-FAMILY APARTMENTS**

An apartment is a residential living unit with the same living accommodations normally found in a single family residence. An apartment house is a multifamily residence containing four or more residential living units, and generally providing each unit with a number of common facilities, services and amenities. Two or more apartment buildings operating as a single unit are generally referred to as an apartment complex.

The increased development of multi-family residential housing units since the 1950's has brought the development of both apartment complexes and "high-rise" apartment buildings. Each of these offer complete living accommodations with all the modern conveniences and amenities. In addition, they generally provide a variety of recreational facilities and services for their occupants.

**VALUATION**

As with other types of property the replacement cost method of valuation is a starting point for the appraiser. There are two types of apartment buildings that must be considered: 1) the walk-up or garden apartment normally found in apartment complexes; and 2) Town house style or multi-story building.

Apartment units found in a given apartment building or complex of buildings vary in size and arrangement. They may be one room efficiency units consisting of a bedroom and kitchenette; two room studio units consisting of a bedroom and living room/den and kitchenette combination; and conventional units consisting of a kitchen, dining area, living room and one or more bedrooms. Each apartment unit has one or more bathrooms, and conventional units often have a separate dining room, den, or family room.

One of the most significant variables in determining the replacement cost of an apartment building is the average size of the individual units. The pricing schedule provided in this section is designed to account for this variation.

**BASE PRICES - GARDEN APARTMENTS**

Base square foot prices have been developed for typical average "C" Grade quality construction apartment units, based on average unit sizes at various floor levels for Wood Joist construction. Adjustments are provided for Fire Resistant and Reinforced Concrete, together with Brick (or equal) and Frame/Concrete Block exterior walls.

The foundation, roof, and normal built-ins are included with the first floor prices, thus making the schedule applicable to both one story and multi-story buildings.

**APPLICATION**

Application of the pricing schedule involves the selection of the appropriate base price per floor based on the average unit sizes. Adjustments to the base price for air conditioning, central heating, and type of construction should be made to account for any variations between the subject building and the model building.

**SPECIAL APPLICATION**

The Apartment Pricing Schedule is designed for garden/walk-up apartment and townhouse apartment buildings of four or more units. Two, three, and four family residences should be priced by using the Residential Dwelling Schedule (included in the Residential section of the manual).

**QUALITY FACTOR**

The schedule prices are for average "C" Grade construction quality, erected with average materials and workmanship. A table of Quality Factors is provided to adjust the "C" Grade prices in order to account for variations in construction quality.

**INCOME APPROACH**

Apartment buildings, regardless of the type, are built, bought, and sold as investment or income producing property. The appraisal of apartments utilizing the Capitalization or Income Approach to value follows the same procedures discussed in the Property Valuation section of the manual.

The basic procedure is . . .

1. Collection of the income generated - including monthly rents for the units, parking, and other receipts, such as laundry facilities.
2. The collection of the expenses associated with the management and maintenance of the property.
3. The capitalization of the net income into an indication of value.

A special section is provided on the use of the economic data form to record all necessary income and expense data.

**PERCENT (%) GOOD GUIDELINES**

Physical deterioration of the structure should be based on age and condition of the property. Guidelines for normal life estimates are found in the Percent Good section of the manual. Functional and Economic Depreciation allowances must be derived from the income and expense of each apartment project as it relates to other properties of similar utility and condition, and should be expressed as percent (%) good.

See commercial section for pricing description.

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 01 GARDEN APARTMENT**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>9</b>	<b>\$45.25</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: WOOD FRAME/VIYNL OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF LIVING UNITS</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES.</b>		<b>FLOOR COVER/FINISH: VINYL/CARPET</b>
<b>ADD FOR ATTACHMENTS</b>		<b>INTERIOR FINISH: DRYWALL/PANEL</b>
<b>ADD FOR ADDITIONAL PLUMBING</b>		<b>PLUMBING: 5 FIXTURES PER UNIT</b>
<b>ADD FOR HEATING/COOLING</b>		<b>OTHER FEATURES:</b>

**BASE PRICE FOR COMMERCIAL SCHEDULE MA 02 TOWNHOUSE APARTMENT**

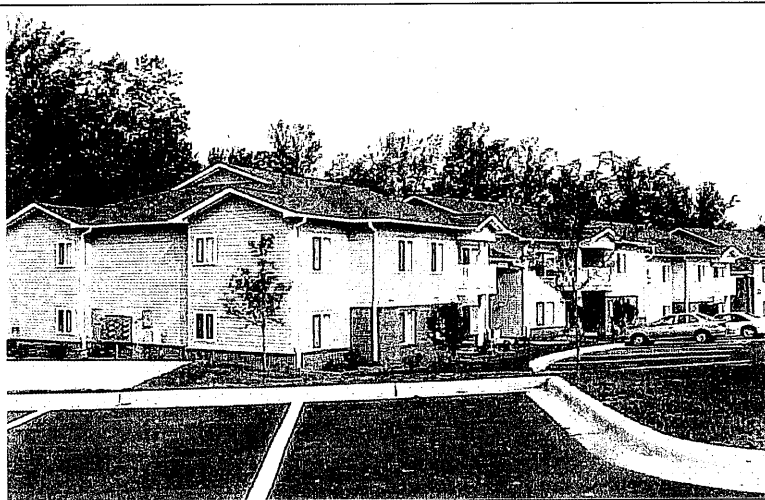
<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>9</b>	<b>\$45.25</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: WOOD FRAME/VIYNL OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF LIVING UNITS</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES.</b>		<b>FLOOR COVER/FINISH: VINYL/CARPET</b>
<b>ADD FOR ATTACHMENTS</b>		<b>INTERIOR FINISH: DRYWALL/PANEL</b>
<b>ADD FOR ADDITIONAL PLUMBING</b>		<b>PLUMBING: 5 FIXTURES PER UNIT</b>
<b>ADD FOR HEATING/COOLING</b>		<b>OTHER FEATURES:</b>





**MA 02  
TOWNHOUSE  
APARTMENT**

**MA 01  
GARDEN  
APARTMENT**



**MA 02  
TOWNHOUSE  
APARTMENT**

**MAIN AREA RATES**

<b>MA CODE</b>	<b>OCCUPANCY</b>	<b>WOOD (W)</b>	<b>MASON. (M)</b>	<b>CONC/ST. (C) (S)</b>	<b>R.S.F. (R)</b>	<b>HEIGHT ADJ.</b>
01	Apartment Garden	45.25	47.75	----	42.75	----
02	Apartment Townhouse	45.25	47.75	----	42.75	----

**SECTION 42 LOW-INCOME HOUSING****North Carolina General Statute # 105-277.16**

In North Carolina low-income housing which has been allocated a federal tax credit under Section 42 of the Code is designated a special class of property under Article V, Section 2 (2) of the North Carolina Constitution and must be appraised, assessed and taxed in accordance with this section. The assessor must use the income approach as the method of valuation for property classified under this section and must take rent restrictions that apply to the property into consideration in determining the income attributable to the property. The assessor may not consider income tax credits received under Section 42 of the Code or under G.S. 105-129.42 in determining the income attributable to the property. (2008-146, s. 3.1:2008-187, s. 47.6).

**General Application**

Identify the low-income housing property being appraised and request copies of the audited financial statements for current year (revaluation year) and three prior years.

Analyze the actual income stream; apply expense ratios, capitalization rates, and Gross Rent Multipliers (GRM) developed for use in the 2009 Chatham County Revaluation Project.

**Standardized Operating Expenses & Vacancy Rates**

Based on information provided by the Institute of Real Estate Managers of the National Association of Realtors (IREM) for typical expense ratios for Section 42 and senior housing, the following analysis was used in developing procedures used by Chatham County for the 2011 Revaluation Project.

	National Average	Charlotte, NC	Southeast Region	Average
Expense Ratio	48.9%	51.9%	49.6%	50.13%
Net Operating Income	44.4%	45.5%	42.3%	44.06%

**Operating Expenses**

Based on the analysis above an expense ratio of 50% has been adopted for use by Chatham County.

**Vacancy Rates**

Analysis of vacancy rates provided by IREM indicates average vacancy rates of 0% to 5%; a rate of 3% has been adopted for use by Chatham County.

**Reserve for Replacements**

Analysis of typical reserve for replacements for traditional apartment properties in Chatham County indicates a range of 3% to 5%. A rate of 5% has been selected for use in Section 42 low-income housing appraisal.

**Capitalization Rate**

Realty Rates Investor Survey indicates an average capitalization rate of 8.85% for Apartments, a rate of 8.5% was selected for use in Section 42 low-income housing appraisal

**SAMPLE INCOME APPROACH APPRAISAL****SECTION 42 LOW INCOME HOUSING****(G.S. 105-277.16)****100 UNIT APARTMENT COMPLEX @ \$450 PER MONTH BASE RENT**

<b>POTENTIAL GROSS INCOME (100 x \$450 x 12 MONTHS)</b>	<b>\$540,000</b>
<b>VACANCY (3%)</b>	<b>(-\$16,200)</b>
<b>OTHER INCOME</b>	
<b>EFFECTIVE GROSS INCOME</b>	<b>\$523,800</b>
<b>OPERATING EXPENSES (50%)</b>	<b>(-\$261,900)</b>
<b>RESERVE FOR REPLACEMENTS (5%)</b>	<b>(-\$26,190)</b>
<b>NET OPERATING INCOME</b>	<b>\$235,710</b>
<b>CAPITALIZATION RATE (9%)</b>	<b>{.085}</b>
<b>APPRAISED VALUE</b>	<b>\$2,773,058</b>
<b>VALUE PER UNIT (ROUNDED)</b>	<b>\$27,730</b>

**FRANCHISE FOOD RESTAURANTS**

Franchise Food restaurants have become common place beginning in the 1950's. The buildings, though they offer similar accommodations, are highly distinctive in architectural style and design. Each operation is readily identifiable with a particular design and motif, and relies heavily on the appearance or "eye appeal" of its buildings to attract, maintain and promote business. The wide range of styles and designs has a direct influence on the replacement costs of the buildings. The size and quality of materials and workmanship alone are not the prime determining factors. Two restaurants showing no marked difference in size and construction quality may still show a considerable difference in cost due to the difference in design and decor! The replacement cost schedule provided is based upon specifications of size, quality, and design. The schedule is to be used as a guide for estimating replacement costs of franchise food restaurants. The proper use of the schedule, along with experience and sound judgment, should enable the appraiser to establish a reasonable estimate of replacement cost.

**BASE SPECIFICATIONS**

The Cost Schedule assumes a basic layout which includes a serving area, food preparation area, a small office area, an employee dressing area, two toilet rooms, and depending upon size, a dining area. General construction features include masonry foundation walls on spread footings; 4" reinforced concrete floor slab on a granular base; roof and exterior wall construction, interior finish, and building equipment and fixtures commensurate with the grade; stud and masonry partitioning; unfinished floor and painted masonry or dry wall interior finish in storage areas and mechanical rooms; utility service, heating, fluorescent lighting fixtures in the preparation and office areas, plumbing fixtures and drains.

**QUALITY GRADE SPECIFICATIONS**

AA and A Grade	A unique design featuring elaborate architecture especially in the roof and exterior walls, built of high quality materials and workmanship. A-Frame, Mansard, Gambrel, or Multi-Pitch type roofs with extensive overhangs, and copper, porcelain enamel shingles, wood shakes, slate, or comparable high quality roofing on insulated wood or steel decking and framing, with laminated wood frame or steel frame supporting beams and columns often exposed to project architectural effects. Walls consist of a combination of face brick or ceramic glazed brick, decorative stone or wood and plate glass. High quality interior finish of ceramic or quarry tile flooring, exposed stone and brick or high grade wood or porcelain enamel paneling and ceramic tile wall finish. Porcelain enamel or acoustical tile ceilings, often open to the roof slope: combined heating and air conditioning system, high grade ornamental lighting fixtures in the dining and service areas; good quality plumbing fixtures for typical toilet room facilities.
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- B Grade** Conventional design featuring custom architectural styling, built of good quality materials and workmanship. Mansard, Gambrel or Double-Pitch roofs with liberal overhangs, composition tar and gravel, stone chip, or asphalt shingle roofing on insulated wood or steel decking and framing; face brick, ceramic tile and plate glass exterior walls with moderate architectural treatment; good quality interior finish of ceramic or quarry tile flooring, exposed brick or wood paneling and ceramic wall finish; acoustical tile or drywall ceiling; combined heating and air conditioning system, ornamental lighting fixtures in the dining and serving areas, and good quality plumbing fixtures for typical toilet room facilities.
- C Grade** Conventional design featuring moderate architectural styling, built of good quality workmanship and materials. Double-Pitch type roofs with normal overhangs, composition tar and gravel or asphalt shingle roofing on insulated wood or steel decking and framing; face brick, wood, or painted concrete block and plate glass exterior walls; good quality interior finish of quarry or vinyl asbestos tile flooring, wood paneling or drywall and part ceramic tile wall finish; drywall or acoustical tile ceiling; combined heating and air conditioning system; fluorescent lighting fixtures in the dining area, and good quality plumbing fixtures for typical toilet room facilities.
- D Grade** A simple conventional design void of architectural styling, built of average quality materials and workmanship. Flat or Single Pitch roof with normal overhangs, composition roofing on insulated wood decking and framing; painted concrete block or wood exterior walls with a minimal amount of plate glass; average quality interior finish consisting of asphalt or vinyl asbestos tile flooring; painted concrete block, drywall or paneled wall finish and drywall ceiling; forced-air heating, wall unit air conditioning, fluorescent lighting fixtures, fair quality plumbing fixtures for typical toilet room facilities.
- E Grade** Simple design void of architectural styling," built of fair quality materials and workmanship. Single-Pitch roof with normal overhangs, and composition roofing on wood decking and framing; painted concrete block or wood exterior walls with a minimal amount of plate glass; low quality interior finish consisting of asphalt tile flooring and painted concrete block and drywall; unit heaters, no air conditioning, fluorescent lighting fixtures, and fair quality plumbing fixtures for typical toilet room facilities,

**SCHEDULE APPLICATION**

Base prices are included for Average "C" Grade construction for four typical exterior wall types. Select the base price based upon the structure size and exterior wall construction, and make adjustments for attached improvements, air conditioning and

sprinkler systems as required. Apply the proper quality Grade factor to establish the replacement cost new.

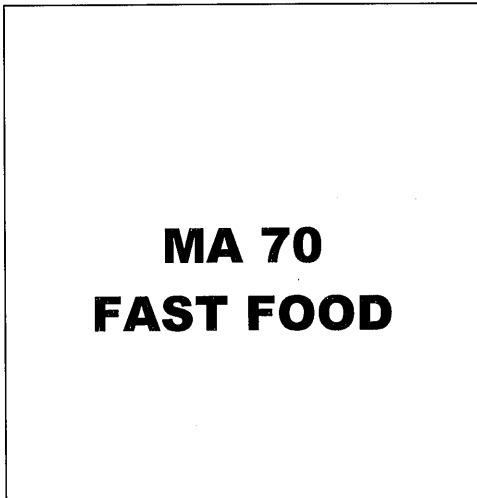
**PERCENT (%) GOOD GUIDELINES**

Franchise Food restaurants are special purpose buildings which are not readily adaptable to other uses. They go out of style both functionally and economically at a much faster rate than they deteriorate physically. The business is highly competitive and relies heavily on site location and the physical appearance of its buildings. In order to keep abreast of competition, owners must frequently renovate the structures. Changing consumer habits, traffic patterns, and competition are but a few of the factors that influence the life span of the buildings and must therefore be considered in the evaluation process.

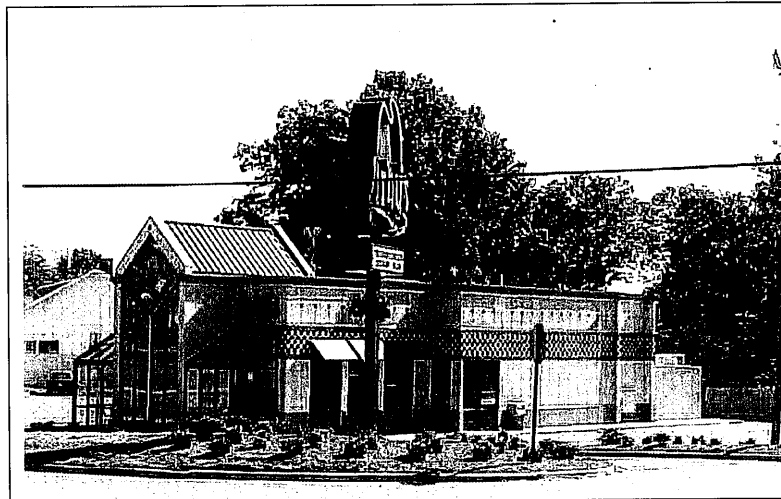
See commercial section for pricing guideline.



**MA 70  
FAST FOOD**



**MA 70  
FAST FOOD**



**MA 70  
FAST FOOD**



**BASE PRICE FOR COMMERCIAL SCHEDULE MA 70 FAST FOOD RESTAURANT**

<b>WALL HEIGHT</b>	<b>BASE PRICE</b>	<b>BASE SPECIFICATIONS</b>
<b>12</b>	<b>\$88.50</b>	<b>STORY HEIGHT: FIRST FLOOR AREA</b>
		<b>FOUNDATION/BASEMENT: CONTINUOUS FOOTING OR POURED CONCRETE SLAB</b>
		<b>EXTERIOR WALLS: FACE BRICK/PLATE GLASS OR EQUAL</b>
		<b>PARTITIONS/COMMON WALLS: ADEQUATE FOR SEPARATION OF KITCHEN/DINING AREA</b>
		<b>FRAMING: WOOD JOIST</b>
<b>REMARKS/ADDITIONAL FEATURES:</b>		<b>FLOOR COVER/FINISH: VINY/HEAVY LINOLEUM TERRAZZO/QUARRY TILE</b>
<b>ABUNDANT LIGHTING</b>		<b>INTERIOR FINISH: DRYWALL/PANEL/EXPOSED BRICK</b>
<b>ADD FOR HEATING/COOLING</b>		<b>PLUMBING: 10-15 FIXTURES</b>
<b>ADD FOR SPRINKLER SYSTEM</b>		<b>OTHER FEATURES: KITCHEN AREA/ QUARRY TILE FINISH/ FLOOR DRAINS</b>

**MAIN AREA RATES**

<b>MA CODE</b>	<b>OCCUPANCY</b>	<b>WOOD (W)</b>	<b>MASON. (M)</b>	<b>CONC/ST. (C) (S)</b>	<b>R.S.F. (R)</b>	<b>HEIGHT ADJ.</b>
70	Fast Food Restaurant	88.50	88.50	88.50	88.50	H1

**MOBILE HOME PARKS**

The pricing schedule included in this section is provided as a guide to assist the appraiser in arriving at a reasonable and equitable estimate of the cost of developing a variety of commercial mobile home and trailer parks. Typical site-costs are given for five Grades of parks; the general specifications are as follows:

- A Grade      Excellent quality and excellently planned mobile home parks designed to accommodate the largest tractor-drawn or on-site erected mobile homes, and to provide the user with the utmost in residential amenities, including spacious lots with extensive and attractive landscaping, ample off-street parking, and a wide variety of recreational facilities. Site areas will generally range from 4,500 to 5,500 sq. ft.
- B Grade      Good quality and well planned mobile home parks designed to accommodate the larger tractor-drawn mobile homes with room to spare for lawns and gardens, and featuring attractive landscaping, off-street parking, and complete recreational facilities. Site areas will generally range from 3,500 to 4,500 sq. ft.
- C Grade      Average quality and well planned mobile home parks designed to accommodate mobile homes up to 55' to 60' long, and to provide the user with adequate utility services and facilities, but rather limited recreational facilities and other such amenities. Site areas will generally range from 2,500 to 3,500 sq. ft.
- D Grade      Fair quality and minimally planned trailer parks intended primarily for semi-permanent occupancy, built to accommodate car-drawn trailers up to 40' to 45' long, and offering only minimal utility and recreational facilities. Site areas will generally range from 1,750 to 2,500 sq. ft.
- E Grade      Cheap quality trailer parks designed to accommodate transient type trailers, and to provide the user with the minimum required facilities. Site areas will generally range from 1,000 to 1,750 sq. ft.

Application of the pricing schedule involves determining the Grade, which is the most representative of the subject property, selecting the corresponding base site-cost, and adjusting the base site-cost to account for any variations between the subject property and the model specifications.

**BASE COST COMPONENTS**

The costs per site have been developed to include the cost of normal basic on-site improvements and do not include the cost of the land, service and recreational buildings,

or major recreational structures, such as swimming pools. The base components are as follows:

Engineering. . . includes the design plans and specifications of the park (exclusive of buildings), engineering and surveying fees, and public fees and permits.

Grading. . . includes the normal grading involved in leveling the site for drainage and roughing out roads, but does not include any abnormal site preparation, such as the excavation and terracing required for hill-side sites.

Street Paving. . . includes base preparation and paving.

Patios and Walks. . . includes all flat work other than street paving.

Sewer. . . includes all on-site lines, but does not include hook up charges, sewage disposal systems, or any off-site connections to trunk lines.

Water. . . includes on-site mains and site services, but does not include wells, pumps, or any off-site connections to source lines.

Electrical. . . includes on-site conduit, electrical and telephone wiring, site outlets, and street and common area lighting commensurate with the Grade, but does not include the cost of any off-site connections.

Gas. . . includes on-site piping, and site and building connections, but does not include any off-site mains.

Other Features. . . include the cost of average entrance ornamentation, landscaping, and common area development commensurate with the park Grade.

(Note: Outdoor recreational facilities, such as swimming pools, tennis courts, etc. are not included and should be computed separately.)

## **BASE COST ADJUSTMENTS**

Many mobile homes and trailer parks are apt to possess some features which are typical of one Grade and some features which are typical of another. For example, an A Grade park may exhibit B Grade "other features" such as entrance decor, landscaping, and recreational facilities; or similarly, a park may be C Grade in all respects except for good quality streets. In such cases, the appraiser must analyze each park in terms of its individual component in order to determine the contribution of each component to the overall cost per site. In order to facilitate this, the specifications and corresponding costs for each component are detailed, thus enabling the appraiser to adjust the base cost either upward or downward to account for any significant variations.

**PERCENT (%) GOOD GUIDELINES**

Mobile home parks generally can be expected to have a life expectancy of from 10 to 30 years, depending on the quality of the park. The components of a mobile home park, as described above, are subject to the same depreciating forces as are any other real estate improvements. Physical deterioration itself is difficult to observe, but is generally directly related to the functional and economic depreciation of the park. In a going and profitable park, the actual rate of physical deterioration is arrested somewhat by regular and normal maintenance. A park that is normally maintained will have components replaced or renewed as they age. As a park goes out of style functionally and economically, maintenance becomes more and more of a cost burden to the owner and is consequently reduced or curtailed completely, allowing the process of deterioration to accelerate.

A percent good guideline table, based upon these factors relative to the effective age of the park, is included in this section. The effective age of the park may or may not be the same as the actual age (or average age if built in several phases) of the park. Generally, if a park is judged to be in average condition for its age, the effective age will be the same as the actual age. If a park is judged to be in poor condition or good condition for its age, the effective age will be somewhat more or somewhat less than the actual age. Similarly, parks judged very poor to unsound or very good to excellent will have effective ages considerably more to considerably less than their actual ages.

The table is provided only as a guide to assist the appraiser in arriving at a reasonable estimate of normal accrued depreciation; due consideration must also be given to any abnormal factors causing further loss of value.

**MOBILE HOME PARKS**

The average quality mobile home park is designed to provide the user with adequate utility services and facilities. Recreational amenities are limited or nonexistent with streets and landscaping of minimal planning and construction.

Normal on site improvements include; low cost concrete or asphalt pads and walks, and enough grading to allow adequate site preparation, drainage, and leveling, minimal on site electrical service, on site well and septic service, on site public or private water and sewer systems.

The value attributed to land, and the cost of any supportive structures, are not included in the base cost site.

Any variation in overall quality from average should be reflected by the appropriate quality grade adjustment.

REPLACEMENT COST PER SITE ("C" GRADE)

**\$4000 - \$5000**

**GOLF COURSES**

Golf courses are designed and built in a variety of types and sizes. The pricing schedules in this section are provided as a guide to assist the appraiser in arriving at a reasonable and equitable estimate of the cost of developing the various types of courses.

**REGULATION COURSES**

A regulation golf course usually consists of 18 holes of varied length. There are generally four short holes, 130 to 200 yards (par 3); ten average holes 350 to 400 yards (par 4); and four long holes 450 to 550 yards (par 5). Average costs per hole are given for five grades of courses; the general specifications are as follows:

Excellent	Excellent course designed for professional play; rolling terrain; well landscaped with wide tree lined fairways and large, excellent quality greens and tees; numerous natural and man-made hazards; generally 7200 yards long with a par 72 rating.
Very Good	Very good course design for championship play; rolling terrain; well landscaped with wide fairways and large, very good quality greens and tees; many natural and man-made hazards; generally 6900 yards long with a par 72 rating.
Good	Good course design for private club membership; rolling terrain; well landscaped with wide fairways and large good quality greens and tees; natural and some man-made hazards; generally 6500 yards long with a par 70 rating.
Average	Average course designed for municipal or general public play; flat terrain; landscaped fairways; average size and quality greens and tees; some natural and few, if any, man made hazards; generally 6000 yards long with a par 67 to 70 rating.
Fair	Simply developed course often referred to as a "cow-pasture course"; flat terrain; very little landscaping; small greens and tees; few natural hazards; generally 5400 yards long with a par 64 to 67 rating.

**BASE PRICE COMPONENTS**

The costs per hole have been developed to include the cost of normal on course improvements and do not include the cost of land, clubhouse, or any recreational facilities. The base price components are as follows:

Grading and Clearing. . . includes the removal of brush and trees from the fairways, greens, or tees; landscaping and the seeding of grass.

Sprinkler System. . . includes the water source, pumps, piping, and sprinkler heads.

Greens. . . includes the building, seeding and care of the greens until the opening of the course.

Tees. . . includes the building and care of the trees until the opening of the course.

Bunkers. . . includes the building and care of the bunkers until the opening of the course.

Service and Cart Roads. . . includes base preparation, paving, and bridges over hazards.

Architect's Fees. . . includes all plans and supervision during construction.

**OTHER COURSES**

Miniature Course      The entire course is comprised of a putting surface which has various obstacles and hazards placed between the tee and the cup.

Pitch and  
Putt Course              The course has greens, bunkers, tees, fairways, and very little, if any, rough area separating the holes. The holes are usually 60 to 120 yards long and the course often has lighting for night play.

Par 3 Course              The course is the same as a regulation course, but on a smaller scale with all the holes rated par 3, 140 to 160 yards long and the course may have lighting for night play.

Executive Course        Also called a par 60 course; the course is the same as a regulation course, but on a smaller scale with the holes 200 to 300 yards long. The holes are mostly par 3 with some par 4 and par 5 ratings.

Driving Range            Consists of a piece of land usually 10 to 15 acres with elevated tees along one side used for practice of hitting tee shots on regulation courses.

Practice  
Putting Greens            Consists of a large green with numerous cups used for putting practice.

**GENERAL APPLICATION**

The primary variables in golf courses are size, layout, sprinkler system, greens, tees, fairways, and bunkers. Costs of courses may vary from \$15,000 per hole for a course with minimal improvements to \$200,000 per hole for the best championship courses. The costs given are for average courses in each quality grade. Included in the cost per hole are normal clearing and grading, complete sprinkler systems, landscaping, greens, tees, bunkers, service and cart roads, and architect's fees. Costs do not include buildings, swimming pools, parking areas, or any other off-course improvements. Listed below is the procedure to be used for the appraisal of golf courses.

1. Identify the course by name.
  - a. The type of course (regulation size, pitch and putt, miniature, etc.).
  - b. The year of completion (if developed in phases, describe the number of holes completed each year).
  - c. The number of holes and the amount of land used for the course.
  - d. The course length and par.
  - e. The terrain and topographical features.
  - f. The average size of the greens, tees, and the number of bunkers.
  - g. The type of sprinkler system.
2. Analyze the various components of the subject property, giving special consideration to . . . the extent of planning. . . the natural contour of the land. . . clearing and grading of fairways, greens, and tees. . . the extent and quality of the sprinkler system: whether it is automatic, manual, covers the entire course or only the tees and greens. . . the average green and tee size. . . the average number of bunkers per hole. . . the quality of cart and service roads. . . any other characteristics essential to establishing the proper grade level of the course.
3. Determine the Quality of the course by comparing its components, as analyzed above, with the given specifications for each grade and select the corresponding base cost per hole.

In some instances, were a course will exhibit a composite quality which falls somewhere between two grades. It may be necessary to interpolate between the base hole cost.
4. Multiply the replacement cost per hole based on the quality, as derived in Step #3, by the total number of holes to arrive at the total replacement cost of the course.



5. Determine the proper depreciation allowance based upon the condition, desirability, and usefulness of the course relative to its age, and apply it to the total replacement cost as derived in Step #4, to arrive at the depreciated value of the course.
6. Sketch, list, and compute by using the appropriate pricing schedule, the replacement cost and depreciated value of all improvements not included in the base cost.

See pricing example below.

### **GOLF COURSE PRICING EXAMPLE**

Stephens Point Golf Course - an 18 hole regulation size course, 6500 yards long, par 72, located on 150 acres of rolling terrain. The course is 10 years old and has 10000 square foot greens, (3) 2500 square foot tee locations for each hole, and (3) bunkers per hole. Fairways and greens have automatic sprinkler system.

This course is judged to be a Good Quality Course with very good greens and tees, good overall condition, desirability and utility. Land value is estimated at \$7500 per acre

Base Cost Per Hole Good Quality	\$ 125,000
Replacement Cost Per Hole	\$ 125,000
Number of Holes	X 18
Total Replacement Cost	\$2,250,000
Less Depreciation -10%	- 225,000
Total Value of Course Improvements	\$2,025,000
Land Value (150 acres @ \$7500)	\$1,125,000
Total Value	\$3,150,000
Value Per Hole (Rounded)	\$ 175,000

**GOLF COURSE PRICING****MS 95 EXCELLENT - REPLACEMENT COST \$200,000 PER HOLE.**

Professional Course: 18 holes located on 160 to 250 acres, 6900 to 7200 yards long, rated par 72, rolling terrain. Costs include: automatic sprinkler system on greens and fairways, greens are 8000 square foot or above top quality construction with drainage tile, tees are 2100 square feet or above with 5 tee locations, 3 to 8 bunkers per hole, good quality cart paths.

**MS 60 VERY GOOD- REPLACEMENT COST \$150,000 PER HOLE.**

Championship Course: 18 holes located on 160 to 200 acres, 6900 to 7000 yards long, rated par 72, rolling terrain. Costs include: automatic sprinkler system on greens and fairways, greens are 8000 to 10000 square foot top quality construction with drainage tile, tees are 2100 to 2400 square feet with 3 tee locations, 3 to 4 bunkers per hole, good quality cart paths.

**MS 86 GOOD- REPLACEMENT COST \$125,000 PER HOLE.**

Private Club, Semi-Private or Public Course: 18 hole located on 130 to 175 acres, 6500 to 6900 yards long, rated par 70 to 72, rolling terrain. Costs include: automatic sprinkler system on greens and fairways, greens are 5000 to 8000 square foot good quality construction with drainage tile, tees are 1800 to 2100 square feet with 2 to 3 locations, 2 to 3 bunkers per hole, good quality cart paths.

**MS 87 AVERAGE - REPLACEMENT COST \$100,000 PER HOLE.**

Public or Semi-Private Course: 18 holes located on 100 to 125 acres, 5500 to 6500 yards long, rated par 68 to 72, gently rolling or flat terrain. Costs include: automatic sprinkler system on greens, manual system on fairways, greens are 3000 to 5000 square foot average quality with minimal drainage tile, tees are 1500 to 1800 square feet with 2 locations, 2 bunkers per hole, average quality cart paths.

**MS 88 FAIR- REPLACEMENT COST \$75,000 PER HOLE.**

Public Course: 9 to 18 holes located on 75 to 100 acres, up to 5400 yards long, rated par 34 to 70, flat terrain, automatic or manual sprinkler system on greens, manual on fairways, greens are 2000 to 3000 square feet with 1 or 2 locations, average of 1 or less bunkers per hole, fair quality cart paths.

**MS 89 PAR 3- REPLACEMENT COST \$40,000 PER HOLE.**

Non-regulation golf course, consisting of 9 to 18 holes located on 25 to 50 acres, 1800 to 2500 yards long, par 27 to 54, terrain is rolling to flat, tees, greens and fairways range from fair quality to good quality, maintenance varies based on private or public play.

**INCOME APPROACH TO GOLF COURSE**

The Income Approach is typically the most accurate measure of value for golf courses. It reduces the differences between golf courses to the least common denominator, **Golf Income Revenue (GIR)**. This revenue can be quantified from the market place and analyzed based on actual or anticipated number of rounds played and average daily rates per round.

Following is the formula for estimating the value of golf courses in Chatham County, based on the Income Approach.

$$\text{Stabilized \# Rounds (SNR)} \times \text{Stabilized Daily Rate (SDR)} = \text{Golf Income Revenue (GIR)}$$

$$\times \text{Golf Income Multiplier (GIM)} = \text{Indicated Value}$$

**EXAMPLE**

Catapult Golf Club – an 18 hole, regulation size golf course, with a stabilized number of rounds of 20,000 per year and a stabilized daily rate of \$65.

$$20,000 \times \$65 = \$1,300,000 \times 2.5 = \$3,250,000 \text{ or } \$180,500 \text{ per hole.}$$

$$(\text{SNR}) \times (\text{SDR}) = (\text{GIR}) \times (\text{GIM}) = \text{Indicated Value}$$

**GOLF COURSE INCOME MODELS**

<b>GRADE</b>	<b>STABILIZED # ROUNDS</b>	<b>RATES DAILY &amp; SEASONAL</b>	<b>SATBILIZED RATE</b>	<b>GIM</b>
EXCELLENT	20,000-30,000	\$140 to \$300	\$125 to \$250	1.5 to 3.0
VERY GOOD	20,000-30,000	\$69 to \$175	\$90 to \$125	1.5 to 3.0
GOOD	20,000-30,000	\$40 to \$150	\$60 to \$75	1.75 to 3.0
AVERAGE	20,000-30,000	\$35 to \$75	\$40 to \$60	1.75 to 3.0
FAIR	15,000-20,000	\$15 to \$25	\$15 to \$25	1.75 to 3.0
PAR 3	15,000-20,000	\$10 to \$34	\$10 to \$45	1.75 to 3.0

**Note:** Stabilized Daily Rates include cart rental and green fees only. Values generated by this formula are for golf course improvements and the land necessary to support the golf holes. Values for excess land and other buildings will be added based on separate cost or income analysis as outlined within the body of the Schedule of Values.

**Chatham County North Carolina**

**Labor And Material Rates**

**2017 Reappraisal Project**

**Compiled By: Pearson's Appraisal Service**

LOCAL LABOR RATES

LOCATION: Employment Security Commission of NC DATE: 9-26-16  
(735-8035)

CARPENTER	\$11.98 to \$24.57 per hour
ELECTRICIAN	\$13.39 to \$20.01 per hour
LABORER, GENERAL BUILDING	\$9.45 to \$16.47 per hour
PLUMBERS	\$14.85 to \$22.12 per hour
HVAC MECHANICS/INSTALLERS	\$13.36 to \$34.47 per hour
INSTALLATION OCCUPATION	\$12.79 to \$18.10 per hour
CONSTRUCTION MANAGERS	\$19.24 to \$31.44 per hour

# Schedule of Values

Chatham County 2017

MATERIAL TYPE: Lumber

DATE: 9-26-16

DEALER: Lowes Hardware (642-4030)

INFO FROM: Internet

## DESCRIPTION:

### Dimensional Lumber: Yellow Pine Framing Lumber

2" x 4" x 8'	\$ 2.89 (each)	2" x 8" x 8'	\$ 5.46 (each)
2" X 4" x 10'	\$ 4.07 (each)	2" x 8" x 10'	\$ 6.66 (each)
2" x 4" x 12'	\$ 4.86 (each)	2" x 8" x 12'	\$ 7.98 (each)
2" x 4" x 16'	\$ 6.49 (each)	2" x 8" x 16'	\$ 10.92 (each)
2" x 10" x 8'	\$ 7.22 (each)	2" x 6" x 8'	\$ 4.26 (each)
2" x 10" x 10'	\$ 8.23 (each)	2" x 6" x 10'	\$ 5.98 (each)
2" x 10" x 12'	\$ 1.09 (each)	2" x 6" x 12'	\$ 7.80 (each)
2" x 10" x 14'	\$ 13.37 (each)	2" x 6" x 14'	\$ 8.40 (each)
2" x 10" x 16'	\$15.44 (each)	2" x 6" x 16'	\$ 9.60 (each)

### Flooring:

T&G OSB	\$16.58 sheet
Pine T&G	\$23.78 sheet

### Roofing:

Roll Roofing	\$33.60 (roll)
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### Top Sheathing:(per sheet)

3/8" x 4'x 8' Sheetrock	\$ 10.48
5/8" x 4'x 8' Sheetrock	\$ 11.76
1/2" x 4'x 12' Sheetrock	\$ 15.78

### Roof Sheathing:

7/16x4'x8' OSB	\$9.95 (each)
19/32x4'x8' OSB	\$13.73 (each)

### Fiberglass Shingles:

Price per Bundle 3-Tab	\$22.75
Price per Bundle Architect.	\$24.50 – \$73.94

### Windows Double Hung (tilt out/vinyl)

36" x 38"	\$178.37
24" x 38"	\$164.50
32" x 38"	\$178.37
32" x 54"	\$169.42
36" x 54"	\$178.37

### Doors:(Masonite Paint Grade)

24" x 80"	\$72.96
28" x 80"	\$76.80
30" x 80"	\$78.72
32" x 80"	\$80.64
36" x 80"	\$83.52

# Schedule of Values

Chatham County 2017

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MATERIAL TYPE: Brick

DATE: 9-26-16

DEALER: Lowes (642-4030)

INFO FROM: Website

DESCRIPTION:

Regular or Standard:

2 1/4" x 3 3/4" x 8" Common

\$400.00 (per thousand)

2 1/4" x 3 3/4" x 8" Face

\$400.00 (per thousand)

Standard Antiques:

2 1/2" x 3 3/4" x 8" White

\$460.00 (per thousand)

2 1/2" x 3 3/4" x 8" Gray

\$460.00 (per thousand)

Fancy Over Size

8" x 8" x 16" Split Face

\$458.00 (per thousand)

Paving or Patio Brick:

1 3/8" x 3 5/8" x 7 5/8" Standard

\$ .48 (each)

REMARKS: Prices include local delivery.



# **Schedule of Values**

**Chatham County 2017**

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MATERIAL TYPE: Heating and Air Conditioning

DATE: 9-26-16

DEALER:

INFO FROM: Marshall & Swift

DESCRIPTION:

Residential: (prices are based on a 1500 square foot dwelling)

Heat Pump	\$3500.00 to \$6000.00
Gas Pack	\$3500.00 to \$4600.00

REMARKS: Costs are for systems installed by contractor during construction; "add-on" systems vary in cost based on type and size of unit. Costs shown are typical and do not reflect designed or engineered system costs.

# **Schedule of Values**

**Chatham County 2017**

MATERIAL TYPE: Plumbing

DATE: 9-26-16

DEALER:

INFO FROM: Website

DESCRIPTION:

Typical installations: (Per Fixture Cost) Residential

Commode with trim/hardware (white)	\$108.52
Shower Stall with trim/hardware (42")	\$423.55
Bathroom sink with trim/hardware	\$145.00
Tub/Shower Combo with trim/hardware	\$428.71
Kitchen sink with trim/hardware	\$203.04
Water Heater (40 gal. Gas/Elec	\$304.63
Rough In Plumbing & Finish Installation	\$4675.00

Cost of well and septic systems and water and sewer hook-ups are not included in these costs.

REMARKS: Prices shown are for contractor installation during construction. Costs are typical fixtures, not for custom designed plumbing systems.

# Schedule of Values

**Chatham County 2017**

MATERIAL TYPE: Carpet and Vinyl Floor Cover      DATE: 9-26-16

DEALER: Chatham Carpet

INFO FROM: Ruby

**DESCRIPTION:**

**Residential Carpet:**

Average Quality      \$2.50 to \$5.00 (per square foot)

Excellent Quality      \$4.00 to \$8.00 (per square foot)

(Includes pad and installation)

**Vinyl Floor Cover (no-wax)**

Average Quality      \$2.25 to \$3.50 (per square foot)

Excellent Quality      \$3.25 to \$4.50 (per square foot)

(Does not include installation)

**Commercial Carpet:**

Average Quality      \$1.75 to \$3.00 (per square foot)

**Apartment Carpet:**

Average Quality      \$2.50 to \$4.25 (per square foot)

(Must be purchased by the roll)

**Hardwood:**

Average Quality      \$ 6.00 (per square foot)

Excellent Quality      \$9.50 (per square foot)

**Laminate**

\$4.50 to \$7.50 (per square foot)

**Tile:**

Average Quality      \$8.00 to \$12.00 (per square foot)

# Schedule of Values

Chatham County 2017

MATERIAL TYPE: Septic Tanks Wells  
Public Water & Sewer Hook-Up

DATE: 9-26-16

DEALER:

INFO FROM: Marshall & Swift  
INFO FROM: Chatham County

DESCRIPTION:

Typical Septic Tank Installation:  
1000 gallon with Typical Lines

\$1237 to \$4000 (each)

Typical Residential Well Installation  
6" Drilled with Pump & Labor

\$3371 - \$5348 up to 100 ft.  
\$9.00 for each additional foot

Chatham County  
Water Hook-Up (¾ Inch)  
Tap Fee  
Meter Installation

\$3500  
\$800  
\$200

REMARKS:

# **Schedule of Values**

**Chatham County 2017**

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MATERIAL TYPE: Sand and Crushed Stone

DATE: 9-26-16

DEALER: Mellott Contractors (967) 2241  
B & L Supply (542) 6025

INFO FROM:  
INFO FROM: Davie

## DESCRIPTION:

### Crushed Stone:

Grade #67 (wash stone)	\$30.00 - \$35.00 (per ton)
Grade #78 (fine patch)	\$24.00 - \$40.00 (per ton)

### Sand:

Masonry Sand	\$46.00 (per ton)
Mortar Sand	\$30.00 (per yard)

### Concrete Driveways:

Residential	\$117.00 (per cubic yard)
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REMARKS: Prices include delivery.

# Schedule of Values

**Chatham County 2017**

MATERIAL TYPE: Swimming Pools, Spas

DATE: 9-26-16

DEALER:

INFO FROM: Website

INFO FROM: Marshall & Swift

DESCRIPTION: Residential Pools:

18'x36'(Vinyl)

\$18000 - \$30000

15'x30' (Fiberglass)

\$32000

Spa

\$6000

pump

concrete apron (4 feet wide/10 square yards)

filter

lights

REMARKS: Vinyl pool prices include sand or light concrete base or equal, prices do not include privacy fence or bathhouse.

# Schedule of Values

Chatham County 2017

Material Type: Piers & Boat Docks

DATE: 9-26-16

Dealer:

INFO FROM: Marshall & Swift

INFO FROM: Internet

Piers & Boat Docks Wood

\$22.00 To \$27.00 (Per Sq.Ft.)

Price based on 1,000 Ft. or less for pier, plank and floating dock constructed out of treated lumber, bolts, nut, nails, other misc. hardware and floatation under floating docks.

## Description:

Sea Walls & Retaining Walls Wood	\$16.00 (Per Sq.Ft.)
Sea Walls & Retaining Walls Standard 8" Interlocking	\$20.00 (Per Sq.Ft.)
Sea Walls & Retaining Walls 6" Colonial Designer	\$25.00 (Per Sq.Ft.)
Sea Walls & Retaining Walls <6' Redi-Rock 6'x10'	\$30.00 (Per Sq.Ft.)

**PERCENT GOOD SCHEDULES AND TABLES**

It is often advisable to develop schedules and tables to be used as a guide for the appraiser to determine value. The use of such tables is especially applicable in mass appraisals for tax equalization purposes where it is essential to establish and maintain uniformity. Percent Good tables, however, based on actual age alone are impractical. Remodeling, for instance, has the effect of prolonging the remaining life of a building, thus making its effective age considerably different than its actual age. Consideration must be given to all the factors operating to influence the overall condition, desirability, and degree of usefulness of each structure.



**DWELLING PERCENT GOOD  
CDU RATING SYSTEM**

As houses grow older, they wear out; they become less desirable, less useful. This universal decline in value is called depreciation, and appraisers are required to determine the degree of this loss in each property they examine. If all houses deteriorated at the same rate, this decline in value would be a simple function of the age of the structure - a certain percentage per year. However, houses depreciate at varying rates depending on a score or so of variables.

Every building is acted upon by two value reducing forces. One tends to shorten its physical life; the other shortens its economic life. Both forces act concurrently, overlap, and affect each other. A new house, or any type of structure for that matter, has its greatest value at the moment of completion. Its expectancy of life - both physical and economic - is longest on the day the key is handed over by the builder. The building is then most desirable and most useful. The future benefits which the occupant may expect to enjoy are at the maximum. From that day forward, however, decay and wear and tear act to lessen the value of the structure by curtailing its remaining capacity for use.

At the same time the house is "wearing out", it is also "going out of style". It is becoming less desirable. It is progressively becoming less useful, both from the effect of forces within the property (obsolescence), and outside of it as well (encroachment of undesirable influences such as less desirable property uses).

Neither physical decline nor functional loss is constant in their action.

Deterioration is a relatively steady process offset periodically by maintenance.

Worn-out elements of the building are repaired or replaced at intervals, depending upon the policy of the owner. Cheaper houses generally deteriorate faster than better ones. Obsolescence and encroachment may come slowly, or happen almost overnight. The forces which cause both deterioration and functional/economic depreciation may act and often do act simultaneously, but they are not necessarily related. A house may decline in physical condition, and yet throughout its entire life remain relatively functional.

Obviously enough, the age of a house remains an important factor in estimating accrued depreciation. A certain number of houses will receive "normal" maintenance and will experience "average" economic loss due to obsolescence and functional depreciation. These buildings will depreciate at an average rate as they grow older.

Other houses will lose value at lesser or more rapid rates. CDU Ratings provide a logical reasoning process, by means of which normal age depreciation may be modified according to the appraiser's best determination of the relative loss; of value in a structure, as compared with the average loss that might be expected. Thus, the age of a dwelling is an unreliable indicator of the degree of depreciation from its cost new. For houses depreciate not merely because they grow older - but because they wear out and become less desirable and less useful from a variety of causes.

To assist the appraiser in establishing the "CDU Ratings" of buildings, several simple classifications have been established. These classifications or ratings are entirely natural, and will fit the normal impressions of the appraiser as he examines a building. Following is a tabulation of CDU Ratings, with their accompanying definitions of the observed physical condition of the building, and its degree of desirability and usefulness for its age and for its type.

**CDU RATING GUIDE**

CDU RATING OF DWELLING	DEFINITION
Excellent	Building is in perfect condition; very attractive and highly desirable
Very Good	Slight evidence of deterioration; still attractive and quite desirable.
Good	Minor deterioration visible; slightly less attractive and desirable, but useful.
Average	Normal wear and tear is apparent; average attractiveness and desirability.
Fair	Marked deterioration - but quite usable; rather unattractive and undesirable
Poor	Definite deterioration is obvious; definitely undesirable, and barely usable.
Very Poor	Condition approaches unsoundness; extremely undesirable and barely usable.
Unsound	Building is definitely unsound and practically unfit for use.

Age is reflected as an index of the normal deterioration and obsolescence in a structure which may be expected over the years. Condition represents a variable measure of the effects of maintenance and remodeling on a building. Desirability is a measure of the degree of appeal a particular building may have to prospective purchasers. Usefulness is a measure of the utility value of the structure for the purpose for which it may be used.

Percent good is defined as the resultant estimate of the diminishing value of an improvement, after subtracting the amount of estimated depreciation from the Replacement Cost New. For example, a structure which is estimated to be 45 percent depreciated as of a given time has a percent good of 55. Therefore, depreciation and percent good are complements of each other. Once the CDU Rating of a building has been established through a consideration of its condition, desirability, and usefulness for its age and its type, reference to the Basic Percent Good Table will indicate the appropriate value percent remaining for a structure possessing these qualities, in the degree observed and noted by the appraiser.

The degree of deterioration and obsolescence, or loss of value from all causes, both within and without the property, is automatically taken into account. This is accomplished by means of a simple rating of the capabilities and qualities of the structure, in precisely the same terms as would a prospective purchaser. Sound valuation theory presupposes the existence of a prospective buyer with intelligence enough to

compare the advantages and disadvantages of competing properties, and to rate the property he is examining according to its relative degree of desirability and usefulness.

## **APPLYING THE CDU SYSTEM**

To apply the CDU System, the appraiser rates each house according to his composite impression of its relative condition, desirability, and usefulness for its age and type. The following four actual cases illustrate this convenient and practical method of determining percent good in houses.

Case One: A fifteen-year-old single family residence situated in an attractive residential suburb of a typical American community. Grade "B" with two baths. Minor deterioration is visible: slightly less attractive and desirable than new, but useful. A qualified observer would rate this house above average on the CDU Rating System. Accordingly, our appraiser has assigned it a CDU Rating of "Good". Referring to the table, we find 95% Good would be appropriate.

Case Two: A one story frame house seven years old. Grade "C" or average quality construction: three bedrooms, one and one-half baths. Structure shows normal wear and tear and has average attractiveness and desirability. The appraiser's impression is, "for a seven-year-old Grade "C" house, this would be rated as Average." From the table we find 97% Good is indicated.

Case Three: This century-old Colonial style frame house is located in a New England seaport community; erected 1858. Grade "B" or good quality construction. Building has been extremely well maintained and completely modernized with central heating, electric lighting, and plumbing added. The structure is in good physical condition in spite of its age. Building is architecturally attractive and quite desirable. The appraiser's impression is, "for a very old house of Grade "B" quality', this is an Excellent one ". From the table 75% Good is indicated.

Case Four: A twenty-four-year-old single family residence of Grade "C" quality; one story and basement, frame construction; three bedrooms with bath. Structure has had normal maintenance and is average in physical condition. Within the past two years, an elevated six-lane expressway passing over the adjoining lot has been erected. This encroachment has seriously detracted from the attractiveness and desirability of the property. Accordingly, the appraiser has assigned a CDU Rating of "Very Poor". From the table 65% Good is indicated.

## **DWELLING PERCENT GOOD**

1. Rate the dwelling in terms of its overall condition, desirability, and usefulness.
2. Select the proper percent good relative to its actual age.

**C.D.U. TABLE ( PERCENT GOOD )**

<b>YEAR BUILT</b>	<b>EX</b>	<b>VG</b>	<b>GD</b>	<b>AV</b>	<b>FR</b>	<b>PR</b>	<b>VP</b>	<b>UN</b>
2013-2017	100	100	100	99	95	90	85	10
2008-2012	100	99	98	97	93	87	83	10
2003-2007	100	98	97	95	90	85	80	10
1998-2002	98	97	95	90	85	75	70	10
1993-1997	95	95	90	85	80	70	65	5
1988-1992	90	90	85	80	75	65	60	5
1978-1987	85	85	80	75	70	60	50	5
1968-1977	80	80	75	70	65	55	40	5
1958-1967	75	75	70	65	60	45	35	5
1948-1957	75	70	65	60	55	35	25	5
1947-Older	75	65	60	55	55	25	15	1

**MANUFACTURED SINGLE SECT C.D.U. TABLE**

<b>YEAR BUILT</b>	<b>MEX</b>	<b>MVG</b>	<b>MGD</b>	<b>MAV</b>	<b>MFR</b>	<b>MPR</b>	<b>MVP</b>	<b>MUN</b>
2016	99	99	99	99	90	80	70	5
2015	98	98	98	98	88	78	68	5
2014	97	97	96	96	86	76	66	5
2013	96	96	95	95	84	74	64	5
2012	95	94	93	92	82	72	62	5
2011	94	93	92	90	80	70	60	5
2010	93	92	90	88	78	68	58	5
2009	92	91	89	86	76	66	56	5
2008	91	90	87	84	74	64	54	5
2006	90	88	86	82	72	62	52	5
2005	89	87	84	80	70	60	50	5
2004	88	86	83	78	68	58	48	5
2002	87	84	81	76	66	56	46	5
2003	86	83	80	74	64	54	44	5
2002	85	81	78	72	62	52	42	5
2001	84	80	77	70	60	50	40	5
2000	83	79	75	68	58	48	38	5
1999	82	78	74	66	56	46	36	5
1998	81	77	72	64	54	44	34	5
1997	80	75	71	62	52	42	32	5
1996	79	74	69	60	50	40	30	5
1995	78	73	68	58	48	38	28	5
1994	77	71	65	56	46	36	26	5
1993	76	70	64	54	44	34	24	5
1992	75	69	62	62	42	32	22	5
1991	74	68	61	50	40	30	20	5
1990	73	67	59	48	38	28	18	5
1989	72	65	58	46	36	26	16	5
1988	71	64	56	44	34	24	14	5
1987	70	63	55	42	32	22	12	5
1986-Older	69	62	54	40	30	20	10	5

**COMMERCIAL/INDUSTRIAL PERCENT GOOD  
COMMON CAUSES OF OBSOLESCENCE**

In the final analysis, an estimate of depreciation or value loss represents an opinion of the appraiser as to the degree that the present and future appeal of a property has been diminished by deterioration and obsolescence. The accuracy of the estimate will be a product of the appraiser's experience in recognizing the symptoms of deterioration and obsolescence and his ability to exercise sound judgment in equating his observations to the proper monetary allowance to be deducted from the replacement cost new, The following tables have been provided as guidelines to assist the appraiser in arriving at the resultant estimate of the diminishing value of improvements after subtracting all forms of depreciation. Following is a listing of some of the most common sources of functional and economic obsolescence which should further assist him in arriving at a reasonable estimate of obsolescence.

**Common Causes of  
Functional Obsolescence**

- Poor ratio of land to building area.
- Inadequate parking, and/or truck and Railroad loading and unloading facilities.
- An appearance unattractive and inconsistent with present use and surrounding properties.
- Poor proportion of office, rental, or manufacturing, and warehouse space.
- Inadequate or unsuited utility space.
- Limited use and excessive material and product handling costs caused by irregular and inefficient floor plans, varying floor elevations, inadequate clearance, and cut up interiors with small bays and excessive number of walls, posts and columns.
- Multi-story design when single story would be more efficient and economical.
- Excessive or deficient floor load capacity.
- Insufficient and inadequate elevator Service.
- High maintenance costs resulting from mixed building constructions and/or the use of obsolete building materials.

Effects of corrosion created by manufacturing, processing, or storing of chemicals.

Foundational and structural failures due to poor soil conditions, poor design, excessive loading, poor maintenance, excessive vibration of building and process equipment.

Inadequate power distribution, heating, ventilation, air condition, or lighting systems.

**Common Causes of  
Economic Obsolescence**

- Zoning laws and other governmental regulations which affect the usage and operation of the property.
- Building code requirements which set current acceptable construction standards.
- Market acceptability of the product or services for which the property was constructed or is currently used.
- Profitability of the operation of the property and the justifiable investment which the business would support.
- Termination of the need for the property due to actual or probable changes in economic or social conditions.

**COMMERCIAL/INDUSTRIAL  
ECONOMIC LIFE GUIDELINES**

Economic life is an estimate of the normal life expectancy of a component. The following are some suggested guidelines for the average expected life of various commercial/industrial buildings and yard improvements.

<b>BUILDINGS</b>	<b>WOOD JOISTS</b>	<b>FIRE RESISTANT</b>	<b>FIRE PROOF</b>
Apartment	40	40	50
Apartment (High Rise)	--	40	50
Automobile Agency	33 <sup>1</sup> / <sub>3</sub>	40	40
Bowling Alley	30	40	40
Car Wash (Conventional)	30	40	40
Car Wash (Manual)	20	20	--
Fast Food Restaurants	30	30	30
Hotel	30	40	50
Industrial	33 <sup>1</sup> / <sub>3</sub>	40	50
Medical Center	40	50	50
Motel	30	33 <sup>1</sup> / <sub>3</sub>	40
Nursing Home	33 <sup>1</sup> / <sub>3</sub>	40	50
Office (Conventional)	40	40	60
Office {Institutional}	--	50	60
Pre-Engineered Build. (Heavy)	--	40	--
Pre-Engineered Build. (Med.)	--	35	--
Pre-Engineered Build. (Light)	30	30	--
Service Station	20	20	--
Shopping Center	33 <sup>1</sup> / <sub>3</sub>	40	50
Store	30	40	50
Theater	30	40	50
Truck Terminal	33 <sup>1</sup> / <sub>3</sub>	40	40
Warehouse	30	40	40

**YARD IMPROVEMENTS**

Asphalt Paving	12
Concrete Paving	20
Reinforced Concrete Platforms	35
Wood & Timber Platforms	25
Chain Link Fence	20
Masonry Fence	35
Wood Fence	15
Masonry Stacks	40
R R Siding	35
Steel Incinerators {Lined}	15
Concrete Reservoirs	30

# Schedule of Values

# Chatham County 2017

## COMMERCIAL DEPRECIATION TABLE

55-60 Year Life	Code C1 or C2	50 Year Life	Code C3	40-45 Year Life	Code C4 or C5	30-35 Year Life	Code C6 or C7	20-25 Year Life	Code C8 or C9
Improv. Age	Average Deprec.	Improv. Age	Average Deprec.	Improv. Age	Average Deprec.	Improv. Age	Average Deprec.	Improv. Age	Average Deprec.
01-02	01%	01-02	01%	01-02	01%	01-02	01%	01-02	02%
03-04	02%	03-04	02%	03-04	02%	03-04	02%	03-04	04%
05-06	03%	05-06	03%	05-06	03%	05-06	03%	05-06	06%
07-08	04%	07-08	04%	07-08	04%	07-08	04%	07-08	08%
09-10	05%	09-10	05%	09-10	05%	09-10	05%	09-10	10%
11-12	06%	11-12	06%	11-12	06%	11-12	06%	11-12	12%
13-14	07%	13-14	07%	13-14	07%	13-14	07%	13-14	14%
15-16	08%	15-16	08%	15-16	09%	15-16	10%	15-16	15%
17-18	09%	17-18	09%	17-18	10%	17-18	13%	17-18	20%
19-20	10%	19-20	10%	19-20	12%	19-20	17%	19-20	25%
21-22	11%	21-22	12%	21-22	15%	21-22	21%	21-22	30%
23-24	12%	23-24	14%	23-24	17%	23-24	23%	23-24	35%
25-26	13%	25-26	16%	25-26	20%	25-26	27%	25-26	40%
27-28	15%	27-28	18%	27-28	22%	27-28	30%	27-28	45%
29-30	17%	29-30	20%	29-30	25%	29-30	33%	29-40	50%
31-32	18%	31-32	22%	31-32	27%	30-32	37%	41-50	55%
33-34	20%	33-34	24%	33-34	30%	33-34	40%	51-59	60%
35-36	22%	35-36	26%	35-36	50%	35-36	43%	60-Up	65%
37-38	23%	37-38	28%	37-38	50%	37-38	46%		
39-40	25%	38-40	30%	39-40	50%	39-50	50%		
41-46	27%	40-42	32%	41-42	50%	51-60	55%		
47-50	33%	43-46	36%	43-46	50%	61-Up	60%		
51-54	37%	47-50	40%	47-70	50%	29-30	33%		
55-58	40%	51-54	44%	72-Up	55%				
55-60	42%	55-58	48%						
61-64	46%	59-70	50%						
65-75	50%	71-Up	60%						
76-Up	60%								

Depreciation Tables for all commercial properties start at average condition for actual age, as indicated in tables above. To adjust for physical condition or functional obsolescence other than average, use the multipliers listed below. The first two digits relate to type of construction, the third entry first letter relates to grade quality, the last entry second letter relates to physical condition or functional obsolescence.

Code	Construction Type	Quality Grade	Condition	Multiplier
1	Wood Frame	A - Excellent	R - Rehabilitated	70%
2	Masonry	B - Good	E - Excellent	80%
3	Concrete	C - Average	G - Good	90%
4	Fireproof	D - Economy	A - Average	100%
5	Rigid Steel Fr.	E - Minimum	F - Fair	110%
			P - Poor	120%
			V - Very Poor	140%

EXAMPLE: (02BP) This entry is Masonry Construction, Good Quality, Poor condition for a multiplier of 120%.

A building 20 years old with a 40 year life, you would multiply the table driven rate of 25% by condition adjustment of 120% for a total depreciation of 30%. (25% x 120% = 30%)

**OTHER BUILDING AND YARD ITEM  
PERCENT GOOD GUIDELINES**

The appraisal of other buildings and yard improvements for both residential and agricultural properties is a difficult task. Other buildings and yard improvements are rarely purchased or sold separately from the balance of the property. The cost of construction of a swimming pool, which is built for the convenience and comfort of a property owner, will rarely add an equivalent amount to the market value of the property. The cost of construction of a farm outbuilding that can be justified by its contribution to the farming operation will again seldom add an equivalent amount to the market value of the property.

In effect, other buildings and yard improvements have value in direct proportion to their degree of utility or usefulness. This is an extension of the principle of contribution, which affirms that the value of any factor in production is dependent upon the amount which it contributes to the overall net return, irrespective of the cost of its construction. Any effective approach to the valuation of other buildings and yard improvements must reflect the action of investors. Informed farm owners and operators would not invest in buildings which could not pay for themselves by either maintaining or adding to the required level of productivity. Homeowners would not invest in swimming pools, detached garages, etc., which would not supply the degree of comfort and/or convenience they desire.

Five individual Percent Good Tables have been developed to assist the appraiser in valuing the various other building and yard improvements that are normally encountered. The following is a list of the five tables.



**MISCELLANEOUS STRUCTURES  
DEPRECIATION**

**D1**

AGE	DEPR.
00-01	10%
02-02	20%
03-03	25%
04-04	30%
05-05	35%
06-06	40%
07-07	45%
08-UP	50%

**D2**

AGE	DEPR.
00-01	05%
02-02	10%
03-03	15%
04-04	20%
05-05	25%
06-06	30%
07-07	35%
08-08	40%
09-09	45%
10-10	50%
11-11	55%
12-12	60%
13-13	65%
14-14	70%
15-UP	75%

**D3**

AGE	DEPR.
00--03	05%
04--06	10%
07--09	15%
10--12	20%
13--15	25%
16--18	30%
19--21	35%
22--24	40%
25--27	45%
28--30	50%
31--35	55%
36--40	60%
41--45	65%
45--50	70%
49--UP	75%

**D4**

AGE	DEPR.
00--04	05%
05--08	10%
09--12	15%
13--16	20%
17--20	25%
21--24	30%
25--28	35%
29--32	40%
33--36	45%
37--40	50%
41--44	55%
45--48	60%
49--52	65%
53--56	70%
57--UP	75%

**D5**

AGE	DEPR.
00--05	05%
06--10	10%
11--15	15%
16--20	20%
21--25	25%
26--30	30%
31--35	35%
36--40	40%
41--45	45%
46--50	50%
51--55	55%
56--60	60%
61--65	65%
66--70	70%
71--UP	75%

**LAND SCHEDULES & TABLES**

The following land schedules and tables are used to identify land types and establish value. Land value is determined by many factors including location, desirability and ability for intended use. The appraiser will consider as many of these factors as possible. Many sales of land are driven by desire for land to remain in the family. These type transactions are not to be considered as many times they do not represent market value.

The appraiser will review sales of similar types, size, shape, topo and neighborhood to establish the assessed value. All sales are considered prior to the county-wide revaluation date. The sales given the most weight and used will meet the state definition of true market sales. The following work sheet and definitions are used to sort land for assessment.

# Schedule of Values

Chatham County 2017

## Chatham County North Carolina LAND TYPES AND RATES

Neighborhood \_\_\_\_\_

Neighborhood Name \_\_\_\_\_

Acreage = AC    Lot = LT    Square Ft = SS    Site Imp. = SI

LAND TYPE	LAND DESCRIPTION	AC	LT	SS	SI
B	Primary				
B1	Primary/Public Water				
S	Secondary				
S1	Secondary/Public Water				
U	Undeveloped				
R	Residual				
O	Open				
D	Woodland				
W	Waste				
CA	Common Area				
APT	Apartment Site				
WF	Waterfront				
WF1	Waterfront Public Water				
CB	Commercial Primary				
CU	Commercial Undeveloped				
CS	Commercial Secondary				
CR	Commercial Residual				
GC	Golf Course				
IB	Industrial Primary				
IU	Industrial Undeveloped				
IS	Industrial Secondary				
IR	Industrial Residual				
EB	Exempt Primary				
EU	Exempt Undeveloped				
ES	Exempt Secondary				
ER	Exempt Residual				
FP	Flood Plain				
WS	Well/Septic				
CS	County Water/Septic				
PB	County Water/Sewer				
WPS	Well/County Sewer				

**LAND TYPES AND DESCRIPTIONS**

<b>Land Type</b>	<b>LAND DESCRIPTIONS</b>
B) Improved	Improved Site - site for possible construction of building.
B1) Improved with Public Water	Improved Site - same as above with public water available to site.
S) Secondary	Secondary Site – restricted site for possible construction of building. Example the site of a second house located behind the main house on a particular parcel
S1) Secondary with Public Water	Secondary Site - same as above with public water available to site.
U) Undeveloped	Land that is either being actively developed, being prepared for development, or the highest and best use is suitable for and likely to be developed in the near future. Typically located in suburban areas with many active subdivisions and concentrated population centers, but can also be found in rural areas with extra road frontage or pocket areas of construction. Public water and sewer is preferred but is not a requirement.
R) Residual	Land with nominal value, typically land which only has value relative to its contribution to the overall parcel value. Example: an improved parcel which consists of 1 .25 acres, one acre will be classified as an Improved Site with the remaining .25 acres priced as residual land
O) Open Land	Land typically located in rural areas of the county where much of the land is being actively farmed or is lying idle, turnover is infrequent and development is generally limited to major highway intersections and rural hamlet communities
D) Woodland	Same definition as open land, except for the presence of marketable timber.
ZV) Zero Value	Land segment used for descriptive purposes to identify quantities of land for reference Example can be used to identify the number of Agricultural Land Use acres in a given land segment.

FP) Flood Plain	Land located within the boundaries of designated 100 year flood plains. Value for Flood Plain Land takes into account the topographic features peculiar to this type of property.
CA) Common Area	Allocation of value to individual properties located in townhouse or condominium developments. Value includes interest in all common areas, e.g. parking areas, pools, tennis courts, etc.
W) Wasteland	Land which is unsuitable for any practical use. Example: land located under the waters of the South Fork River.
WF) Waterfront	Land which directly adjoins a lake refers to Residential, Commercial, and Industrial Improved Building Sites as well as Undeveloped Lots and Acreage tracts.
WF1) Waterfront with Public Water	Same as above with public water available
APT) Apartment	Apartment Building Site - site for possible construction of apartment building.
CB) Commercial Improved	Commercial Building Site - includes cost of typical site preparation, landscaping and water and sewer system access.
CS) Commercial Secondary	Commercial Building Site - includes cost of minimal site preparation, landscaping, and water and sewer service.
CR) Commercial Residual	Commercial land which has nominal value, typically land which only has value relative to its contribution to the overall parcel value.
CU) Commercial Undeveloped	Vacant Commercial Land which is suitable in size, zoning and location for commercial development.
GC) Golf Course	Course Land – land that is used for golf course not including club house or extra amenities.
IB) Industrial Improved	Industrial Building Site - includes cost of typical site preparation, landscaping and water and sewer system access.
IS) Industrial Secondary	Industrial Secondary Site - includes cost of minimal site preparation, landscaping, and water and sewer service.

IU) Industrial Undeveloped	Vacant Industrial Land which is suitable in size, zoning and location for industrial development.
IR) Industrial Residual	Industrial land which has nominal value, typically land which only has value relative to its contribution to the overall parcel value.
EB) Exempt Improved	Exempt Site – site for possible construction of exempt building.
ES) Exempt Secondary	Exempt Site – limited site for possible construction of exempt building or parking area.
EU) Exempt Undeveloped	Vacant Exempt Land which is suitable in size, zoning and location for exempt or governmental development.
ER) Exempt Residual	Exempt land which has nominal value, typically land which only has value relative to its contribution to the overall parcel value.

**LAND SITE IMPROVEMENTS**

<b>SITE TYPE</b>	<b>SITE DESCRIPTIONS</b>
WS) Well & Septic	- site improvements with well and septic tank, landscaping and driveway improvements.
CS) County Water & Septic	- site improvements with county water and septic tank, landscaping and driveway improvements.
PB) County Water & Sewer	- site improvements with county water and sewer connections, landscaping and driveway improvements.
WPS) Well & County Sewer	- site improvements with well and county sewer connections, landscaping and driveway improvements.

**VALUATION GUIDELINES**

- 1) Rural - Remote or sparsely developed areas of the county where much of the land is being actively farmed or lying idle. Turnover is infrequent and development is generally limited to major highway intersections and rural hamlet communities. Public water may or may not be available. The majority of homes and businesses in rural areas are served by individual wells and septic systems.
- 2) Suburban - Areas in the county in which development is occurring or has reached equilibrium stage. Includes concentrated communities, surrounding cities, and towns. Pockets of commercial and industrial properties are prevalent. Public water is normally available and in some cases sanitary sewer services exist but are not required.
- 3) Urban - Areas within or immediately surrounding cities or towns with a high density of housing, commercial and industrial properties. Land is almost always bought and sold with the intent to develop. Turnover is frequent and development is rapid. Public water and sewer are readily available.
- 4) Subdivisions - Areas which have been divided into plots with roadways for the purpose of development for residential, commercial or industrial. Subdivisions may have extra restrictions besides governmental restrictions. Public water may or may not be available and in some cases sanitary sewer services exist.

**MINERAL RIGHTS**

Any substance obtained by mining or fracking that occurs in nature, usually comprising inorganic substances such as quartz, feldspar, etc. as well as certain natural products of organic origin as asphalt, coal, gas, natural gas and oil. Mining refers to the excavation made in the earth for the purpose of extracting ores, coal, and precious stones, etc. either by excavation or washing the soil. Fracking refers to the procedure of using naturally created fractures or by creating fractures in rocks and rock formation by injecting fluid into cracks to force openings o allow flow out of the formation. These natural substances of commercial value, such as iron ore, coal, quartz, feldspar, asphalt, gas, natural gas and oil, etc. that is obtained by mining, quarrying, drilling or fracking shall be valued at market value and applied to the owner for ad-valorem taxation by this schedule. Market value as far as practicable is appraised and valued at its true value in money by using at least one of the three common appraisal methods, cost approach, market approach or income approach.

All rights and interest in mineral associated in underlying land, whether owned by the land owner or created by or arising under deed, lease, reservation of rights, or otherwise, which rights or interest are owned by a person other than the owner of the land, shall be assessed and taxed separately to the owner of such rights or interest in the same manner as other real estate. The taxes on separate rights or interest in real property owned by one other than the owner of the land, whether or not listed separately from the land shall be a lien on both the separate rights and on the land.

When land is owned by one party and improvements thereon or special rights (such as mineral, timber, quarry, waterpower, water, or similar rights) therein are owned by another party, the parties shall list their interest separately unless, in accordance with contractual relations between them, both the land and the improvements and special rights are listed in the name of the owner of the land.

**Mineral Rights Rate**

\$5.00 - \$25,000 per acre.

**Solar/Wind Farms**

Solar/Wind farms are designed to generate electric power for public and private use. The land use for these devices is assessed using the table below.

Code	Description	Rate	Average Income	Cap Rate %
SF	Solar Farm	\$13,000/Acre	\$800/Ac/Year	.06
WF	Wind Farm	\$13,000/Acre	\$800/Ac/Year	.06



**LAND PRICING GUIDELINES****Acreage Method**

<b>Land Type</b>	<b>Range</b>
AC B	\$12,000 - \$1,000,000
AC B1	\$14,500 - \$1,000,000
ACAP	\$12,000 - \$150,000
AC S	\$ 9,000 - \$750,000
AC S1	\$11,500 - \$750,000
AC U	\$ 4,800 - \$1,000,000
AC R	\$ 3,000 - \$500,000
AC O	\$ 2,000 - \$42,000
AC D	\$ 2,000 - \$27,000
AC FP	\$ 1,200 - \$ 2,000
AC W	\$ 600- \$ 25,000
AC WF	\$200,000 - \$850,000
AC WF1	\$ 200,000 - \$850,000
AC CB	\$15,000 - \$1,000,000
AC CU	\$6,000 - \$500,000
AC CR	\$13,500 - \$500,000
AC CS	\$11,000- \$750,000
AC IB	\$10,000- \$250,000
AC IU	\$ 4,000 - \$90,000
AC IS	\$7,500- \$225,000
AC IR	\$ 2,500 - \$90,000
AC EB	\$12,000- \$500,000
AC EU	\$ 4,800- \$200,000
AC ES	\$9,000 - \$375,000
AC ER	\$ 3,000 - \$125,000
AC APT	\$25,000 - \$75,000

## Lot Method

Land Type	Range
LT B	\$9,000- \$1,000,000
LTB1	\$10,875 - \$1,500,000
LT U	\$3,600 - \$600,000
LTR	\$2,250 - \$250,000
LT WF	\$275,500 - \$725,000
L T WF 1	\$275,000 - \$725,000
L T CA (RES)	\$12,000 - \$25,000
L T CA (COM)	\$300,000 - \$850,000
L T CT	\$60,000 - \$100,000

## Square Foot Method

Land Type	Range
SS CB	\$ 0.35 - \$30
SS CS	\$ 0.25- \$25
SS CU	\$ 0.15 - \$ 20
SS CR	\$ 0.05 - \$10
SS IB	\$ 0.35 - \$ 10
SS IS	\$ 0.25 - \$10
SS IU	\$ 0.15 - \$8
SS IR	\$ 0.05 - \$5
SS B	\$ 0.20 - \$ 10
SS B1	\$ 0.35 - \$10

## Site Improvements

Site Type	Range
SI WS	\$5000 - \$6000
SI CS	\$5500 - \$6500
SI PB	\$5500 - \$6500
SI WPS	\$5500 - \$6500

The previous tables represent base rate ranges for different types of land in the Townships of Chatham County. Acreage and square footage have an internal size adjustment based on a standard size per type with incremental and decremental rates. (see base rate land valuation for example.)

**APARTMENT LAND GUIDE****PRICE PER UNIT**

<b>MONTHLY RENT</b>	<b>GOOD</b>	<b>AVERAGE</b>	<b>FAIR</b>
\$600 – Up	\$9,000 - \$15,000	\$9,000 - \$14,000	\$8,000 - \$13,000
\$500 - \$550	\$8,000 - \$14,000	\$8,000 - \$13,000	\$7,000 - \$12,000
\$450 - \$500	\$7,000 - \$13,000	\$7,000 - \$12,000	\$6,000 - \$11,000
\$400 - \$450	\$6,000 - \$12,000	\$7,000 - \$11,000	\$6,000 - \$10,000
\$350 - \$400	\$5,000 - \$11,000	\$6,000 - \$10,000	\$5,000 - \$9,000
\$300 - \$350	\$4,000 - \$10,000	\$5,000 - \$9,000	\$4,000 - \$8,000
\$250 - \$300	\$3,000 - \$9,000	\$4,000 - \$8,000	\$3,000 - \$7,000
Below \$250	\$2,000 - \$8000	\$1,500 - \$7,000	\$1,000 - \$6,000

**GOLF COURSE LAND**     \$5,000 - \$50,000 PER ACRE

**LAND INFLUENCE FACTORS****GENERAL:**

The technique of land pricing, as described in other sections of this manual, provides for the development of unit land rates for all classes of real property within a given area or neighborhood. These land rates are developed from verified, recent sales and are expected to reflect market value for various prevalent land types as of the effective valuation date for each given area.

Land rates will be developed for parcels in the following Categories:

Lot  
Square Foot  
Acreage

It is significant to point out that assigned land rates are based on typical or normal conditions for that class of property and land type within a specific neighborhood or area. It is likely that some number of specific parcels, within a neighborhood, will have unique factors affecting the value of that land parcel. These "Land Influences Factors" may affect the value of a specific parcel beneficially or detrimentally. I.E., plus or minus compared to the norm for the neighborhood.

Proper appraisal practice indicates that a land rate adjustment or "Land Influence Factor" should be applied by the review appraiser to properly reflect the unique considerations for a parcel with significant physical or economic characteristics, deviating from the normal conditions reflected by the neighborhood land rates.

The primary goal of a Revaluation Program is equalization; it is strongly recommended that users of this manual exercise proper judgment and caution in the application of land influence factors.

**Land Influence Factor Guidelines****Topography**

This category allows the reviewer's judgment of the degree of difficulty due to poor topography in erecting a suitable improvement on the subject parcel.

Normally if a suitable improvement is present on the subject lot, the topography problem has been corrected. Therefore, an improved lot normally should have no allowance for topography. However, a topography influence may need to be applied in significant cases of un-improved lots or tracts where poor topography represents an actual detriment to the presumed utilization of the parcel.

Topography factors include; irregular land contour, poor drainage, potential subsidence, sub-surface rock ledge, potential erosion, and flood plain areas.

The following is presented as topography factor guide:

**TOPOGRAPHY INFLUENCE FACTOR GUIDE**

	<b>CONDITION</b>	<b>FACTOR</b>
Normal	Problem corrected or not significant.	00%
Slight	Problem is a moderate handicap to full utilization of the lot but is correctable. The lot is buildable but less desirable than typical lots in the area due to topography problem.	10% - 25%
Moderate	Problem is significant but correctable in that it prevents the development of the lot until the topography problem is corrected.	25% - 75%
Severe	The topography problem is so severe it is not economically feasible to develop the lot.	50% - 90%
Un-Buildable	The topography problem is so severe it is not economically feasible to develop the lot. An example would be a lot that cannot pass Health and safety perk tests.	50% - 90%

**Shape or Size**

Shape or size factor is normally a negative adjustment to account for loss of value to a parcel due to highly irregular shape or insufficient size for the presumed utilization of the parcel.

Shape or size factor is a review judgment and may apply to all land types. The basis for any factor is a negative adjustment reducing the subject lot value to the amount and degree of land utility applicable for the presumed utilization.

The following is presented as a shape/size factor guide:

	Condition	Factor
Normal	Shape or size is no significant detriment to the presumed utilization of the parcel.	NONE
Minor	The lot is buildable and/or economically usable for the presumed utilization but irregular shape or insufficient size precludes the full utilization of the parcel.	10% - 25%
Moderate	Irregular shape or insufficient size represents a significant handicap to the presumed utilization and/or development of the land category is restricted to a significant under improvement or under utilization of the parcel.	25% - 75%
Un-Buildable	The shape or size problem is so severe that it renders the land category unusable and/or unbuildable for the presumed utilization. A typical example would be an undersized lot subject to minimum zoning restrictions which effectively prevents any economical utilization.	75% - 90%

**Restrictions**

A negative land influence adjustment for restrictions is applicable for cases where the property is subject to a legal or physical restriction to its utilization. Typical examples would include:

Utility easements, as power lines and sewer lines. Zoning or deed restrictions to the property, limiting the utilization to a less than normal use for typical lots in the neighborhood.

Physical barriers to the property as bridges, highway medians, fences or abutments.

The following is presented as a land influence factor guide for restrictions:

	CONDITION	FACTOR
Normal	No significant restriction to the property exists.	NONE
Minor	A restriction of moderate significance, legal or physical, exists which causes the property to be less desirable than similar lots in the area which are not subject to this restriction but does not prevent utilization of the property for the presumed use.	10% - 25%
Moderate	A restriction of major significance, legal or physical, exists which causes the property to be restricted to a less than full utilization compared to similar lots in the area, which are not subject to this restriction. An example would be power lines bisecting the lot which prevent the building of a dwelling but would be suitable for a garage or secondary structure.	25% - 75%
Un- Buildable	A restriction of very severe impact, legal or physical, exists which causes the property to be rendered virtually un-buildable or unusable for any significant utilization compared to similar lots in the area which are not subject to this restriction. An example would be a lot rendered non-accessible by a highway right-of-way.	75% - 90%

**Economic Mis-Improvement**

This category is reserved as a reviewer's judgment of the comparative loss of value in land (either under-improvement or over-improvement). In essence, this judgment is expressing the appraiser's opinion that the existing structure represents an encumbrance to the full utilization of the land.

The application of a mis-improvement factor for Residential/Agricultural property is possible but very rare. Most instances occur in commercial or industrial situations where market evidence indicates a different economic utilization of the land than the current utilization. It is important to recognize in the application of economic mis-improvement factors that the land is presumed to be valued on the bases of typical, "highest and best" utilization and the existing structure is non-contributory to this most economical

utilization. Obviously, vacant tracts are not encumbered by any structure; therefore, vacant tracts are not subject to economic mis-improvement factors. Further, the appraiser should recognize that the economic mis-improvement condition is “curable”: i.e., if the structure is removed, the previously applied economic mis-improvement factor is normally no longer applicable.

Typical examples include:

Dwellings in areas converting to commercial development, or gross under-improvement, as an old warehouse located in an area where market evidence indicates modern office complex development.

Following is an Economic Mis-Improvement Factor Guide:

	CONDITION	FACTOR
Normal	The property is unimproved (No major structures present) or the existing structure is consistent with the economical utilization of the land.	NONE
Minor	The land is encumbered with a structure that represents an economic mis-improvement and the structure has an assigned value of 25% to 50% of the land value at highest and best use.	25% - 50%
Major	The land is encumbered with a structure that represents an economic mis-improvement and the structure has an assigned value of 50% or more of the land value at the highest and best use.	50% - 75%

**Corner and/or Alley Influence**

This category is reserved for the recognition of the enhancement in land value attributable to the potential utilization of a corner lot, over and above the value of an otherwise comparable inside lot. The enhancement due to the presence of a rear or side alley is normally common to all lots in a given area or block. Therefore, recommended procedure for enhancement due to alley influence, if any, is to consider this factor in the land rate itself.

The amount of enhancement, if any, to a corner lot must be based on the individual merits of each corner location.



Normally, corner influence is not applicable to Residential/Agricultural property. Corner influence factors should be applied to only those cases of commercial or industrial property where the corner is an actual enhancement to the land.

Following is presented as a guide for Corner Influence Factors:

	CONDITION	FACTOR
Normal	The presence of a corner or alley has no significant enhancement effect to the property. Example: The side street has restricted access as a dead-end street.	NONE
Minor	The lot value is moderately enhanced by the presence of corner or alley exposure. Example: Intersection of two secondary streets or a major arterial street and a secondary street.	+10% - +25%
Major	The lot value is significantly enhanced by the presence of corner or alley exposure. Example: The intersection of two major arterial streets.	+25% - +100%

**View Influence**

This factor is normally a positive adjustment for lots or parcels where the land value is significantly enhanced by the presence of a scenic or waterfront view when compared to similar lots in the area where no significant view is present. This factor also applies to golf course lots.

It is highly recommended that the appraiser exercise due caution in the application of view influence. It is useful to remember that while the subject may have an appealing view, if this condition is common the most parcels in the area, then comparatively there is probably no real view enhancement. The appraiser should also consider the permanency of the view, i.e., the probability of potential obstruction.

The following is a View Influence Factor Guide:

	CONDITION	FACTOR
Normal	The view is considered common to the area, and market evidence indicates no actual value enhancement exists.	NONE
Minor	The subject property has a moderate enhancement due to an appealing view, and market evidence: Indicates value enhancement exists.	+10% - +25%
Major	The subject property has a significant enhancement due to an appealing view. Further, the view enhancement is not common to similar lots in the area and there is little or no potential for obstruction of the view by other structures.	+25% -+100%
Negative	For properties with less than normal or typical views, the appraiser should apply negative factors to the affected properties as indicated by market analysis and evidence.	-10% - -75%

**Waterfront Influence**

The following is a list of influences for waterfront land values. The influences can be either negative or positive.

**Waterfront Cove – WFC** This adjustment is for lots located in a cove ranging from no cove to a very narrow cove. This can also be used for the restriction of water depth. This is a negative influence.

	CONDITION	FACTOR
No Cove	The property is either not in a cove or the width of the cove has no effect on the value of the property.	NONE
Minor	The property is in a wide cove and/or is in a cove close to the main channel.	(-) 05% - (-) 10%

# Schedule of Values

# Chatham County 2017

Moderate	The property is in a cove that the width of the cove has narrowed but still has full use of the water.	(-) 15% - (-) 25%
Major	The property is in a narrow cove.	(-) 30% - (-) 50%
Severe	The property is in a very narrow cove and/or the water depth affects the movement of a boat.	(-) 55% - (-) 90%

**Waterfront Frontage – WFF** This adjustment is for lots that either have extra or limited water frontage that significantly enhances or restricts the land value because it is typical for the neighborhood. Parcels that contain enough water frontage and are large enough to satisfy size requirements will be valued as multiple lots.

	CONDITION	FACTOR
Normal	The frontage is considered typical for the area, and market evidence indicates no actual value enhancement or reduction exists.	NONE
Minor	The frontage on the lake is significantly more or less than typical for the neighborhood and analysis of the market indicates a value enhancement or reduction.	(+)/(-)5% - (+)/(-)10%
Major	The frontage on the lake is either excessively more or is limited to the point it might affect the use.	(+)/(-) 15% - (+)/(-) 25%

**Waterfront Restriction – WFR** This adjustment is for lots that have a restriction. For example a parcel with buttonwood growing on the land has an environmental restriction. This is a negative influence to the waterfront value.

	CONDITION	FACTOR
Normal	The property has no restrictions that affect value.	NONE
Minor	The property has a minor restriction that slightly affects value.	(-) 5% - (-) 10%
Moderate	The property has a restriction(s) that affects the use of the Riparian Rights but does not affect the ability to develop the balance of the property.	(-) 15% - (-) 50%

Major                      The property has Riparian Rights restriction(s) as well as other restrictions that render the property un-buildable but useable for water access.                      (-) 55% - (-) 90%

**Waterfront Size – WFS**    This adjustment is for lots that have a limited size compared to the typical sized lot in the neighborhood and this size difference is not addressed in the Base Rate Pricing Method internal size adjustment. This is a negative influence to the waterfront value.

	CONDITION	FACTOR
Normal	The property fits within the normal size range for the internal size adjustments in the neighborhood.	NONE
Minor	The property has a minor size variance that is atypical for the neighborhood but does not affect the ability to develop the property.	(-) 5% - (-) 15%
Moderate	The property has a size variance that is atypical for the neighborhood and this variance limits maximum development of the lot.	(-) 20% - (-) 50%
Un-Buildable	The properties size restricts it for any use other than as a water access lot.	(-) 55% - (-) 90%

**Waterfront View – WFV**    This adjustment is for lots that have better than the normal view (ex. view of the main channel) or a restricted view (ex. view blocked by a bridge). This can be a negative or positive influence.

	CONDITION	FACTOR
Normal	The view has no obstructions and no full view of main channel. Cove adjustment takes the limitations of view when it is applied.	NONE
Minor	The view has a slight view of the main channel or has a distant view within a cove, or the view is slightly obstructed.	+)(-5% - +)(-10%
Major	The property has a good view of the main channel or the view is severely obstructed.	+)(-15% - +)(-25%

Land that is not on the water can also have a waterfront view and the adjustment can range from a positive 5% to 100%

**BASE RATE LAND VALUATION TECHNIQUE**

The Base Rate Land Valuation Technique allows the appraiser to establish land rates using either a price per acre, price per square foot or price per lot for each parcel located within an individual neighborhood unit. This method also allows the appraiser to develop base land sizes for each land segment type within the neighborhood.

Incremental/Decremental Rates are developed as a percentage of the Base Land Rates to allow for size adjustments for those parcels which are either smaller or larger than the indicated base sizes established for the neighborhood.

**EXAMPLE 1:**

**Neighborhood 0103 NORTHBROOK RURAL**

Land Type	Base Size (Acreage)	Base Rate (Per Acre)	Decrement Rate	Increment Rate
AC B	1.00	16000	8000	16000
AC U	20.00	8000	8000	4800
AC FP	20.00	2500	2500	1500

Subject parcel consists of 50 acres, including: one (1) acre primary site, nine (9) acres of flood plain and forty (40) acres of undeveloped land. The base rate valuation technique will value the parcel in the following manner:

1 acre Primary Site @ \$16000 per acre	\$ 16000
9 acres Flood Plain @ \$2500 per acre	\$ 22500
40 acres Undeveloped Land @ \$6400 per acre (average) (20 acres @ \$8000 per acre - 20 acres @ \$4800 per acre)	\$256000
<b>TOTAL APPRAISED VALUE OF LAND</b>	<b>\$294500</b>

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EXAMPLE 2:

Neighborhood 0513N NORMAN ESTATES

Land Type	Base Size (Acreage)	Base Rate (Per Acre)	Decrement Rate	Increment Rate
AC WF1	1.00	825000	82500	825000
AC R	2.00	82500	82500	49500

Subject parcel consists of an improved waterfront lot containing .65 acres with a typical view of Lake Jordan. The base rate valuation technique will value the parcel in the following manner:

Base Size (-) Subject Size = Residual Size  
(1.00 acre) (.65 acres) (.35 acres)

Residual Size x Decrement = Residual Value  
(.35 acres) (\$82500/acre) (\$28875)

Base Rate (-) Residual Value = Appraised Value  
(\$825000/acre) (\$28875) (\$796125)

Appraised Value/Subject Size = Effective Rate/Acre  
(\$796125) (.65 acres) (\$1224807)

Subject Site x Effective Rate/Acre = Appraised Value  
(.65 acres) (\$1224807) (\$796125)

TOTAL APPRAISED VALUE OF LAND

\$796125

**SUPPLEMENTAL DATA**

The following data is provided as a guide to using the tables and rates in the schedule. Also, it is to further illustrate the assessment process.

USPAP Standard 6 is taken from The Appraisal Foundation standards. Although there is more standards from the Appraisal Foundation standard 6 is the only one that applies to a county-wide revaluation.



## STANDARD 6

USPAP 2016-2017 Edition 39

□The Appraisal Foundation

### STANDARD 6: MASS APPRAISAL, DEVELOPMENT <sup>1154</sup> AND REPORTING

1155 **In developing a mass appraisal, an appraiser must be aware of, understand, and correctly employ those**

1156 **recognized methods and techniques necessary to produce and communicate credible mass appraisals.**

1157 Comment: STANDARD 6 applies to all mass appraisals of real or personal property regardless of the purpose or use of such appraisals.<sup>53</sup>

1164 A mass appraisal includes:

1158 STANDARD 6 is directed toward the

1159 substantive aspects of developing and communicating credible analyses, opinions, and

1160 conclusions in the mass appraisal of properties. Mass appraisals can be prepared with or

1161 without computer assistance. The reporting and jurisdictional exceptions applicable to public

1162 mass appraisals prepared for ad valorem taxation do not apply to mass appraisals prepared for

1163 other purposes.

1165 1) identifying properties to be appraised;

1166 2) defining market area of consistent behavior that applies to properties;

1167 3) identifying characteristics (supply and demand) that affect the creation of value in

1168 that market area;

1169 4) developing a model structure that reflects the relationship among the characteristics

1170 affecting value in the market area;

1171 5) calibrating the model structure to determine the contribution of the individual

1172 characteristics affecting value;

1173 6) applying the conclusions reflected in the model to the characteristics of the

1174 property(ies) being appraised; and

1175 7) reviewing the mass appraisal results.

1176 The JURISDICTIONAL EXCEPTION RULE may apply to several sections of STANDARD

1177 6 because ad valorem tax administration is subject to various state, county, and municipal

1178 laws.

#### 1179 Standards Rule 6-1

1180 **In developing a mass appraisal, an appraiser must:**

1181 **(a) be aware of, understand, and correctly employ those recognized methods and techniques**

1182 **necessary to produce a credible mass appraisal;**

1183 Comment: Mass appraisal provides for a systematic approach and uniform application of

1184 appraisal methods and techniques to obtain estimates of value that allow for statistical review

1185 and analysis of results.

1186 This requirement recognizes that the principle of change continues to affect the manner in

1187 which appraisers perform mass appraisals. Changes and developments in the real property and

1188 personal property fields have a substantial impact on the appraisal profession.

1189 To keep abreast of these changes and developments, the appraisal profession is constantly

1190 reviewing and revising appraisal methods and techniques and devising new methods and

1191 techniques to meet new circumstances. For this reason it is not sufficient for appraisers to

1192 simply maintain the skills and the knowledge they possess when they become appraisers.

<sup>53</sup> See Advisory Opinion 32, *Ad Valorem Property Tax Appraisal and Mass Appraisal Assignments*.

## STANDARD 6

40 USPAP 2016-2017 Edition

□The Appraisal Foundation

Each appraiser must continuously improve his or her skills <sup>1193</sup> to remain proficient in mass

1194 appraisal.

1195 **(b) not commit a substantial error of omission or commission that significantly affects a mass**

1196 **appraisal; and**

1197 Comment: An appraiser must use sufficient care to avoid errors that would significantly affect

1198 his or her opinions and conclusions. Diligence is required to identify and analyze the factors,

1199 conditions, data, and other information that would have a significant effect on the credibility

1200 of the assignment results.

1201 **(c) not render a mass appraisal in a careless or negligent manner.**

1202 Comment: Perfection is impossible to attain, and competence does not require perfection.

1203 However, an appraiser must not render appraisal services in a careless or negligent manner.

1204 This Standards Rule requires an appraiser to use due diligence and due care.

1205 **Standards Rule 6-2**

1206 **In developing a mass appraisal, an appraiser must:**

**(a) identify the client and other intended users;<sup>54</sup>**

**(b) identify the intended use of the appraisal;**

1207

55

1209 Comment: An appraiser must not allow the intended use of an assignment or a client's objectives to

1210 cause the assignment results to be biased.

1208

1211 **(c) identify the type and definition of value, and, if the value opinion to be developed is market**

1212 **value, ascertain whether the value is to be the most probable price:**

1213 **(i) in terms of cash; or**

1214 **(ii) in terms of financial arrangements equivalent to cash; or**

1215 **(iii) in such other terms as may be precisely defined; and**

1216 **(iv) if the opinion of value is based on non-market financing or financing with unusual**

1217 **conditions or incentives, the terms of such financing must be clearly identified and the**

1218 **appraiser's opinion of their contributions to or negative influence on value must be**

1219 **developed by analysis of relevant market data;**

1220 Comment: For certain types of appraisal assignments in which a legal definition of market

1221 value has been established and takes precedence, the JURISDICTIONAL EXCEPTION

1222 RULE may apply.

**(d) identify the effective date of the appraisal;<sup>56</sup>**

<sup>54</sup> See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users.*

1223

<sup>55</sup> See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users.*

<sup>56</sup> See Advisory Opinion 34, *Retrospective and Prospective Value Opinions.*

## **STANDARD 6**

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□ The Appraisal Foundation

**(e) identify the characteristics of the properties that are relevant to the type and 1224 definition of value and intended use;<sup>57</sup>**

1226 **(i) the group with which a property is identified according to similar market influence;**

1225 **including:**

1227 **(ii) the appropriate market area and time frame relative to the property being valued; and**

1228 **(iii) their location and physical, legal, and economic characteristics;**

1229 Comment: The properties must be identified in general terms, and each individual property in

1230 the universe must be identified, with the information on its identity stored or referenced in its

1231 property record.

1232 When appraising proposed improvements, an appraiser must examine and have available for

1233 future examination, plans, specifications, or other documentation sufficient to identify the

1234 extent and character of the proposed improvements.<sup>58</sup>

1235 Ordinarily, proposed improvements are not appraised for ad valorem tax. Appraisers,

1236 however, are sometimes asked to provide opinions of value of proposed improvements so that

1237 developers can estimate future property tax burdens. Sometimes units in condominiums and

1238 planned unit developments are sold with an interest in un-built community property, the pro

1239 rata value of which, if any, must be considered in the analysis of sales data.

1234

1240 **(f) identify the characteristics of the market that are relevant to the purpose and intended use of the**

1241 **mass appraisal including:**

1242 **(i) location of the market area;**

1243 **(ii) physical, legal, and economic attributes;**

1244 **(iii) time frame of market activity; and**

1245 **(iv) property interests reflected in the market;**

1246 (g) in appraising real property or personal property:

1247 (i) identify the appropriate market area and time frame relative to the property being  
1248 valued;

1249 (ii) when the subject is real property, identify and consider any personal property, trade  
1250 fixtures, or intangibles that are not real property but are included in the appraisal;

1251 (iii) when the subject is personal property, identify and consider any real property or  
1252 intangibles that are not personal property but are included in the appraisal;

1253 (iv) identify known easements, restrictions, encumbrances, leases, reservations, covenants,  
1254 contracts, declarations, special assessments, ordinances, or other items of similar nature;  
1255 and

<sup>57</sup> See Advisory Opinion 23, *Identifying the Relevant Characteristics of the Subject Property of a Real Property Appraisal Assignment*, if applicable.

<sup>58</sup> See Advisory Opinion 17, *Appraisals of Real Property with Proposed Improvements*, if applicable.

## STANDARD 6

42 USPAP 2016-2017 Edition

□ The Appraisal Foundation

(v) identify and analyze whether an appraised fractional interest, <sup>1256</sup> physical segment or  
1257 partial holding contributes pro rata to the value of the whole;

1258 Comment: The above requirements do not obligate the appraiser to value the whole  
1259 when the subject of the appraisal is a fractional interest, physical segment, or a  
1260 partial holding. However, if the value of the whole is not identified, the appraisal  
1261 must clearly reflect that the value of the property being appraised cannot be used to  
1262 develop the value opinion of the whole by mathematical extension.

1263 (h) analyze the relevant economic conditions at the time of the valuation, including market  
1264 acceptability of the property and supply, demand, scarcity, or rarity; <sup>1265</sup> (i) identify any extraordinary  
assumptions and any hypothetical conditions necessary in the

1266 assignment; and

1267 Comment: An extraordinary assumption may be used in an assignment only if:

1268 • it is required to properly develop credible opinions and conclusions;

1269 • the appraiser has a reasonable basis for the extraordinary assumption;

1270 • use of the extraordinary assumption results in a credible analysis; and

1271 • the appraiser complies with the disclosure requirements set forth in USPAP for  
1272 extraordinary assumptions.

1273 A hypothetical condition may be used in an assignment only if:

1274 • use of the hypothetical condition is clearly required for legal purposes, for purposes  
1275 of reasonable analysis, or for purposes of comparison;

1276 • use of the hypothetical condition results in a credible analysis; and

1277 • the appraiser complies with the disclosure requirements set forth in USPAP for  
1278 hypothetical conditions.

1279 (j) determine the scope of work necessary to produce credible assignment results in accordance with  
the SCOPE OF WORK RULE.<sup>59</sup>

### 1281 Standards Rule 6-3

1280

1282 When necessary for credible assignment results, an appraiser must:

1283 (a) in appraising real property, identify and analyze the effect on use and value of the following  
1284 factors: existing land use regulations, reasonably probable modifications of such regulations,  
1285 economic supply and demand, the physical adaptability of the real estate, neighborhood trends,  
1286 and highest and best use of the real estate; and

1287 Comment: This requirement sets forth a list of factors that affect use and value. In considering  
1288 neighborhood trends, an appraiser must avoid stereotyped or biased assumptions relating to  
1289 race, age, color, gender, or national origin or an assumption that race, ethnic, or religious  
1290 homogeneity is necessary to maximize value in a neighborhood. Further, an appraiser must  
1291 avoid making an unsupported assumption or premise about neighborhood decline, effective  
1292 age, and remaining life. In considering highest and best use, an appraiser must develop the  
1293 concept to the extent required for a proper solution to the appraisal problem.

<sup>59</sup> See Advisory Opinion 28, *Scope of Work Decision, Performance, and Disclosure*, and Advisory Opinion 29, *An Acceptable Scope of Work*.

## STANDARD 6

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□The Appraisal Foundation

**(b) in appraising personal property: identify and analyze the effects on use and value of industry trends, value-in-use, and trade level of personal property. Where applicable, analyze the current use and alternative uses to encompass what is profitable, legal, and physically possible, as relevant to the type and definition of value and intended use of the appraisal. Personal property has several measurable marketplaces; therefore, the appraiser must define and analyze the appropriate market consistent with the type and definition of value.**

Comment: The appraiser must recognize that there are distinct levels of trade and each may generate its own data. For example, a property may have a different value at a wholesale level of trade, a retail level of trade, or under various auction conditions. Therefore, the appraiser must analyze the subject property within the correct market context. **Standards Rule 6-4**

**In developing a mass appraisal, an appraiser must**

**(a) identify the appropriate procedures and market information required to perform the appraisal, including all physical, functional, and external market factors as they may affect the appraisal;**

Comment: Such efforts customarily include the development of standardized data collection forms, procedures, and training materials that are used uniformly on the universe of properties under consideration.

**(b) employ recognized techniques for specifying property valuation models; and**

Comment: The formal development of a model in a statement or equation is called model specification. Mass appraisers must develop mathematical models that, with reasonable accuracy, represent the relationship between property value and supply and demand factors, as represented by quantitative and qualitative property characteristics. The models may be specified using the cost, sales comparison, or income approaches to value. The specification format may be tabular, mathematical, linear, nonlinear, or any other structure suitable for representing the observable property characteristics. Appropriate approaches must be used in appraising a class of properties. The concept of recognized techniques applies to both real and personal property valuation models.

**(c) employ recognized techniques for calibrating mass appraisal models.**

Comment: Calibration refers to the process of analyzing sets of property and market data to determine the specific parameters of a model. The table entries in a cost manual are examples of calibrated parameters, as well as the coefficients in a linear or nonlinear model. Models must be calibrated using recognized techniques, including, but not limited to, multiple linear regression, nonlinear regression, and adaptive estimation.

**Standards Rule 6-5**

**In developing a mass appraisal, when necessary for credible assignment results, an appraiser must:**

**(a) collect, verify, and analyze such data as are necessary and appropriate to develop:**

**(i) the cost new of the improvements;**

**(ii) accrued depreciation;**

**(iii) value of the land by sales of comparable properties;**

## STANDARD 6

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□The Appraisal Foundation

**(iv) value of the property by sales of comparable properties;**

**(v) value by capitalization of income or potential earnings - i.e., rentals, expenses, interest rates, capitalization rates, and vacancy data;**

Comment: This Standards Rule requires appraisers engaged in mass appraisal to take reasonable steps to ensure that the quantity and quality of the factual data that are collected are sufficient to produce credible appraisals. For example, in real property, where applicable and feasible, systems for routinely collecting and maintaining ownership, geographic, sales, income and expense, cost, and property characteristics data must be established. Geographic data must be contained in as complete a set of cadastral maps as possible, compiled according to current standards of detail and accuracy. Sales data must be collected, confirmed, screened, adjusted, and filed according to current standards of practice. The sales file must contain, for each sale, property characteristics data that are contemporaneous with the date of sale.

1345 Property characteristics data must be appropriate and relevant to the mass appraisal models  
1346 being used. The property characteristics data file must contain data contemporaneous with  
1347 the date of appraisal including historical data on sales, where appropriate and available. The  
1348 data collection program must incorporate a quality control program, including checks and  
audits of the data to ensure current and consistent records.

1350 **(b) base estimates of capitalization rates and projections of future rental rates and/or potential  
1351 earnings capacity, expenses, interest rates, and vacancy rates on reasonable and appropriate  
evidence;** <sup>60</sup>

1353 Comment: This requirement calls for an appraiser, in developing income and expense  
1354 statements and cash flow projections, to weigh historical information and trends, current  
1355 market factors affecting such trends, and reasonably anticipated events, such as competition  
1356 from developments either planned or under construction.

1357 **(c) identify and, as applicable, analyze terms and conditions of any available leases; and  
(d) identify the need for and extent of any physical inspection.**<sup>61</sup>

1359 **Standards Rule 6-6**

1358

1360 **When necessary for credible assignment results in applying a calibrated mass appraisal model an  
1361 appraiser must:**

1362 **(a) value improved parcels by recognized methods or techniques based on the cost approach, the  
1363 sales comparison approach, and income approach;**

1364 **(b) value sites by recognized methods or techniques; such techniques include but are not limited to  
1365 the sales comparison approach, allocation method, abstraction method, capitalization of ground  
1366 rent, and land residual technique;**

1367 **(c) when developing the value of a leased fee estate or a leasehold estate, analyze the effect on value,  
1368 if any, of the terms and conditions of the lease;**

1369 Comment: In ad valorem taxation the appraiser may be required by rules or law to appraise  
1370 the property as if in fee simple, as though unencumbered by existing leases. In such cases,

<sup>60</sup> See Advisory Opinion 33, *Discounted Cash Flow Analysis*.

<sup>61</sup> See Advisory Opinion 2, *Inspection of Subject Property*.

## **STANDARD 6**

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□ The Appraisal Foundation

market rent would be used in the appraisal, ignoring the effect 1371 of the individual, actual  
1372 contract rents.

1373 **(d) analyze the effect on value, if any, of the assemblage of the various parcels, divided interests, or  
1374 component parts of a property; the value of the whole must not be developed by adding together**

1375 **the individual values of the various parcels, divided interests, or component parts; and**

1376 Comment: When the value of the whole has been established and the appraiser seeks to value  
1377 a part, the value of any such part must be tested by reference to appropriate market data and  
1378 supported by an appropriate analysis of such data.

1379 **(e) when analyzing anticipated public or private improvements, located on or off the site, analyze  
1380 the effect on value, if any, of such anticipated improvements to the extent they are reflected in**

1381 **market actions.**

1382 **Standards Rule 6-7**

1383 **In reconciling a mass appraisal an appraiser must:**

1384 **(a) reconcile the quality and quantity of data available and analyzed within the approaches used and  
1385 the applicability and relevance of the approaches, methods and techniques used; and**

1386 **(b) employ recognized mass appraisal testing procedures and techniques to ensure that standards of  
1387 accuracy are maintained.**

1388 Comment: It is implicit in mass appraisal that, even when properly specified and calibrated  
1389 mass appraisal models are used, some individual value conclusions will not meet standards of  
1390 reasonableness, consistency, and accuracy. However, appraisers engaged in mass appraisal  
1391 have a professional responsibility to ensure that, on an overall basis, models produce value  
1392 conclusions that meet attainable standards of accuracy. This responsibility requires appraisers  
1393 to evaluate the performance of models, using techniques that may include but are not limited  
1394 to, goodness-of-fit statistics, and model performance statistics such as appraisal-to-sale ratio  
1395 studies, evaluation of hold-out samples, or analysis of residuals.

1396 **Standards Rule 6-8**

1397 **A written report of a mass appraisal must clearly communicate the elements, results, opinions, and value**

1398 **conclusions of the appraisal.**

1399 **Each written report of a mass appraisal must:**

1400 **(a) clearly and accurately set forth the appraisal in a manner that will not be misleading;**

1401 **(b) contain sufficient information to enable the intended users of the appraisal to understand the report properly;**

1403 Comment: Documentation for a mass appraisal for ad valorem taxation may be in the form of

1404 (1) property records, (2) sales ratios and other statistical studies, (3) appraisal manuals and

1405 documentation, (4) market studies, (5) model building documentation, (6) regulations, (7)

1406 statutes, and (8) other acceptable forms.

1407 **(c) clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical**

1408 **conditions, and limiting conditions used in the assignment;**

**STANDARD 6**

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□The Appraisal Foundation

Comment: The report must 1409 clearly and conspicuously:

1410 • state all extraordinary assumptions and hypothetical conditions; and

1411 • state that their use might have affected the assignment results.

1412 **(d) state the identity of the client, unless the client has specifically requested otherwise; state the identity of any intended users by name or type;<sup>62</sup>**

1414 Comment: An appraiser must use care when identifying the client to avoid violations of the

1415 Confidentiality section of the ETHICS RULE. If a client requests that their identity be

1416 withheld from the report, the appraiser may comply with this request. In these instances, the

1417 appraiser must document the identity of the client in the workfile and must state in the report

1418 that the identity of the client has been withheld at the client's request.

1413

**(e) state the intended use of the appraisal;<sup>63</sup>**

1420 **(f) disclose any assumptions or limiting conditions that result in deviation from recognized methods<sup>64</sup>**

1421 **and techniques or that affect analyses, opinions, and conclusions;**

1419

1422 **(g) set forth the effective date of the appraisal and the date of the report;**

1423 Comment: In ad valorem taxation the effective date of the appraisal may be prescribed by law.

1424 If no effective date is prescribed by law, the effective date of the appraisal, if not stated, is

1425 presumed to be contemporaneous with the data and appraisal conclusions.

1426 The effective date of the appraisal establishes the context for the value opinion, while the date

1427 of the report indicates whether the perspective of the appraiser on the market and property as

of the effective date of the appraisal was prospective, current, or retrospective.<sup>64</sup>

1429 **(h) state the type and definition of value and cite the source of the definition;**

1428

1430 Comment: Stating the type and definition of value also requires any comments needed to

clearly indicate to intended users how the definition is being applied.<sup>65</sup>

1432 When reporting an opinion of market value, state whether the opinion of value is:

1431

1433 • In terms of cash or of financing terms equivalent to cash; or

1434 • Based on non-market financing with unusual conditions or incentives.

1435 When an opinion of market value is not in terms of cash or based on financing terms

1436 equivalent to cash, summarize the terms of such financing and explain their contributions to

1437 or negative influence on value.

1438 **(i) identify the properties appraised including the property rights;**

1439 Comment: The report documents the sources for location, describing and listing the property.

1440 When applicable, include references to legal descriptions, addresses, parcel identifiers,

1441 photos, and building sketches. In mass appraisal this information is often included in property

<sup>62</sup> See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users*.

<sup>63</sup> See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users*.

<sup>64</sup> See Advisory Opinion 34, *Retrospective and Prospective Value Opinions*.

<sup>65</sup> See Advisory Opinion 34, *Retrospective and Prospective Value Opinions*.

**INCOME MODEL APPROACH**

The Income Model Approach includes models for the following property groups:

Apartments

Hotels/Motels

General Retail/Shopping Center

General Office/Medical Office

Convenience Stores

Restaurant/Franchise Restaurant

Manufacturing/Warehouse

Mobile Home Parks

Self -Storage

Service Shop/Service Garage

Income and Expense Models are developed for each property group to cover the range of properties located within Chatham County. Income and expense models are based on typical net lease situations. For triple net and other type leases, expense ratios should be adjusted to reflect actual or typical expenses of the landlord in this type of arrangement.

Economic Income is developed on a gross square foot or unit basis. Potential Gross Income is adjusted for occupancy loss to produce an Effective Gross Income. Income and Occupancy factors may be adjusted for exceptional properties on an individual basis.

Expenses for management and marketing, maintenance, utilities, reserve for replacement, property taxes and other operating expenses are specified as a percentage of Effective Gross Income. Expenses are deducted from Effective Gross Income to generate a Net Income, which is then capitalized using a band of investment technique.

Income Models include associated capitalization parameters:

- a) Typical financing percentage rates and terms.

b) Cash on cash requirements.

These capitalization parameters may be adjusted for lower or higher risk properties through an override of the Indicated model rates. Capitalization Rates are computed excluding an effective tax rate and applied to the Net Income to generate an indicated value.



# Schedule of Values

Chatham County 2017

## HOTELS/MOTELS

EFFECTIVE DAILY ROOM RATE      EXPENSE RATIOS      CAPITALIZATION

<u>MODEL #</u>	<u>EFFECTIVE RATE</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>NIM</u>
01	\$125 – UP PER NIGHT	25 – 50%	5 - 10%	25 - 50%	.09 - .10	2 – 3
02	\$100 – \$125 PER NIGHT	25 – 50%	5 – 10%	25 – 50%	.09 - .10	2 – 3
03	\$65 – \$100 PER NIGHT	25 – 50%	5 – 10%	25– 50%	.09 - .10	2 – 3
04	\$40 – \$65 PER NIGHT	30 – 50%	5 – 10%	40 – 50%	.10 - .11	2 – 3
05	\$20 – \$40 PER NIGHT	40 – 60%	5 – 10%	40 – 60%	.10 - .12	2 – 3

## APARTMENTS

MONTHLY RENTAL RATE

EXPENSE RATIOS

CAPITALIZATION

<u>MODEL #</u>	<u>1BR</u>	<u>2BR</u>	<u>3BR</u>	<u>4BR</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	750 - UP	800 - UP	850 - UP	1000 - UP	5 – 10%	3 – 10%	25 – 40%	.08 - .10	7 – 9
02	750	800	850	1000	5 – 10%	3 – 10%	25 – 40%	.09 - .10	7 – 8
03	625	700	750	800	5 – 10%	3 – 10%	25 – 40%	.09 - .10	6 – 7
04	550	600	650	700	5 – 10%	3 – 10%	30 – 40%	.10 - .11	6 – 7
05	450	500	550	600	10 – 15%	3 – 10%	30 – 40%	.10 - .11	6 – 7
06	350	400	450	550	10 - 15%	3 - 10%	30 - 40%	.10 - .12	5 - 6
	-less	-less	-less	-less					

# Schedule of Values

Chatham County 2017

## GENERAL RETAIL/SHOPPING CENTER

### ANNUAL SQUARE FOOT RENT

### EXPENSE RATIOS

### CAPITALIZATION

<u>MODEL #</u>	<u>ECONOMIC RENT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$25 - UP PER SQ/FT	3 - 5%	3 - 5%	10 - 20%	.08 - .10	7 - 8
02	\$20 - \$25 PER SQ/FT	3 - 5%	5 - 10%	10 - 25%	.08 - .10	7 - 8
03	\$15 - \$20 PER SQ/FT	5 - 10%	5 - 10%	15 - 30%	.08 - .10	6 - 7
04	\$10 - \$15 PER SQ/FT	5 - 10%	5 - 10%	20 - 40%	.09 - .11	6 - 7
05	\$6 - \$ 10 PER SQ/FT	10 - 15%	5 - 10%	25 - 40%	.09 - .11	5 - 6
06	\$6 - less PER SQ/FT	10 - 15%	5 - 10%	25 - 40%	.10 - .12	5 - 6

## GENERAL OFFICE/MEDICAL OFFICE

### ANNUAL SQUARE FOOT RENT

### EXPENSE RATIOS

### CAPITALIZATION

<u>MODEL #</u>	<u>ECONOMIC RENT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$25 - UP PER SQ/FT	3 - 5%	3 - 5%	10 - 20%	.08 - .09	7 - 8
02	\$20 - \$25 PER SQ/FT	3 - 5%	5 - 10%	10 - 25%	.08 - .09	7-8
03	\$15 - \$20 PER SQ/FT	5 - 10%	5 - 10%	15 - 30%	.08 - .09	6 - 7
04	\$12 - \$15 PER SQ/FT	5 - 10%	5 - 10%	20 - 40%	.09 - .10	6 - 7
05	\$8 - \$12 PER SQ/FT	5 - 10%	5 - 10%	25 - 40%	.09 - .10	5 - 6
06	\$8 - less PER SQ/FT	10 - 15%	5 - 10%	25 - 40%	.10 - .11	5 - 6

# Schedule of Values

Chatham County 2017

## CONVENIENCE STORES

### ANNUAL SQUARE FOOT RENT

### EXPENSE RATIOS

### CAPITALIZATION

<u>MODEL #</u>	<u>ECONOMIC RENT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$25 - UP PER SQ/FT	0 - 3%	5 - 10%	15 - 20%	.09 - .10	N/A
02	\$20 - \$25 PER SQ/FT	3 - 5%	5 - 10%	15 - 20%	.09 - .10	N/A
03	\$15 - \$20 PER SQ/FT	3 - 5%	5 - 10%	20 - 25%	.10 - .11	N/A
04	\$10 - \$15 PER SQ/FT	3 - 5%	5 - 10%	20 - 25%	.10 - .11	N/A
05	\$10 - less PER SQ/FT	5 - 10%	5 - 10%	25 - 40%	.11 - .12	N/A

## RESTAURANTS/FRANCHISE RESTAURANTS

### ANNUAL SQUARE FOOT RENT

### EXPENSE RATIOS

### CAPITALIZATION

<u>MODEL #</u>	<u>ECONOMIC RENT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$40 - UP PER SQ/FT	0 - 5%	5 - 10%	10 - 20%	.08 - .09	N/A
02	\$30 - \$40 PER SQ/FT	5 - 10%	5 - 10%	15 - 20%	.08 - .09	N/A
03	\$25 - \$30 PER SQ/FT	5 - 10%	5 - 10%	20 - 25%	.09 - .10	N/A
04	\$15 - \$25 PER SQ/FT	5 - 10%	5 - 10%	20 - 25%	.09 - .10	N/A
05	\$10 - \$15 PER SQ/FT	5 - 10%	5 - 10%	25 - 40%	.10 - .11	N/A
06	\$10 - less PER SQ/FT	10 - 15%	5 - 10%	25 - 40%	.11 - .12	N/A

GRMN N/A

# Schedule of Values

Chatham County 2017

## MANUFACTURING/WAREHOUSE

### ANNUAL SQUARE FOOT RENT

### EXPENSE RATIOS

### CAPITALIZATION

GRM

<u>MODEL #</u>	<u>ECONOMIC RENT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$4.00 – UP PER SQ/FT	5 – 10%	5 – 10%	20 - 30%	.09 - .11	6-7
02	\$2.50 - \$4.00 PER SQ/FT	10 – 15%	5 – 10%	25 – 40%	.09 - .11	6-7
03	\$1.50 - \$2.50 PER SQ/FT	10 – 20%	5 – 10%	25 – 40%	.11 - .12	5-6
04	\$1.50 – less PER SQ/FT	10 – 20%	5 – 10%	25 – 50%	.12 - UP	5-6

## MOBILE HOME PARKS

### ECONOMIC RENT

### EXPENSE RATIOS

### CAPITALIZATION

GRM

<u>MODEL #</u>	<u>ECONOMIC RENT PER SITE</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$250 – UP PER MONTH	10 – 50%	5 – 10%	25 – 40%	.09 - .10	6 - 7
02	\$150 - \$250 PER MONTH	10 – 50%	5 – 10%	25 – 40%	.09 - .11	5 - 6
03	\$100 - \$150 PER MONTH	10 – 50%	5 – 10%	25 – 50%	.10 - .12	4 - 5
04	\$75 - \$100 PER MONTH	10 – 50%	5 – 10%	25 – 50%	.10 - .12	4 - 5

**GRM**

# Schedule of Values

Chatham County 2017

## SELF-STORAGE

### ECONOMIC RENT

### EXPENSES RATIOS

### CAPITALIZATION

<u>MODEL #</u>	<u>ECONOMIC RENT PER UNIT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$100 - up PER MONTH	20 - 50%	5 - 10%	15 - 25%	.09 - .11	5 - 7
02	\$75 - \$100 PER MONTH	20 - 50%	5 - 10%	15 - 25%	.09 - .11	5 - 7
03	\$50 - \$75 PER MONTH	20 - 50%	5 - 10%	20 - 30%	.09 - .11	5 - 7
04	\$35 - \$50 PER MONTH	20 - 50%	5 - 10%	20 - 30%	.09 - .11	5 - 7

**GRM**

## SERVICE SHOP/SERVICE GARAGE

### ANNUAL SQUARE FOOT RENT

### EXPENSES RATIOS

### CAPITALIZATION

<u>MODEL #</u>	<u>ECONOMIC RENT</u>	<u>VACANCY</u>	<u>MGMT</u>	<u>EXPENSES</u>	<u>CAP RATE</u>	<u>GRM</u>
01	\$10 - up PER SQ/FT	5 - 10%	5 - 10%	15 - 25%	.09 - .10	8-9
02	\$7.50 - \$10 PER SQ/FT	5 - 10%	5 - 10%	15 - 25%	.09 - .10	8-9
03	\$5 - \$7.50 PER SQ/FT	5 - 10%	5 - 10%	25 - 40%	.10 - .11	7-8
04	\$5 - less PER SQ/FT	10 - 15%	5 - 10%	25 - 40%	.10 - .11	7-8

**GRM**

**NEIGHBORHOOD DELINEATION****INTRODUCTION**

This section is provided to establish general guidelines and procedures in the identification (delineation) of residential and commercial neighborhoods.

The definition of neighborhood:

A neighbor is a set of parcels within a specific geographical area, where the parcels share a high degree of homogeneity, the environment of which has a direct and immediate impact on the value of the parcels within its boundary.

Points of interest:

Ideally, it is the smallest geographic unit that can be defined as a single area in which property characteristics for all parcels are qualitatively homogenous.

Primarily, the term neighborhood is urban and suburban in concept. However, it may be extended to rural areas.

Neighborhoods are characterized by the activities or operations that are carried on within its borders.

The boundaries of a neighborhood must be delineated for the purpose of analysis. There are three distinct types of boundaries:

1. Natural, (rivers, creeks, lakes, ravines, undeveloped areas, etc.)
2. Manmade, (streets, highways, roads, railroads, subdivision boundaries, etc.)
3. Political (city limits, school districts, zoning districts, special districts, etc.)

Four factures in the neighborhood analysis are: physical, economic, government and social. These factures must be analyzed specific to their impact on each neighborhood.

Although size is important in defining a neighborhood, other factures must be considered. A larger size neighborhood has the advantage of better protection from infiltration of inharmonious influences or detrimental property uses from adjoining properties. Small areas may better represent a neighborhood in a controled environment with many outside influences.

**NEIGHBORHOOD CODE**

The appraisal technique for both residential and commercial properties, used for assessment purposes is mass appraisal. That is within a neighborhood a large number of sales are analyzed and the results applied to a large numbers of parcels within the same neighborhood. Neighborhood grouping allows for comparable neighborhoods that are not contiguous to one another to share sales data. Results are applied to a particular group of properties (neighborhood), rather than to individual properties.

In the mass appraisal process every parcel is required to be assigned to a “neighborhood”. A code (assignment number) is a description code which links the properties of like characteristics for neighborhood grouping and subsequent market analysis and development of land rate tables. The large number of neighborhood descriptions prohibits their inclusion in this document, but the neighborhood description and grouping logs can be reviewed at the assessor’s office. Also, as new neighborhoods will be created the number of neighborhoods will need to expand.

The neighborhood description number may be alpha, numeric or alpha-numeric and is user defined. It can be assigned randomly or sequentially because its only purpose is ease of neighborhood grouping.

The steps involved in the assignment of the neighborhood description code are:

1. Identify and locate surveyed tracts and subdivisions.  
Identify and locate non-surveyed tracts and subdivision.  
Assign a description code to the area.  
Enter the assigned identification code into the individual parcels.
2. Identify and locate major pockets (clusters) of properties (towns/villages, etc.)  
Divide the pockets by like neighborhoods characteristics.  
Assign an unused identification code to each identified area.  
Enter the assigned identification code into the individual parcels.
3. Identify and locate rural areas of like neighborhood characteristics.  
Assign an unused identification code to each identified area.  
Enter the assigned identification code into the individual parcels.
4. Identify all properties that are without a neighborhood code.  
Assign to the identified properties an unused neighborhood code or to an existing identification code of like characteristics.  
Enter the assigned identification code into the individual parcels.

## NEIGHBORHOOD GROUP CODE

The neighborhood group code is designed to increase the ability of the appraiser to project market value in a given selection of properties by using sales information from like neighborhood descriptions.

Neighborhood descriptions will be assigned to the same neighborhood group if their neighborhood characteristics, ones that are important on the marketplace, prove to be similar.

Steps involved in the grouping of neighborhood descriptions, but not limited to the following:

1. Completion of the neighborhood data form.
2. Review the form for purposes of rating each neighborhood description.
3. Run sales listings and files.
  - a. Review extreme high and extreme low sales.
  - b. Array (qualified, arm's length) sales by amount.
  - c. Calculate estimated market value.
  - d. Calculate neighborhood description points.
  - e. Match the neighborhood descriptions with market values within predetermined range of each other.
  - f. Array the matched neighborhood descriptions into ascending order as determined above.
  - g. Match all neighborhood descriptions that fall within a predetermined range.
  - h. Assign all matched neighborhood's descriptions to the same neighborhood group.

## Purpose

Neighborhood Delineation is a study of forces from outside which could be considered to have an effect on property value; and also conclusions on the typical housing, economic, social and demographic characteristics of the geographic area considered a homogeneous neighborhood. A "neighborhood" for analysis purposes is defined as the largest geographic grouping of properties where the significant economic forces of those properties are generally uniform.

The Neighborhood Data Form serves three (3) main functions:

1. To provide an opinion of the typical structure, economic factors and conditions within an area considered a neighborhood. Appraisers use this information to provide a benchmark to compare each property within the neighborhood with each other.



2. To provide a generally similar geographic area to use as a statistical base for sales comparison, both during the 2017 Reappraisal and years later to measure change and update values accordingly.
3. Provide a basis to allow development of computer assisted land price tables (CALP).

Significant Characteristics Considered:

1. Physical Boundaries
  - a. Natural - as rivers, mountains, woods, streams, etc.
  - b. Manmade - as roads, highways, railroads, streets, corporation boundaries, etc.
2. Housing Characteristics - such as type, quality, age and condition.
3. Occupancy - as % of homes owner-occupied or tenant-occupied, and % of vacant structures.
4. Predominant land use and anticipated changes.
5. Typical land size and land valuation.
6. Neighborhood life cycle.
7. Estimates of market value ranges.

**INSTRUCTIONS FOR NEIGHBORHOOD DELINEATION FIELD ANALYSIS**

Step 1 - Produce large scale maps for the county, which ideally show all streets, roads and significant physical features as rivers, lakes, railroads, etc.

Step 2 - Establish preliminary neighborhood boundaries on base maps using known physical and governmental features as boundaries. A general rule would be to consider all physical separation points as, rivers, arterial streets, corporation lines, lakes, commercial-industrial areas, highways, etc., as a definite neighborhood boundary.

Step 3 - Assemble and analyze supplementary material for the community as available and useful.

Examples would include:

Census Tract Statistics  
Current and planned utility maps (sewer, public water)  
Industrial plant listing, employment base summaries.  
Listing of established subdivisions  
Planning department maps - (master development plans)  
Real estate sales data from multiple listing service and internal sales verification letters.  
Redevelopment planning maps and studies  
School district maps  
Soil maps, topographic maps, etc.  
Zoning maps and zoning restriction

Step 4 - Begin the field inspection process by conducting a thorough, street by street visual inspection throughout the county. Based on physical observation and data collected and analyzed to date, establish individual neighborhood boundaries, recognizing the specific delineation points where the properties begin to represent significant physical and economic changes from adjacent areas.

Step 5 - After establishing boundaries of each neighborhood;

A - Fill out the neighborhood data form and assign an identification number.

B - Post the established neighborhood boundaries and identification numbers to a master map.

Step 6 - Establish final boundaries and permanent neighborhood numbers and post both to the Project Master Map and Individual Field Maps used for field appraisal.

Step 7 - Determine through manual or computerized analysis the comparability of all neighborhoods. The theory here is, even though various neighborhoods may be physically separated, if the predominant value analysis characteristics such as value range, housing characteristics, neighborhood type, etc., are similar, then it is desirable to group similar neighborhoods and thereby create a larger sales data base for comparable property value analysis.

SUMMARY - Keep in mind during the neighborhood analysis process, our primary purpose is to use the neighborhoods established to develop a statistical measuring base for pooling and analyzing sales data, and subsequently using this data to determine market value for individual properties via the comparable market data approach.

# Schedule of Values

Chatham County 2017

**NEIGHBORHOOD DATA FORM**  
 CHATHAM COUNTY NORTH CAROLINA  
 02 NEIGHBORHOOD ID

IDENTIFICATION & REFERENCE						MEMORANDUM	
11	AREA NAME						
12	TAXING DISTRICT			13	NO.		
14	SCHOOL DISTRICT			15	NO.		
16	FIRE DISTRICT			17	NO.		
BOUNDARIES				CODES		DELINEATION CODES	
21	NORTH			22			1. PHYSICAL BARRIERS 2. INCOME LEVEL CHANGE 3. VALUE RANGE CHANGE 4. USE OF LAND CHANGE
23	EAST			24			
25	SOUTH			26			
27	WEST			28			
CHARACTERISTICS							
31	TYPE					35	DEMAND/SUPPLY
32	PREDOMINANT LAND USE					36	DENSITY
33	RATE IN LIFE CYCLE					37	RATE OF TURNOVER
34	NEIGHBORHOOD LIFE CYCLE					38	TYPICAL LAND SIZE
PREDOMINANT IMPROVEMENT TYPE							
03	BASE CALP INDEX		04	BASE CDU TABLE		05	NEIGHBORHOOD GROUP
06	TYPICAL CDU		07	TYPICAL GRADE			TYPICAL GRADE ADJUSTMENT
09	TYPICAL AGE GROUP (YEARS)			10	TYPE		
PREDOMINANT OCCUPANCY			TYPICAL PROPERTY FACTORS			EST. MARKET VALUE FOR RES. IMPROVED PROP.	
51	OWNER	52	TENANT	61	UTILITIES	62	STREET OR ROAD
53	VACANCY	VACANT STRUCTURES		(PREDOMINANT)		71	MINIMUM
54	CHANGE IN USE		72			MAXIMUM	
55	PROBABLE NEW USE		73			MEDIAN	
NOTES							
74	ZONING						
75	MAPS						

**NEIGHBORHOOD DATA FORM INSTRUCTIONS**

NEIGHBORHOOD ID: Enter four (4) numeric characters to the left of the vertical hash mark ranging from 0001 to 9999 to denote a specific neighborhood number. A character position to the right of the vertical hash is provided to enter an alpha character (A to Z) to denote the creation of a sub-neighborhood.

**IDENTIFICATION AND REFERENCE**

11. AREA NAME: Space up to 30 characters is provided to enter a descriptive name that the neighborhood is commonly known as:

Examples: Harper’s Crossroads, Governor’s Club, and Central Business District.

12. TAXING DISTRICT: The municipal taxing district or township is entered.

14. SCHOOL DISTRICT: Examples: West Chatham, East Chatham, or North Chatham.

15. FIRE DISTRICT: The predominant fire district.

**BOUNDARIES**

21, 23, 25, 27 - NORTH, EAST, SOUTH, AND WEST-Space up to 27 characters on each line is provided to enter the boundaries of the neighborhood. Boundaries may be streets, roads, lakes, town lines, railroads, or in short, any natural or manmade boundaries.

Examples: County Line, New Highway 64, Bear Creek, etc.

22, 24, 26, 28 - Boundary Codes - Space up to 3 characters is provided to enter the reason WHY that boundary was selected as a delineation point.

Delineation Codes 1 through 5 are provided on the form.

Examples: Field analysis has revealed that the north boundary should be Lake Jordan because it is a physical barrier to extension, development or influence from outside forces to this neighborhood. Enter “1”. If Lake Jordan was considered both a physical and a land use change point, both code “1” and code “4” could be entered. A maximum of three (3) codes may be entered for each boundary.

Codes 1 through 4 are used in a vast majority of the cases.

5. Other (Explained)

Most boundaries are for reasons that will be covered by codes 1-4. There are cases when the standard lot size makes a distinct change to the point that a new neighborhood or sub-neighborhood must be identified as such.

**Important Note:** The fact that an area is perceived to have a higher percentage of occupants of a single race, creed, color, religion or place of employment than the surrounding areas is not a legitimate reason to create a neighborhood boundary based on socioeconomic compatibility. This is both artificial in nature and discriminatory in fact.

## **CHARACTERISTICS**

Characteristics generally refer to the residential development status of the neighborhood. One choice is required for each item, 31 through 38, entry is made by circling the appropriate code number for each item.

### **31. TYPE**

1. Urban - neighborhood is a built-up area normally within the city limits of Lincolnton.
2. Suburban - normally a built-up area located outside the city limits but within normal driving and shopping distance to the urban areas. Could be incorporated or the extra-territorial jurisdiction of an urban area or unincorporated.
3. Sub-Division - normally a sub-divided and platted area of modern dwellings having highly homogeneous housing characteristic (i.e. similar type, age group, style, quality, value range, etc.), located beyond normal daily commuting distance to the urban center for work or shopping. Normally is not incorporated.
4. Rural - generally considered to be an area of relatively sparse population, open space normally devoted to farm and/or recreational land use. Always unincorporated.
5. Rural Hamlet - normally a small village or town located within a rural area and relatively remote from the urbanized areas of the community. Normally it is an unincorporated district.
6. Transitional - an area that borders a developed area and provides a buffer zone between developed areas such as urban or suburban and a rural area.

32. **PREDOMINANT LAND USE** - One choice is required. Circle the code that most accurately describes the **CURRENT** predominant land use. These choices are:

1. Residential
2. Agricultural
3. Commercial
4. Industrial
5. Other (recreational, governmental, educational, etc.)

33. RATE OF CHANGE IN LIFE CYCLE - a basic axiom of neighborhood analysis presumes that neighborhoods are subject to inevitable change, and change in the life cycle of a residential neighborhood is normal and to be expected. Circle the code that most accurately describes the speed or pace of the change taking place in the subject neighborhood. The choices are:

1. Slow - change almost imperceptible.
2. Steady - evidence of significant change taking place, but at a moderate rate.

Example: gradual development of a rural area to more intense residential development.

3. Rapid - pronounced and dramatic change taking place within a short time span (one year).

Example: old blighted residential area experiencing a rapid urban redevelopment.

34. NEIGHBORHHOD LIFE CYCLE - As mentioned above, neighborhood analysis presumes that all neighborhoods have a life cycle consisting of:

1. Inception and growth - usually rapid.
2. Relative equilibrium - Rather slow and almost imperceptible change cycle of the mature neighborhood.
3. Decline - The point of marked decay and disintegration normally associated with almost blighted neighborhoods.

Circle the code that accurately describes the current stage of neighborhood life cycle.

35. DEMAND/SUPPY - circle the code which most accurately describes the availability of properties for sale within the subject neighborhood. The choices are:

1. Shortage - more buyers available than there are properties for sale.
2. In Balance - availability approximately equal to buyer demand.

3. Over Supply - More properties available for sale than buyers, and representing a temporary or relatively permanent stagnant market condition.

36. DENSITY - Circle the code which most accurately describes the degree of present population and improvement density. Select from:

1. Low - as in rural, recreational, open space land use.
2. Medium - as in areas of single family development in the range of 50% to 75% peak development.
3. High - as in highly urbanized, virtually 100% developed neighborhoods.

37. RATE OF TURNOVER - Refers to the number of properties currently bought and sold within the subject neighborhood. Circle one of the following:

1. Low - Usually less than 5% annually of the residential properties in the neighborhood.
2. Medium- Approximately 5% annually of the residential propitious in the neighborhood.
3. High - Significantly more than 10% annually of the residential properties in the neighborhood.

38. TYPICAL LOT SIZE - Refers to the typical lot size for properties located in the neighborhood, expressed as SF (square feet) or AC (acres).

03. BASE CALP INDEX - Indicates a percentage that will be applied to the base CALP table to generate correct land values obtained from the Land Pricing Analysis form. Enter the correct index.

04. BASE CDU TABLE - Indicated the CDU table that will be applied to all improved properties in the neighborhood before pre-review. Refer to the percent good schedule section of this for clarification. Circle the most appropriate code.

05. NEIGHBORHOOD GROUP - Indicates a number that contains neighborhoods which are similar to the subject neighborhood, due to type of housing, range of values or other related characteristics.

06. TYPICAL C.D.U. - Indicates the combined condition, desirability and utility factor of a majority of residences in the neighborhood or the normalized

neighborhood CDU factor. Circle the most appropriate normalized neighborhood entry.

07. TYPICAL GRADE - Indicates the construction quality of the majority of the residences in the neighborhood, or the normalized quality grade of the neighborhood. Circle the most appropriate entry.

08. TYPE GRADE ADJUSTMENT - Indicates a factor, either plus or minus, that should be applied to the grade selected in 07 to further classify the majority of residences in the neighborhood. 0 indicates that no grade adjustment is necessary. Circle the most appropriate entry.

09. TYPICAL AGE GROUP - Indicates the average age expressed in years of the majority of residences in the neighborhood. Circle the most appropriate code.

10. TYPE - Indicates the most typical residential use in the neighborhood.

Circle the most appropriate code.

**PREDOMINANT OCCUPANCY**

This section deals with an estimate of the current utilization of the typical structures within the neighborhood.

51. OWNER - Enter (from 000% to 100%) the estimate of the current utilization of the typical structures within the neighborhood.

52. TENANT - Enter (from 000% to 100%) the estimated number of tenant occupied homes in the neighborhood.

53. VACANCY - Enter (from 000% to 100%) the estimated number of currently unoccupied homes in the neighborhood.

NOTE: Seasonal residences normally occupied at some time during the year should not be considered vacant.

54. CHANGE IN USE - Circle the most accurate choice describing the current likelihood of a change in significant land use in the neighborhood. Select from:

- 1. Not Likely
- 2. Likely
- 3. Taking Place

55. PROBABLE NEW USE - Circle the most accurate choice describing the likely anticipated future land use in the neighborhood. Select from:



- 1. None
- 2. Residential
- 3. Agricultural
- 4. Commercial
- 5. Industrial
- 6. Other

61. UTILITIES - Used to indicate what utilities are available to the majority of properties in the neighborhood. Circle the appropriate code(s).

62. STREET OR ROAD - Indicates the predominant road type in the neighborhood.

Circle the appropriate code.

**ESTIMATED MARKET VALUE FOR RESIDENTIAL IMPROVED PROPERTY**

(This activity is to be performed during Phase 2 by Appraisers)

This section represents an estimate by the field analyst of the current market value of the typical residential property within the neighborhood. Generally, it can be said that an area can be considered highly homogeneous if at least 75% of the residential property in the neighborhood falls within the minimum - maximum value range and the value range does not exceed a 25% range from the median value.

Example:      Minimum - 25000  
                    Maximum - 35000  
                    Median - 32000

71. MINIMUM - Enter, right justified, in \$100 multiples, the estimated minimum residential market value for the typical residential property in the neighborhood, after adjusting utilized valid market sales with a time index.

72. MAXIMUM - Enter, right justified, in \$100 multiples, the estimated maximum residential market value for the typical residential property in the neighborhood, after adjusting utilized market sales with a time index.

73. MEDIAN - Enter, right justified, in \$100 multiples, the estimated median residential market value for the typical residential property in the neighborhood, after adjusting utilized valid market sales with a time index. The median is defined as a measure of central tendency equal to that point in a distribution above which 50% of the values fall and below which 50% of the values fall.

74. NOTES

Thirty character positions are provided to enter any data that is considered significant enough to possibly alter future neighborhood groupings or market value ranges.

Example: Corridor of planned highway dissects neighborhood.

## GENERAL USE DISTRICTS

### A. Residential

**1. R-R | Rural Residential**

This district is composed of low density residential and related development and selected nonresidential uses, which are typically found in a rural residential area. The established regulations for this district are designed to maintain and promote a rural and semi-rural atmosphere in portions of the County in which public utilities are not available and will likely not be available in the foreseeable future.

**2. R-T | Transitional Residential**

Established to accommodate a wide variety of residential oriented uses in portions of the County which to date have not experienced significant amounts of growth. Areas considered R-T should be viewed as development "holding zones". In general, such areas do not have public water and sewer facilities.

**3. R-S | Residential Suburban**

Established to encourage residential type development in portions of the County where one or more public utilities are currently in service or are anticipated to be installed in the future, residential subdivision development is somewhat more likely in this district than in the R-R or R-T districts. Given that residential will be the major use of land in this area, careful attention must be given to the list of nonresidential uses which can take place in order to maximize aesthetics and the overall quality of life in such areas.

**4. R-SF | Residential Single Family**

Established to provide for traditional single-family subdivisions and/or maintain areas in the County for traditional single-family residential uses, such areas, in general, do not presently contain mobile or manufactured homes, duplexes or multi-family dwelling developments. Since manufactured homes and other types of residential dwelling units are accommodated in many of the other residential districts, certain areas of the County can be set aside exclusively for single-family purposes. Unlike the R-S district where public utilities are currently in place or expected to be in the near future, the provision of public utilities is not a factor in the location of the R-SF district. Thus, the R-SF district may be applied to areas which have received both suburban and more rural types of development in the past.

**5. R-CR | Residential and Commercial Recreational**

Established to provide for a combination of residential uses and outdoor recreation uses and activities, the R-CR district is appropriate for application to larger sites adjacent to Lake Jordan and other streams and bodies of water which

lend themselves to the development of outdoor recreational areas and communities.

**6. R-20 | Single-family-20**

Established as a single-family residential district, the R-20 district is intended to provide a quality residential environment and protect the quality of life for its residents and other selected uses which are permitted by conditional use permit. Each lot in the district has a minimum lot area of 20,000 square feet.

**7. R-14 | Single-family-14**

Established primarily as a single-family residential district, each lot in the district has a minimum area of 14,000 square feet. Since the purpose of this district is to maintain a quality residential atmosphere, uses permitted other than single-family are limited.

**8. R-MR | Mixed Residential**

Established to provide for higher density residential development in harmony with surrounding uses, the R-MR district allows zero lot line homes, duplexes, townhouse development and other selected uses compatible with such development. Density levels within the R-MR district may be allowed up to six units per acre.

**9. R-MF | Multi-family Residential**

Established to provide for higher density, multi-family residential development in harmony with surrounding uses and other selected uses compatible with such development, density levels within the R-MF district may be allowed up to six units per acre.

## **B. Nonresidential**

**1. O-R | Office Residential**

The O-R district is intended to accommodate modest-scale professional occupations, along with mixed residential units, to serve as a neighborhood activity center and as a transition between residential and more intense commercial uses.

**2. B-N | Neighborhood Business**

The B-N district provides for small-scale commercial uses offering primarily convenience shopping and services for adjacent residential areas. Proximity to residences requires that commercial operations are low intensity, unobtrusive and conducted at a scale and density compatible with the surrounding neighborhood. There is a relatively low demand on public services, transportation and utilities.

**3. B-G | General Business**

The B-G district provides locations of offices, service uses, and businesses retailing durable and convenience goods for the community as a whole. Located on arterials or collectors, such uses are accessible to and serve the entire community. Such uses shall be designed in such a manner so as to promote aesthetics, the safe and efficient movement of traffic and not unduly burden adjacent thoroughfares. Site design and buffering mitigate impacts of traffic, operations and scale on adjacent businesses and residential neighborhoods.

**4. B-C | Corporate Business**

The B-C district promotes the retention and growth of employment opportunities by providing areas where a select range of corporate uses may locate and where options for complementary uses exist. Intended for light manufacturing, distribution and office operations operated in a relatively clean and quiet manner, which is not obnoxious to nearby residential or business districts, warehousing and wholesaling activities, and research and development facilities. The B-C district also allows for accessory retail if integrated with an industrial or office establishment, along with restrictions against outside storage, dock area screening, and building construction materials.

**5. I-L | Industrial Light**

The I-L district promotes the retention and growth of employment opportunities by providing areas where a broad range of industrial uses may locate and where options for complementary uses exist. Industries should be operated in a relatively clean and quiet manner, and should not be obnoxious to nearby residential or business districts, warehousing and wholesaling activities, and research facilities. The regulations of this district are intended to prohibit the use of land for industries that by their nature may create some nuisance to surrounding properties.

**6. I-G | Industrial General**

The I-G district promotes the retention and growth of employment opportunities by providing areas where a broad range of industrial uses may locate and where options for complementary uses exist. Intended for heavy industries that, by their nature, may create some nuisance, and which are not properly associated with or are compatible with nearby residential or business districts, warehousing and wholesaling activities, and research facilities.

## C. Planned

**1. PD-R | Planned Development-Residential**

The PD-R district is intended to provide for master-planned residential communities containing a mix of housing types, including associated amenities with appropriate perimeter buffering and recreation and open space. This district

is primarily intended for large-scale residential projects that require either additional flexibility not available in the residential districts or greater scrutiny by the County due to their scale

**2. PD-C | Planned Development-Commercial**

The PD-C district is intended to enhance the design of a commercial development by allowing for additional flexibility not available in the nonresidential districts. The district allows for innovations and special features in site development, including the location and type of structures, the conservation of natural features, the conservation of energy, and the efficient use of recreation and open space.

**3. PD-I | Planned Development-Industrial**

The PD-I district is intended to provide a means of achieving unified industrial complexes of high quality to promote amenities beyond those expected under conventional techniques, to achieve greater flexibility in design, to encourage well-planned industrial developments that provide for community needs, to provide for appropriate use of land which is significantly unique in its physical characteristics, location or other circumstances to warrant special methods of development, and to allow the expansion of existing industrial areas while safeguarding and maintaining the integrity of surrounding uses, especially those of a residential nature.

**4. PD-MU | Planned Development-Mixed Use**

The PD-MU district is intended to provide for coordinated mixed use developments which include light industrial, commercial, office, educational, civic, institutional, residential and service uses within a planned development with appropriate perimeter buffering and recreation and open space. The variety of land uses available in this district allows flexibility to respond to market demands and the needs of tenants, which provides for a variety of physically and functionally integrated land uses.

**Note: The codes and descriptions referenced above do not represent zoning and are used for grouping of properties for tax assessments purposes only. See the Chatham County and Town/City Zoning Departments for a detailed explanation of zoning.**

## **STANDARD REVIEW PROCEDURES**

Level of Value - Acceptable Range	2016 Sales	95% - 105%
	2015 Sales	90% - 105%
	2014 Sales	85% - 110%
	2013 Sales	80% - 110%

There is a broader range in older sale years due to the economic variations in sales price in different locations of property in the county.

Remember our primary concern is to have equalization and consistency for all property.

Appraisal Date - Target date is January 1, 2017.

All sales data, building ages, depreciation, etc. is to be measured from January 1, 2017.

Sales Analysis Sheets - A sales analysis will be maintained, completed and keyed in the sales file for each appraiser's district. Sales forms will be kept by neighborhood and class of property i.e., Residential, Commercial, Etc.

Maps - All field maps are to be kept up to date by the reviewer, including street prices, land influences, acreage rates, corner influence, etc. No pre-priced land or street prices are to be changed without consultation with your supervisor.

New Construction Encountered on Review - It is the responsibility of the reviewer to measure and list all residential new construction encountered during the review phase. If the improvement cannot be finalized because construction is incomplete, the reviewer is responsible to:

1. Measure and list what is there at the time.
2. Complete the property record card as far as possible including, class, land value, depreciation, etc.
3. Enter note in the remarks area describing the status of the new construction.  
Examples: Dwelling under construction as of 10-01-16  
(50%+- complete)  
Dwelling under construction as of 10-01-16  
(foundation only)
4. Treat all new construction which cannot be finalized as incomplete.
5. Maintain a list of all incomplete new construction by map number on the appropriate new construction form. This list should include the complete parcel number and brief remarks similar to the notes on the property record card.

### Demolished or Razed Building Encountered on Review

Procedure:

1. Delete building sketch and all information on card.

2. Change occupancy from Improved to Vacant.
3. Put proper note in sketch area.

Example: Dwelling razed as of 10-01-16

Commercial/Industrial Parcels - It is the reviewer's responsibility to look and verify that all parcels not reviewed because they are coded commercial or industrial really fit the definition and are not simply a house similar to the last 50, he/she reviewed with a beauty shop in the basement. Don't interpret this instruction to mean the residential reviewer should attempt to review legitimate commercial or industrial parcels, vacant or improved. Try to use common sense and When in Doubt. ASK!

Record Keeping - One of the objectives of the project is to keep paperwork and accounting to a bare minimum. The records you will maintain are important and mandatory for a successful operation. Unless directed otherwise by future policy change, the reviewer is responsible for the following:

1. Individual Production Record - To be maintained on a daily basis.
2. Sales Analysis Forms - To be maintained, completed on line by neighborhood by district.
3. New Construction List - List all incomplete new construction on a new construction log by map.
4. Production Control Form - To be maintained on an ongoing basis per your detailed instructions.

Main Elements - Cards not listed or reviewed.

Reviewer's number and date completed

Total card count

Dwelling In Commercial Areas - You are requested to not review those parcels affected by a commercial or industrial land value influence. The main indicator for these should be the land pricers' instructions. If he/she has entered a residential street price you are to review all parcels on that block except individual commercial or industrial parcels. This usually will be a spot zoning or non-conforming zoning situation. In most of the situations the commercial reviewer will establish a land value based on commercial use and zoning and will treat the dwelling as a mis-improvement to the land. It makes a big difference in the condition good rating! Remember that for a multiple sequence of cards on one parcel, no cards are considered reviewed if all cards in the sequence including the land value are completed. If you had a gas station and a dwelling on the same parcel, leave all cards alone and indicate all cards not reviewed.



**NEW CONSTRUCTION  
PERCENTAGE OF COMPLETION  
GUIDE**

This guide is to be used in estimating the percentage of completion of both residential and commercial buildings under construction.

**PERCENT COMPLETION GUIDE**

<b>FOOTINGS ONLY.....</b>	<b>2%</b>
<b>FOUNDATION ONLY.....</b>	<b>9%</b>
<b>SUBFLOOR.....</b>	<b>13%</b>
<b>ROUGH EXTERIOR WALL.....</b>	<b>21%</b>
<b>ROOF.....</b>	<b>28%</b>
<b>ROOF COMPLETE.....</b>	<b>32%</b>
<b>EXTERIOR DOORS/WONDOWS.....</b>	<b>38%</b>
<b>ROUGH ELECTRIAL.....</b>	<b>41%</b>
<b>ROUGH PLUMBING.....</b>	<b>45%</b>
<b>ROUGH HVAC.....</b>	<b>48%</b>
<b>EXTERIOR WALLS FINISH.....</b>	<b>56%</b>
<b>INSULATION.....</b>	<b>59%</b>
<b>DRY WALL/INTERIOR WALLS.....</b>	<b>67%</b>
<b>CABINETS INSTALLED.....</b>	<b>71%</b>
<b>FINISH FLOORING.....</b>	<b>76%</b>
<b>FINISH ELECRCIC.....</b>	<b>78%</b>
<b>FINISH PLUMBING.....</b>	<b>81%</b>
<b>FINISH HVAC.....</b>	<b>84%</b>
<b>PAINTING/TRIM.....</b>	<b>92%</b>
<b>WATER/SEWER/SEPTIC.....</b>	<b>96%</b>
<b>OTHER.....</b>	<b>100%</b>

**TERMS USED TO IDENTIFY COMPLETION AND QUALITY OF STRUCTURES****FOUNDATION**

The foundation of a residence with conventional wood floor construction consists of the footings, foundation wall and interior piers. A solid perimeter foundation wall is generally constructed with 8" concrete blocks; brick-to grade construction has 12" blocks to grade level with the balance being 8" block allowing a 4" brick to rest on the outer edge of the 12" block. Interior piers are generally of the same materials as the foundation wall. Footings are poured concrete and must be a minimum of 8" deep and 3" wider (on each side) than the foundation wall.

With concrete slab floor construction, the floor, foundation walls and footings are poured monolithically. In such, case, there are no framing members for the floor structure.

Obviously, the footings and lower levels of the foundation wall cannot be seen. Therefore, unless you are informed of structural weakness or see evidence of excessive settlement, you must assume that the foundation has been properly constructed.

**EXTERIOR WALLS**

Exterior wall construction represents one of the most significant components of a residential building. It normally accounts for 25% to 35% of replacement cost new and consists of (1) The Basic Structure – wood framed houses usually have 2" X 4" studs placed directly over floor joists on 16" centers - a 2" X 4" sole plate secures the studs at floor level and a 4" X 4" ceiling plate ties the studs together at the ceiling line (2) Exterior Finish- consists of sheathing, the visible exterior wall cover, trim and painting. The materials used in the basic structure and exterior wall finish will determine the type of construction, i.e., wood framed - brick veneer, etc. (3) Interior Facing & Finish - new construction is generally 1/2" to 5/8" dry wall, taped & painted; older houses may have lath and plaster; 2" to 3 1/2" batt insulation is normally placed between the studs behind the drywall. (4) Window & Door Openings - the size and number of openings will have a significant influence on replacement cost.

**ROOF**

There are generally six types or styles of roof structures used in residential construction. The typical roof structure consists of 2" X 6" rafters placed on 16" centers and secured at the peak by a 2" X 8" ridge board. Sheathing is typically 3/8" to 1/2" plywood covered with felt under-lament and 235 lb. composition shingles. Ceiling joists, which are often

considered part of the composite roof structure, should be at least 2" X 6" on 16" centers with a maximum span of 14'.

The rafters and ceiling joists are attached to the 4" X 4" ceiling plates at the line of the exterior wall. The span of a roof is the distance between the outer edges of the ceiling plates, typically the width of the house. The rise of the roof is the distance from the level of the ceiling plates to the top of the ridge. The Run of a rafter is the horizontal distance from the outside of the ceiling plate to the right angle intersection of the ridge. The slope of a roof is expressed in terms of the rise of the roof in inches per foot of run of rafters. The slope of a roof is typically 5/12 but should not be less than 4/12. Generally better quality construction will be reflected by steeper pitched roofs with more overhangs at the eaves. Pitch is the ratio of the rise of the roof to the span. Therefore, to find the rise of the roof in inches per foot of run of rafters (slope), multiply pitch by 24.

With exception of a trussed frame, 2" X 4" rafters do not meet Minimum Property Standards, and generally denote lower quality construction. With a residential truss roof, rafters and ceiling joists are placed on 24" centers and are constructed with 2" X 4" boards, however, the engineering design of the truss creates structural capacity similar to a conventionally framed roof and results in a savings in construction cost.

## **FLOOR STRUCTURE & FINISH**

Conventional wood floor construction consists of the sill plates, girders, floor joists, bridging, sub floor and finished flooring. The sill plate is the first wood member of a frame structure, and is usually a horizontally laid 2" X 6" board secured to the foundation by 1/2" X 16" anchor bolts. A girder is the main horizontal interior supporting member of the floor structure. It may be steel or wood, but a 3-ply 2" X 10" frame girder is typical. Minimum Property Standards call for no less than 2" X 8" floor joists on 16" centers with a maximum span of 13 1/2' and 2" X 10" floor joists on 16" centers if span is between 13 1/2' and 16'. Better quality construction will have 1" X 3" cross bridging every 8' to 10' span. However, 2" X 6" or 2" X 8" block-bridging is typical of fair and average quality construction. However, diagonally laid 1" X 5" tongue & groove boards are found in some older homes and in high quality new construction. Basically, the finished flooring of a house will be either pine or hardwood. Generally, the kitchen will have an inlaid linoleum cover and the bath will have ceramic or vinyl tile. Wall to wall carpets may be laid over a hardwood finished floor or over 5/8" pressboard (particleboard).

## **INTERIOR FINISH**

Interior construction and finish, as a whole can account for 10% to 30% of replacement cost new, depending on the elaborateness of trim, number and sizes of closets, kitchen cabinets, special wall finishes, etc.

Interior partitions are generally wood framed with 2" X 4" studs on 16" centers. The most common basic interior facing is 1/2" or 5/8" drywall, taped and painted.

Older houses often have walls and ceilings finished with plaster on wood or gypsum lath. However, due to the wide use and acceptance of drywall in most quality levels, plaster does not necessarily increase value in proportion to cost. The exception occurs in the

luxury or mansion type house where plaster is consistent in cost and quality with the entire structure.

The type and quality of materials available for finishing the interior of a house varies greatly. However, the basic wall and ceiling finish will generally conform to the grade of materials and quality of workmanship evidenced by exterior wall finish and design. Special attention should be given to the amount and quality of kitchen cabinets, closets and the finish of special areas such as the bath and den.

## **PLUMBING**

A standard complement of plumbing for a fair or average quality house consists of two 2 3-fixture bath with shower over tub, one flat rim kitchen sink with two compartments and one 40 gallon gas or 52 gallon electric water heater. Plumbing represents a relatively fixed cost in building construction. Some nominal additional cost for laterals would be incurred in the larger house, but this would be hardly noticeable in the overall price per square foot. It is pointed out that colored fixtures cost approximately 5 % more than white fixtures. The kitchen sink and each bathroom should be vented with a metal stack extending through the roof. It is also important to determine whether waste is disposed of by public sewer or individual septic system.

## **ELECTRICAL**

In new construction, the typical electrical service consists of 120-240 volt, 3 wire, 200 amp circuit breaker systems for houses with electric heat and 150 amp services for houses with gas heat. Minimum Property Standards requires one wall switch per room with a minimum of 6' between convenience outlets. 220 volt service is required for electric ranges and clothes dryers, whereas 110 volt service is required for convenience outlets. The majority of residential wiring is done with Romex, a non-metallic sheathed cable. More expensive homes have BX or steel armored cable. Conduit wiring is seldom found in residential construction. Older homes may be wired with Knob & Tube or porcelain insulators. Houses with old style fuse boxes, Knob & Tube wiring, or 60 amp service are generally of low quality or will soon need rewiring.

## **HEATING**

The type and adequacy of the heating system is not only a cost important factor, but also one which has a significant influence on the functional utility and value of a building.

There are several types and variations of heating systems used depending on location and availability of fuel. The systems described here are those most frequently encountered.

*Floor Furnace* - may be oil or gas fired. This type heating system is normally found in lower quality one story houses with crawl space. There is no duct work, and circulation is by gravity. The unit is generally placed near the center of the house. Its capacity is rated from 30,000 to 50,000 BTU.

*Gravity Furnace* - This system is generally found in the basements of older houses, since it must be below the level of the rooms to be heated. Coal, either stoker or hand-fired, was the main source of fuel. However, many systems still in use have been converted to oil or gas. Heat is provided as the air comes in contact with heated surfaces in the furnace. The warm air rises and flows through inclined leader pipes to supply registers usually installed in the floor or baseboard adjacent to the outside walls of the various rooms. The cooler air is drawn down through large return-air-intakes located in the floor near an outside wall to the bottom of the furnace casing for re-heating. The duct work for a gravity warm-air heating system is quite large and must be slanted in such a way as to permit the natural flow of warm and cool air. This significantly reduces the amount of useable head room in the basement. The gravity warm-air heating system is relatively inexpensive and lacks functional utility when compared to more modern systems. The cost of this type system generally ranges from 15% to 20% less than a forced warm-air system with a comparable BTU rating.

*Forced Warm Air* - May be electric, oil or gas fired. Air is warmed by heated surfaces in the furnace and then distributed to the various rooms through supply ducts by a blower (fan) in the furnace. The blower also draws the room air back to the furnace through return-air intakes which are usually located at the baseboard of inside walls. Adjustable registers or diffusers for the warm air are generally located on the outside wall at the floor level (baseboard), preferably below windows. This system requires less space for the furnace and ducts than the gravity system, and it does not need to be centrally located or below the level of the heated area.

*Electric Radiant Ceiling* - Perhaps one of the most infrequently encountered heating systems. Found in many fair to average quality homes. Each room is thermostatically controlled. The heating element (cable) is attached to the ceiling drywall, coated with a layer of plaster and then laminated between a second thickness of drywall. The wattage required for each room is determined by factoring ceiling height by 1.5 and multiplying that product times the square feet of floor area. For example, a 12' X 12' room with an 8' ceiling height would require 1728 watts of heating. ( $8' \times 1.5 = 12 \times 12 \times 12 = 1728$  watts).

*Electrical Wall Heaters* - This system follows the same principle as electric ceiling heat but is substantially cheaper, and concentrates all heat from one point in the room. Its size is also measured in wattage per coil or unit stack. The typical unit will range from 1500 watts up to 4000 watts.

*Electric Baseboard Heat* - This is merely a modification of the electric wall heater. However, it distributes the heat over a somewhat wider area, and costs approximately 20% more than electric wall heaters of the same wattage.

*Hot-Water (Gravity System)* - may be coal, oil or gas fired. In this system, hot water serves as the medium for carrying heat to all parts of the building. Circulation in a gravity system is created when the hot water ascends through the flow pipe and then flows down through return pipes which pass successively through radiators on the various floors of the building. Since heat is released as the water passes through each radiator, the ones on the lower floors must be larger. The "two-pipe" system relieves this problem since each radiator has its own individual hot-water feed. A hot water system for residential use is rather uncommon due to the cost of the system (which may run from 40% to 60% more than forced warm-air or radiant ceiling systems) and the bulkiness of the materials.

*Steam Heating* - Maybe coal, oil or gas fired. In this type system, water in the boiler is converted to steam which rises through the main distribution pipe. From this pipe, the steam moves into the radiators, gives off its heat and condenses. The condensed steam (water) then flows back to the boiler for reheating. In the "two-pipe" the steam and the condensate flow in separate pipes. With the two - pipe system, the steam always enters the radiators from the top and subsequently emerges as condensate from the bottom. If the return-flow pipe is situated below the water level of the boiler, it is described as a "wet" condensate return, whereas if it is above the water level, it is a "dry" condensate return. In a single pipe system, the steam and condensate flow in the same pipe and must enter the bottom of the radiator. As with the hot-water system, steam heating is expensive and somewhat cumbersome.

## **MECHANICAL - CENTRAL AIR CONDITIONING**

The majority of residential central air-conditioning is done with either "split" refrigerated systems, ranging from one to five ton capacity. The combination heating/cooling or package unit utilizes the same duct work with gas heating and electric cooling. This is a central system for original construction and generally results in some savings (per system capacity) in construction costs.

The split system is usually added to an existing forced warm-air furnace. The fan coil is normally installed in the top of the furnace and the condensing unit (with compressor and condenser in the same cabinet) is located outside the house. The efficiency of this system is equal to that of the package system, although cost may be somewhat higher if it is added after original construction.

The heat-pump is an electric powered combination heating and cooling unit which consists of a compressor, condenser, throttle valve and evaporator. It operates on the

principle that fluids under high pressure evaporate at a higher temperature than fluids under low pressure. The heat transfer medium is heated under low pressure in the evaporator then transferred by the compressor to the high pressure condenser where the heat is given off and blown through a duct system in the house. The cooling system is activated by thermostatically reversing a four-way valve which reverses the cycle of the unit. The heat pump is somewhat more expensive than the comparable gas-electric package unit described above, and generally requires electric resistance heaters to provide supplementary heat during periods when the temperature drops below 25°F.

The variation in models, sizes and capacities of central air-conditioning systems is virtually boundless. The only sure way to determine the type, size and capacity of a system is to note the model number and brand name and call the dealer. Generally speaking, however, the horse power of the compressor motor is approximately equal to the ton capacity of the cooling unit. Using the same duct work as the forced air heating system, central air-conditioning may run 20° to 30° more if separate duct work is required.

## **DESIGN**

One of the most significant factors influencing quality classification and cost of construction is design. The design of a house relates not only to the degree of functional efficiency attained in layout, but also to its overall appearance. In this sense, appearance means the refinement of exterior elevations, interior finish, and perimeter shape. The degree of refinement is usually evident in the complexity of foundation and roof outlines, plus the elaborateness of finishing materials and attention given to details.

Lower quality houses will generally be simple rectangular shaped structures with straight lines on all four walls, and a higher ratio of floor area per lineal foot of exterior wall. Higher quality structures will generally have an irregular foundation outline and a lower ratio of floor area per lineal foot of exterior wall.

In other words, the design of a higher quality house substitute's esthetics for efficiency (economy of construction) but does not sacrifice functional utility. In fact, the integration of areas given to living, dining, food preparation, sleeping, hygiene and storage into a functional or logical whole can best be accomplished when design is not restricted by a rectangular or "boxed" perimeter shape.

An irregular perimeter or foundation outline generally denotes higher quality construction, because replacement cost is increased by a greater amount of exterior wall area plus special floor and roof framing.

**SPECIFIC REVIEW PROCEDURES**

1. Take the following materials to the field.
  - a. Full size map
  - b. Property cards
  - c. Neighborhood maps/land pricing sheets
  - d. Sales print out
  - e. Laptop with mapping and photo file
  - f. Camera
  - g. Measuring Device
2. Familiarize yourself with the review area.
3. Review all sales within your map and complete the sales analysis form.
4. Property location - Check property location and provide street numbers if missing, note if 911 address is not posted and structure symbol is not accurate.
5. Change stratification codes to reflect the actual use of the property.

	Improved	Vacant
a. Residential	02	12
b. Commercial	04	14
c. Industrial	05	15
d. Exempt/Utility	07	17
e. Government	06	16
f. Rural	03	13

Example: If a property is a former residence used for commercial purpose the use should be 04 (commercial).

6. Area - Check for proper neighborhood code, change if not correct. If you feel there should be major neighborhood changes consult your supervisor.
7. Parcel number - Make sure that you are reviewing the proper dwelling or lot by comparing the parcel I.D. on the card with the parcel I.D. on the map.
8. Land data - Check for accuracy of lot size or land breakdown and correct if necessary. Check for influence factor (i.e. topography or size) and adjust if necessary. Check unit price to be sure that all (parcels in neighborhood group are being priced consistently. Do not attempt to change any land rates until you consult your supervisor.



9. Listing data - Review all dwelling and other buildings for accuracy and adequacy of data. Make necessary corrections to sketches or characteristics.
10. Grade - Assign a quality grade to the structure bases on project guidelines.
11. Year built - Confirm or correct actual year built and effective year built.
12. Depreciation - Assign CDU rating to dwelling based on age and CDU rating.
13. Parcel summary - Check indicated value in comparison with sales in neighborhood.
14. AVLF – Confirm the number of availability fees to be charged to the parcel.
15. Photo – check photo of building to make sure it is correct and looks like the current condition of building
16. Mapping problems - Complete mapping problem forms, included detailed description of problems.

## DEED EDIT SHEET

### CODE REASONS FOR REJECTION:

- A. The transaction includes the conveyance of two (2) or more parcels.
- B. Sales for which the improvements sold are not included in the tax assessment or the assessment included improvements built after the sale.
- C. Deed shows \$6.00\* or less in revenue stamps. \*Transaction is for \$3,000 or less.
- D. The date the deed was made, entered or notarized is outside the dates of the study period. (The study period runs from January 1 to December 31.)
- E. The transaction is between relatives or related businesses.
- F. The grantor is only conveying an undivided or fractional interest to the grantee.
- G. The deed reserves until the grantor, a life estate or some other interest.
- H. The deed reserves unto the grantor the possession of, or lease of, the property for specified period following the sale.
- I. One or both of the parties involved in the transaction is governmental, a public utility, lending institution, or a relocation firm.
- J. The deed conveys a cemetery lot or other tax-exempt property.
- K. One or both of the parties involved in the transaction is a church, school, lodge, or some other educational organization.
- M. The deed indicates that the property conveyed is situated in more than one county.
- N. The transaction is for minerals, timber, etc. or the rights to mine or cut same.
- O. The transaction includes the conveyance of personal property, and the value of such is not specified separate from the real property value in the deed.
- P. The transaction is the result of a forced sale or auction.
- Q. Transaction made by the use of a Contract for Deed, the agreement for which is executed and sale actually made prior to the study.
- R. The transaction involves the trade or exchange of real property.
- S. The transaction is for real property, which cannot be clearly identified on the county tax records.
- X. Other (An explanation must be provided when this code is used.)

**WEIGHTS AND MEASURES**

Tables of Weights and Measures and Other Information That May Be Helpful to the Assessor/Appraiser.

<b>Metric Measure</b>		
Millimeter	=	0.001 meter
Centimeter	=	0.01 meter
Decimeter	=	0.1 meter
Meter	=	39.3685 inches
Kilometer	=	1000 meters
Kilometer	=	.062137 miles
Meter	=	1.0935 yards
Meter	=	3.2807 feet
1 Foot	=	0.30480 meter
1 Foot	=	3.04 centimeters
1 Inch	=	2.54 centimeters
<b>Linear Measure</b>		
1 Foot	=	12 inches
1 Yard	=	3 feet-36 inches
1 Rod	=	5½ yards-16½ feet
1 Furlong	=	40 rods-220 yards-660 feet
1 Mile	=	8 furlongs-320 rods-1,760 yards-5,280 feet
<b>Surveyor's Linear Measure</b>		
1 Link	=	7.92 inches
1 Rod	=	25 links
1 Chain	=	4 rods-100 links-66 feet
1 Furlong	=	10 chains
1 Mile	=	8 furlong-80 chains
<b>Square Measure</b>		
1 Square Foot	=	144 square inches
1 Square Yard	=	9 square feet-1,296 square inches
1 Square Rod	=	1 pole/perch-30¼ square yards-272¼ square feet
1 Rood	=	40 square rods
1 Acre	=	160 square rods-4,840 square yards-43,560 square ft
1 Square Mile	=	640 acres
<b>Surveyor's Square Measure</b>		
1 Square Rod	=	625 square links
1 Square Chain	=	16 square rods
1 Acre	=	10 square chains
1 Square Mile	=	640 acres
<b>Cubic Measure</b>		
1 Cubic Foot	=	1,728 cubic inches-7,481 gallons
1 Cubic Yard	=	27 cubic feet
1 Cord Foot	=	16 cubic feet
1 Cord of Wood	=	8 cord-128 cubic feet
1 Perch of Masonry	=	24¾ cubic feet
1 Bushel	=	1.2445 cubic feet

Angles And Arcs Measure		
1 Minute	=	60 seconds
1 Degree	=	60 minutes
1 Right Angle	=	90 degrees-1 quadrant
1 Circumference	=	360 degrees-4 quadrants
Board Measure		
1 Board Foot	=	Length in feet x width in feet x thickness in inches

Measurement in General Use		
1 Link	=	7.92 inches
1 foot	=	12 inches
1 yard	=	3 feet or 36 inches
1 rod	=	16½ feet, 5½ yards or 25 links
1 surveyor's chain	=	66 feet, or 4 rods, or 100 links
1 furlong	=	660 feet, or 40 rods
1 mile	=	8 furlongs, 320 rods, 80 chains, or 5,280 feet
1 square rod	=	272¼ square feet or 30¼ square yards
1 acre contains	=	43,560 square feet
1 acre contains	=	160 square rods
1 span	=	9 inches
1 hand	=	(horse measurement) 4 inches
1 knot	=	(nautical) 6,080.27 feet
1 fathom	=	(nautical) 6 feet
1 stone	=	14 pounds
1 square acre	=	Approximately 208.7 feet on each side
1 acre	=	Approx 8 rods by 20 rods, or any two combinations or rods whose product is 160

### SIMPLE FORMULA CONVERTING SQUARE FEET TO ACRES

Multiply by 23 and point off 6 places (This method is not exact but is useful for rough calculations)

Example: 1500 feet x 2050 feet = 3,075,000 square feet x 23 = 70.73 acres

### BOARD MEASURE

Multiply thickness in inches by width in inches, divide product by 12 and multiply result by the length in feet. The result is board measure content.

Conversion factors for converting lineal feet of lumber into board feet.

Example: 50 -2 inches x 10 inches 20 feet long

50 x 20 feet = 1000 lineal feet

2 inches x 10 inches = 20 square inches divided by 12 =

1.667 board feet x 1000 lineal feet equals 1,667 board feet

**Table for the Conversion of Lineal Feet into Board Feet**

2 inches x 4 inches	(1 lineal foot)	.667 board feet
3 inches x 4 inches	(1 lineal foot)	1.000 board feet
2 inches x 6 inches	(1 lineal foot)	1.000 board feet
2 inches x 8 inches	(1 lineal foot)	1.333 board feet
2 inches x 10 inches	(1 lineal foot)	1.667 board feet
2 inches x 12 inches	(1 lineal foot)	2.000 board feet
2 inches x 14 inches	(1 lineal foot)	2.333 board feet
2 inches x 16 inches	(1 lineal foot)	2.667 board feet
3 inches x 6 inches	(1 lineal foot)	1.500 board feet
4 inches x 6 inches	(1 lineal foot)	2.000 board feet
4 inches x 8 inches	(1 lineal foot)	2.667 board feet
4 inches x 10 inches	(1 lineal foot)	3.333 board feet
4 inches x 12 inches	(1 lineal foot)	4.000 board feet
6 inches x 6 inches	(1 lineal foot)	3.000 board feet
6 inches x 8 inches	(1 lineal foot)	4.000 board feet
10 inches x 12 inches	(1 lineal foot)	10.000 board feet
12 inches x 12 inches	(1 lineal foot)	12.000 board feet

**PRINCIPLES**

**PLANE FIGURE** –A plane surface bounded by either straight or curved lines and having no thickness.

**SOLID** – A body, such as a barrel, building, etc.

**SQUARE MEASURE** – Area calculation requiring only two dimensions, length and width.

**CUBIC MEASURE** – Cubic or cubage means volume and gives size in terms of its bulk. Calculation requires 3 dimensions, length x width x depth or height or thickness

**MEASURES AND THEIR EQUIVALENTS**

A gallon of water (U.S. Standard) weighs 8 1/3 pounds and contains 231 cubic inches.

A cubic foot of water contains 7½ gallons, 1,728 cubic inches and weighs 62½ pounds.

Doubling the diameter of a pipe increases its capacity four times.

To find the pressure in pounds per square inch of a column of water, multiply the height of the column in feet by .434.

To find the capacity of tanks any size, given the dimensions of a cylinder in inches, to find its capacity in U.S. gallons: square the diameter, multiply by the length and by .0034 (Note: See table of tank capacities.)

Rectangular tanks multiply the length by the width by the depth (All in inches) and divide the result by 231. The answer is the capacity in gallons.

31½ gallons equals one barrel.

B.T.U. (British Thermal Unit) is the amount of the heat required to raise one pound of water one degree Fahrenheit.

A ton of refrigeration is measured by the displacement of the amount of heat required to melt a ton of ice in 24 hours. One motor horsepower of an electrically powered unit is normally required to produce one ton of refrigeration. 12,000 B.T.U. equals one tone.

Kilowatts multiplied by 1.3405 equal horsepower.

## WEIGHTS & MEASURES

1 cubic inch of Cast Iron weighs	0.26 pounds
1 cubic inch Wrought Iron weighs	0.28 pounds
1 cubic inch Water weighs	0.036 pounds
1 inch of Water weighs	62.321 pounds
1 United States gallon weighs	8.33 pounds
1 Imperial gallon weighs	10.00 pounds
1 United States gallon equals	231.01 cubic inches
1 Imperial gallon equals	277.274 cubic inches
1 cubic foot of Water equals	7.48 U.S. gallons
1 gallon of water weighs	8.34 pounds
1 gallon equals	.1337 cubic feet
1 gallon equals	.1074 bushels
1 cubic foot equals	.8032 bushels
1 barrel (oil) equals	42 gallons
1 barrel (water) equals	31.5 gallons

Pressure in pounds per square inch of column of water equals .434 times the height of the column in feet.

## AREAS

Square foot area of surface equals square of one side multiplied by factors shown.

Regular Shaped	Number of Sides	Factor
Equilateral Triangle	3	.433
Pentagon	5	1.721
Hexagon	6	2.598
Heptagon	7	3.634
Octagon	8	4.828
Nonagon	9	6.182
Decagon	10	7.694
Undecagon	11	9.366
Dodecagon	12	11.196

TABLES – For Use in Area and Content Capacity Computations

Capacity of Circular Tanks – Per Foot of Height in Gallons & Bushels

Diameter in Feet	Circum.	Square Foot Area	Gallons	Bushels	Barrels (Oil) (Oil-42 gals. Ea.)
3	9.42	7.07	53	6	1.26
4	12.57	12.57	94	10	2.24
5	15.71	19.63	147	16	3.5
6	18.85	28.27	212	23	5.0
7	21.99	38.48	288	31	6.8
8	25.13	50.27	376	42	9.0
9	28.27	63.62	477	51	11.3
10	31.42	78.54	587	63	14.0
11	34.56	95.03	711	76	16.9
12	37.69	113.10	846	91	20.2
13	40.84	132.73	993	107	23.7
14	43.98	153.94	1,151	124	27.4
15	47.12	176.72	1,322	142	31.5
16	50.26	201.06	1,504	162	35.8
17	53.41	226.98	1,698	182	40.4
18	56.55	254.47	1,903	204	45.3
19	59.69	283.53	2,121	228	50.5
20	62.83	314.16	2,350	252	56.0
21	65.97	346.36	2,591	278	61.7
22	69.12	380.13	2,843	305	67.7
23	72.26	415.48	3,108	334	74.0
24	75.40	452.39	3,384	364	80.6
25	78.54	490.87	3,672	394	87.4
26	81.68	530.93	3,971	427	94.6
27	84.82	572.56	4,283	460	102.0
28	87.97	615.75	4,606	495	109.7
29	91.11	660.52	4,941	531	117.6
30	94.25	706.86	5,287	568	125.8
31	97.39	754.77	5,646	606	134.4
32	100.53	804.25	6,016	646	143.2
33	103.67	855.30	6,398	687	152.3
34	106.81	907.92	6,791	730	161.6
35	109.96	962.11	7,197	773	171.3
36	113.10	1,017.88	7,614	818	181.3
37	116.24	1,075.21	8,043	864	191.5
38	119.38	1,134.11	8,483	911	202.0
39	122.52	1,194.59	8,936	960	212.7
40	125.66	1,256.64	9,400	1,010	223.8

To find the capacity in barrels (oil) = Diameter squared x height.

To find the capacity in gallons = Diameter squared x 5.8748 x height  
(Diameter & height in feet).