

# RECREATIONAL FACILITIES

## SECTION UIP 17

### GOLF COURSES

Primary variables in golf course costs are type of terrain and vegetation, size and layout, amount and quality of irrigation systems and overall quality. Excluded from these studies are extensive grading, such as that required for canyon and hillside courses, special drainage problems, all structures (clubhouse, maintenance, satellite-cart, starters, range buildings, etc.), including bridges, and all man-made lakes and other waterscaping. Some of these items are listed as additives, while the balance may be found in other sections of this manual. No off-site costs, feasibility and environmental studies, etc., are included.

Included in the cost per hole are normal clearing of land, including incidental grading, complete irrigation and drainage systems, planting of trees in open land, greens, tees, fairways, service roads and cart paths, builders' profit and overhead, financing during construction and architects' fees for all items except structures.

Subdivision courses which are designed to allow as many home sites as possible to border the course will require longer pipe runs and expenses greater than normal for the playing length, but many costs may be written off against the adjoining development, such as utilities which are brought in for the development and used for the course. In many cases, allocation of costs between development and golf course must be made arbitrarily.

The costs listed for a basic commercially developed course are typical ranges in four quality classifications. Actual contracts and estimates have ranged from \$38,500 per hole for a sprinklered course with minimal improvements to \$230,000 per hole for a course scooped out of the mountains, \$258,000 per hole for a course built from marsh land and \$341,000 per hole for a course carved out of rock with completely imported top soil. All excluded costs must be examined; in some cases total project cost, including all structures, equipment, developers' overhead and profit, startup and maintenance has reached a budget of \$355,000 to \$825,000 per hole and up, excluding land costs.

Costs of complete irrigation systems constitute approximately 15% to 30% of the cost per hole of the courses listed. Architectural design, supervision and engineering costs are included at 8% to 12%. A complex project with special engineering and a name architect can run twice the averages listed. Older courses may be at the lower end of the cost ranges where design layout and improvements had not been affected by restrictive land use and/or environmental controls.

Courses are grouped into price classifications, with a limited description of what the price includes. Courses may fit into one class by sheer length (5,500 to 7,000 yards) and another by gross area covered (100 to 170 acres) or by overall quality, in which case, interpolations may be made. Generally, simpler courses will require little clearing or grading, encompass minimal acreage, have easy playing holes and/or minimal irrigation, while good courses will include extensive sitework and/or irrigation over large acreage, with well designed holes for maximum playability.

#### COST RANGE PER HOLE

- Class I. Minimal quality, simply developed, budget course on open natural or flat terrain, few bunkers, small tees and greens  
 ..... \$ 51,000 – \$ 68,750
- Class II. Simply designed course on relatively flat terrain, natural rough, few bunkers, small built-up tees and greens, some small trees  
 ..... \$ 71,250 – \$ 98,000
- Class III. Typical private-type club on undulating terrain, bunkers at most greens, average elevated tees and greens, some large trees moved in or clearing of some wooded areas, driving range  
 ..... \$ 100,000 – \$139,250
- Class IV. Better championship-type course on good undulating terrain, fairway and greens bunkered and contoured, large tees and greens, large trees transplanted, driving range, may have name architect  
 ..... \$140,250 – \$198,000

### SHORT COURSES

- Pitch and putt course. Nine holes on 10 to 15 acres, 1,000 yards long, including irrigation, excluding structures and lighting  
 ..... \$26,750 – \$37,750
- Par 3 course. Nine holes on 15 to 20 acres, 1,400 yards long, including irrigation, excluding structures and lighting  
 ..... \$34,000 – \$47,250
- Executive course. Eighteen holes on 50 to 60 acres, 4,800 yards long, rated par 60, including irrigation, excluding structures and lighting  
 ..... \$51,500 – \$67,750
- Lighted driving ranges. Separate paved stations, fenced, irrigated, good quality, not including separate putting or pitching greens, buildings or equipment. Cost per station ..... \$ 4,850 – \$ 7,150
  - add for covered structure, per station .... 1,375 – 2,300
  - add for heated tee, per station ..... 4,800 – 5,800
  - add for elevated tee, per station ..... 2,750 – 5,500
  - driving range equipment ..... 34,750 – 60,500

#### COMPONENT COSTS PER HOLE

The cost of the basic course as listed includes only those items designated with an asterisk(\*). Courses in Classes I and II fit into the low cost range, while those in Classes III and IV fall in the medium cost range. Many courses will have components that fall into several quality levels.

	LOW COST	MEDIUM	HIGH COST
*Mobilization, proj. manage. \$ 2,900 – \$ 3,200	\$ 3,600 – \$ 4,050	\$ 7,225 – \$ 12,650	
*Erosion control .....	300 – 525	875 – 1,450	2,300 – 3,200
*Clearing, grubbing .....	300 – 425	600 – 875	1,150 – 1,725
*Rough shaping .....	2,300 – 4,050	7,500 – 13,250	16,250 – 21,000
*Survey and engineering ..	575 – 825	1,200 – 1,725	2,300 – 2,900
*Architectural .....	4,050 – 6,075	8,675 – 13,000	33,000 – 79,750
*Top soil, haul and spread .	575 – 1,450	3,475 – 8,400	9,825 – 16,225
Water features, earthwork ..	2,300 – 6,350	8,675 – 15,250	17,250 – 23,000
*Drainage .....	1,725 – 2,025	2,300 – 2,625	6,925 – 11,550
Storm drains .....	3,200 – 9,250	13,750 – 29,000	40,500 – 63,500
*Greens .....	5,200 – 9,250	16,250 – 28,250	32,250 – 40,500
*Tees .....	875 – 1,725	3,475 – 6,350	7,500 – 9,250
*Bunkers .....	1,450 – 2,625	4,925 – 9,250	10,975 – 17,325
*Finishing, shaping and grading	1,725 – 2,525	3,725 – 5,500	7,800 – 9,250
*Cart path grading .....	300 – 575	1,150 – 2,300	2,625 – 3,575
*Irrigation system, automatic	17,250 – 24,500	34,750 – 52,000	69,250 – 109,750
manual .....	8,075 – 10,400	13,200 – 17,325	-----
add for pumping plant ..	1,725 – 4,625	6,925 – 11,550	13,750 – 16,250
well .....	1,150 – 1,450	1,825 – 2,300	2,550 – 2,900
*Grow-in seeding preparation	4,050 – 4,625	5,425 – 6,350	8,675 – 12,100
*Grassing .....	8,675 – 10,700	13,000 – 16,250	19,500 – 36,250
*Finished cart paths .....	5,775 – 8,400	12,100 – 17,250	23,000 – 34,750
Bridges, railings, tunnels, etc.	1,150 – 4,050	5,775 – 9,250	10,400 – 13,750
Water features .....	4,050 – 10,975	20,250 – 31,000	40,500 – 92,500
*Landscaping .....	575 – 875	1,450 – 2,300	4,625 – 11,550
*Fencing .....	300 – 525	925 – 1,725	2,300 – 2,900
Miscellaneous:			
Clubhouse .....	5,775 – 17,250	40,500 – 57,750	74,250 – 90,750
Championship entertainment facility	-----	-----	137,500 – 412,500
Maintenance, other buildings	2,900 – 6,925	13,500 – 21,000	23,000 – 29,000
Maintenance equipment ...	10,450 – 15,250	22,000 – 26,250	29,000 – 32,000
Oper., grow-in/start-up budget	6,075 – 9,550	15,250 – 23,000	24,250 – 29,000

## RECREATIONAL FACILITIES

### SECTION UIP 17

#### BUMPER-BOAT FACILITIES

The following costs are average cost ranges of complete bumper-boat facilities. Individual facilities can vary greatly depending on the type of pond construction, overall size and amenities. Boat costs are not included, and can run \$2,250 to \$5,775 each. Pedal boats cost \$1,375 to \$1,725 each.

Minimal-quality, vinyl-lined ponds with filters and wood decks, minimal railing or fence enclosure and lighting, excluding booths and parking lots ..... \$27,750 – \$44,000

Average pond and filters, some freeforming, gunite or fiberglass panel sides, concrete lip and deck, paved waiting/viewing area, adequate handrails, fencing and lighting, excluding all buildings and parking lots ..... \$55,500 – \$87,750

Good concrete pond and filters, some rock or waterscape islands, good lighting, railing and fencing, excluding buildings, canopies or parking lots ..... \$76,250 – \$120,250

#### WATER SLIDES

The following are typical costs for most common types of elevated water slides in straight, single or double radius configurations and include open fiberglass body flume sections, galvanized steel flume supports, stairs, decking, pump, motor, all necessary piping fittings, installation and designers' fees. All pool and land improvement costs are excluded. For swimming pools, see UIP 16. Add 15% for enclosed tubular flumes. Add 25% for serpentine configurations. Add 13% to 19% for each foot of flume over 3 feet wide. Deduct 25% to 35% for slides laid on bare earth; under 60', deduct 10% to 20%.

RIDE LENGTH (FEET)	COST RANGE	RIDE LENGTH (FEET)	COST RANGE
50	\$ 36,500 – \$ 58,250	250	\$135,250 – \$213,750
60	42,250 – 67,750	300	159,750 – 247,500
90	59,250 – 93,500	350	178,250 – 280,750
100	64,000 – 102,250	400	198,750 – 312,750
150	89,750 – 141,750	500	238,250 – 374,000
200	113,250 – 178,500	600	275,250 – 432,750

Additive costs, cost each except as indicated:

Landing pond, per square foot .....	\$ 47.25 – \$ 66.00
Surge reservoir .....	7,425 – 11,275
Filtration and chlorination system .....	23,000 – 32,000

Large aquatic parks with bath houses, lighting, fences, decks and all the other features in the complete complex will cost \$1,050 to \$3,200 per person of rated capacity.

#### MINIATURE GOLF COURSES

Minimal quality, eighteen holes, 2,000 to 4,000 square feet on 1/4 acre, simply developed, or prepackaged budget course on flat terrain including lighting, excluding booths, and parking lot.

Cost per hole (indoor, deduct 10%) ..... \$ 1,200 – \$ 3,300  
 Average course, eighteen holes, 4,000 to 10,000 square feet, on 1/4 to 1/2 acre, excluding booths, snack bars, and parking lot, including course plumbing and lighting, professionally designed and installed.

Cost per hole ..... \$ 4,675 – \$11,825  
 Good custom course, eighteen holes, 10,000 to 20,000 square feet, 1/2 to 1 acre or more, extensive themes with major elevation, rock and waterscape layout, excluding buildings and parking lot.

Cost per hole ..... \$15,500 – \$34,750

#### MISCELLANEOUS UNIT COSTS

The following costs may be used to adjust items included in the cost-per-hole pricing, to add for those items which have not been included (marked by an asterisk), or as a build-up method to develop a complete course cost.

	LOW	AVG.	GOOD
Site clearing, cost per acre .....	\$1,010	\$2,140	\$ 4,475
Fairways, cost per acre .....	1,910	2,455	3,090
Rough, cost per acre .....	450	1,030	2,410
Earth moving, cost per cu. yd. ...	1.65	2.50	3.60
Imported fill, cost per cu. yd. ....	2.55	4.90	9.45
Tees, elevated, cost per sq. ft. ....	.60	.85	1.20
Bunkers, (sand traps) cost per sq. ft. .	2.25	3.40	4.90
Greens, flat, cost per sq. ft. ....	2.10	3.15	4.70
elevated/contoured .....	3.80	5.40	7.70
Pathways, asphalt, cost per sq. ft.	1.50	2.15	2.95
concrete .....	2.25	3.40	5.00
gravel .....	.40	.60	.90
soil cement .....	.35	.45	.60
Bridges, pedestrian,			
cost per sq. ft., light wood/steel ..	19.25	30.00	47.75
golf cart .....	25.25	36.50	52.75
car or light truck .....	38.00	52.25	73.75
Player shelters, open, each .....	1,200	2,200	3,900
enclosed .....	5,650	8,150	11,300
Lighting, short courses, per pole .	4,600	8,575	15,775

Misc. water/landscape, paving, parking lots, lighting, fencing, drainage, etc., see Section UIP 16.

# RECREATIONAL FACILITIES

## SECTION UIP 17

### SKI LIFTS

Costs for ski lifts vary greatly due to local terrain, both the steepness and roughness of the slope. The following installed costs are averages, including drive machinery, terminals, towers and carriers, and designers' fees. Extreme costs were excluded. Equipment costs may also be affected by the speed of the lift, where requirements for the number of intermediate towers and carriers will typically decrease as the speed of the lift increases, depending upon the skill of the skier, ambient temperatures and the length of the lift, as well as the terrain.

Off-site costs are not included. These would include the costs of bringing utilities to the site, access roads, environmental impact studies, etc. On public lands governmental regulations may require the air-lifting of materials for environmental reasons, resulting in higher than normal installation costs. Any clearing or grading of the ski slopes would be considered improvements to the land.

Due to the number of variables involved, we would suggest that, wherever possible, manufacturers' costs, installers' costs or contract costs be obtained.

#### Typical Skier Lift Speeds

Beginner	Novice	Intermediate/Expert
340 – 360 ft./min.	420 – 460 ft./min.	500 – 550 ft./min.

Gondolas and detachable quad lifts run at 800 – 1,000 ft./min. for all classifications.

### INSTRUCTIONS

Lift costs are developed by adding together the units, consisting of (1) the length of the lift in feet, (2) the length of vertical drop in feet and (3) the actual lift capacity per hour, and multiplying that total by the total unit rate costs given in the tables.

$$\text{Total Units} = (1) \text{ Length of lift} + (2) \text{ Vertical drop} + (3) \text{ Actual capacity per hour}$$

Rated capacity may be higher than practical operation permits. Actual capacity is determined by taking (a) the cable speed per hour times the number of persons per carrier, divided by the average spacing, which is (1) the length of the lift divided by half the number of (b) carriers.

$$\frac{(a) \text{ Cable speed per hour} \times \text{number of persons per carrier}}{\text{Spacing} : (1) \text{ length of lift} \div (b) \text{ } 1/2\# \text{ carriers}}$$

For Poma or T-Bar lifts, calculate the actual capacity as you would a single chair-lift.

### EXAMPLE

A double chair-lift, (1) 3,000 feet in length, (2) 850-foot vertical drop (16.5-deg incline), (a) cable speed of 450 feet per minute, with (b) 100 double chairs.

$$\frac{450 \text{ (Cable speed/min.)} \times 60 \text{ min.} \times 2 \text{ (persons per chair)}}{3,000' \text{ length} \div 50 \text{ (half the number of chairs)}} =$$

$$\frac{54,000}{60} = 900 \text{ persons per hr. (actual capacity)}$$

Unit total: 3,000' length + 850' vertical drop + 900 capacity/hr. = 4,750 units

Cost of lift from table: 4,750 units x \$137.50\* = \$653,125

**\*NOTE:** The unit cost of \$137.50 was an interpolation from the table, with 4,750 units falling halfway between 3,500 and 6,000 units (\$110 and \$165).

### SKI LIFT COST TABLE

Enter table with total number of units:

Type of Lift	Unit Range	Cost Per Unit
Poma Lift	1,000 – 2,500	\$ 63 – \$ 50
or	2,500 – 3,500	50 – 69
T-Bar	3,500 – 6,000	69 – 50
Double	1,500 – 3,500	145 – 110
Chair Lift	3,500 – 6,000	110 – 165
	6,000 – 10,000	165 – 110
Triple	1,500 – 3,500	170 – 140
Chair Lift	3,500 – 6,000	140 – 185
	6,000 – 10,000	185 – 135
Quad	6,000 – 9,000	235 – 190
Chair Lift	9,000 – 12,000	190 – 215
(fixed grip)	12,000 – 16,000	215 – 190
Gondolas	9,000 – 12,000	525 – 385
	12,000 – 16,000	385 – 470

For single chair lifts reduce double chair lift unit costs by 20%.

For detachable quad chair lifts increase fixed costs by 20%. Rope tows are usually constructed with local labor and little design, and the costs are usually determined locally.

### SYNTHETIC SURFACES

Synthetic surfaces are normally applied on prepared subsurfaces, usually wood, asphalt or concrete.

Subsurface costs should be determined from Unit-in-Place or Segregated Cost sections and the cost of the appropriate synthetic surface added.

Applied costs per sq. ft. of synthetic surface:	COST RANGE
Ice skating .....	\$30.00 – \$31.25
Baseball and football turf, shock pad included ..	8.50 – 11.00
Running tracks .....	8.25 – 10.50
Basketball courts .....	7.00 – 10.25
Field houses .....	7.50 – 10.50
Tennis courts .....	5.55 – 7.75
Playgrounds .....	4.60 – 8.25
Golf, indoor driving ranges, no pad .....	.95 – 2.15
Striping, (per linear foot) .....	.19 – .23

# RECREATIONAL FACILITIES

## SECTION UIP 17

### GRANDSTANDS AND BLEACHERS

The following are typical cost ranges of grandstands and bleachers. The ranges do not represent the lowest or highest costs that might be found in each structure. Structures built by governmental bodies have tended to be at the high end of the cost range. Costs include stairs, ramps, handicap platforms and press boxes commensurate with type and quality, as well as designers' fees.

TYPE	PER SQ. FT. (Horizontal Projection)	PER SEAT
Gymnasium bleachers, steel frame, wood benches, telescoping, manual operation;		
under 600 seats . . . . .	\$24.50 – \$29.95	\$ 64.75 – \$ 91.50
over 600 seats . . . . .	22.80 – 27.75	57.75 – 81.50
add for power operation	6.25 – 7.60	16.00 – 23.00
Portable bleachers, steel frame, metal, fiberglass or wood benches, erected;		
up to 800 seats . . . . .	12.45 – 14.15	34.25 – 48.75
over 800 seats . . . . .	11.65 – 12.95	30.50 – 43.25
Permanent bleachers, wood frame and benches;		
up to 1,000 seats . . . . .	15.70 – 18.65	46.25 – 62.25
1,000 to 2,000 seats . . . . .	14.20 – 17.75	41.25 – 58.25
over 2,000 seats . . . . .	13.50 – 16.45	38.25 – 53.00
Grandstand bleachers, open steel frame, metal, fiberglass or wood benches, school or fairground type;		
up to 1,000 seats . . . . .	24.65 – 45.80	72.75 – 152.25
1,000 to 5,000 seats . . . . .	23.55 – 44.35	68.25 – 145.75
over 5,000 seats . . . . .	21.90 – 42.50	62.50 – 137.25
add for roofed areas . . . . .	6.15 – 9.80	17.75 – 32.25
add for pressbox box area	40.00 – 55.00	-----
Concrete or steel bleachers, no interior construction, stadium type, closed deck;		
under 5,000 seats . . . . .	59.00 – 71.95	175.00 – 242.00
5,000 to 10,000 seats . . . . .	57.20 – 70.95	168.00 – 236.00
over 10,000 seats . . . . .	55.50 – 69.85	161.00 – 230.00
add for roofed areas . . . . .	7.50 – 11.55	22.00 – 38.25
Wood bleachers, with built-in dressing rooms, restrooms, pressbox, lighting, stucco exterior walls;		
under 5,000 seats . . . . .	53.50 – 62.95	160.00 – 212.00
over 5,000 seats . . . . .	52.05 – 59.75	152.00 – 200.00
add for roofed areas . . . . .	6.65 – 7.55	19.50 – 25.50
Concrete or steel bleachers with built-in dressing and training rooms, restrooms, snack bars, pressbox, lighting, college or small municipal stadium type;		
under 5,000 seats . . . . .	92.35 – 115.45	275.00 – 391.00
5,000 to 15,000 seats . . . . .	79.65 – 95.50	230.00 – 310.00
over 15,000 seats . . . . .	75.90 – 92.65	214.00 – 295.00
add for roofed areas . . . . .	8.95 – 13.90	26.00 – 44.00
Major ball parks, complete structural improvements, figured at baseball capacity;		
Older parks, minimum facilities . . . . .	1,100 – 1,325	
Modern parks, minor league typ . . . . .	825 – 2,100	
major league, open stadium, sky boxes . . . . .	1,850 – 3,550	
enclosed, roofed stadiums, artificial turf . . . . .	2,125 – 3,950	
add for retractable roofs . . . . .	1,250 – 2,125	

### ICE SKATING RINKS

Artificially made ice rinks are manufactured in various forms, but all include pumps, compressors, refrigerant fluids and freezing (piping) systems. Costs include designers' fees.

Refrigeration piping systems may be found:

1. Laid on bare earth.
2. On bare earth with a concrete curbing.
3. On a concrete slab with a curbing.
4. In a formed concrete slab.

Basic mechanical equipment, pumps, compressors, fluids, and piping installed in a standard-size hockey rink: (85' x 200') . . . . . \$15.25 to \$21.25 per sq. ft. of frozen area.

Smaller rinks tend to be more expensive:

Stage-size rinks, etc. \$33.50 to \$47.50 per sq. ft. of frozen area.

Additive costs, per square foot of rink:	COST RANGE
Excavation . . . . .	\$ .29 – \$ .60
Subsoil heating . . . . .	1.33 – 1.79
Sand floor . . . . .	.65 – 1.09
Wood sleepers . . . . .	.40 – .57
Gravel base, 4" . . . . .	.41 – .71
Plastic water barrier . . . . .	.30 – .48
Insulation, rigid, 2" . . . . .	1.33 – 2.13
Concrete slab, 5" – 6" . . . . .	3.23 – 4.27
Concrete curbing . . . . .	.34 – .67
Dehumidifier, per unit . . . . .	.79 – 1.10
Side boards, wood frame . . . . .	3.11 – 4.61
metal frame . . . . .	2.78 – 6.11
add for spectator protection, clear shield . . . . .	1.94 – 2.39
chain link . . . . .	.40 – .87

### MISCELLANEOUS UNIT COSTS

(Cost per ton.)

The following costs may be used to adjust the basic square foot costs above or as an alternate pricing method.

CAPACITY (Tonnage)	REFRIGERATION	PLUS PIPING	
		PLASTIC PIPE	METAL TUBE
80	\$1,825 – \$2,175	\$1,500 – \$1,675	\$1,750 – \$1,950
100	1,525 – 1,875	1,275 – 1,350	1,425 – 1,525
120	1,350 – 1,675	1,025 – 1,175	1,200 – 1,350
140	1,200 – 1,425	950 – 1,025	1,050 – 1,175
Dehumidifier, cost per ton . . . . .		\$1,525 –	\$2,100

# RECREATIONAL FACILITIES

## SECTION UIP 17

### DRIVE-IN THEATERS

Costs for drive-in theaters vary greatly depending on the extent of grading, paving, natural drainage, size and type of screens, speaker equipment and service facilities provided. The costs are broken into the major cost items on a cost-per-space basis, excluding extremes. Miscellaneous costs such as cost of normal financing and contractors' profit and overhead are prorated to each item. Architects' and designers' fees are included in the engineering costs for all items except buildings, the costs of which will include all fees applicable to the structural improvements. Many theaters will be mixed in quality, and it is often better to compute individual items from other sections of the manual. Costs for storm drains, projection and food equipment, etc., are not included.

	LOW	AVG.	GOOD	EXCL.
Engineering –				
plans, survey, permits, etc. . .	\$ 91	\$114	\$142	\$178
Grading –				
rough and finished ramps . .	89	110	137	169
Paving – ramps and drives .	272	355	466	611
Buildings – concession, restrooms,				
projection & ticket booths	167	213	271	346
*Screens – frame & foundation	103	142	196	272
Sound dispersment –				
serving two cars . . . . .	69	82	98	118
Electrical – lighting & wiring .	122	157	200	255
Miscellaneous – fencing, signs,				
landscaping, etc. . . . .	59	87	128	189
Cost per car space . . . . .	\$972	\$1,260	\$1,638	\$2,138

### COST MODIFIERS

Costs of each drive-in theater have been adjusted to a base number of spaces and gross area per space. Multipliers are given to adjust these costs for deviations from the base. To determine the gross area per space, divide the entire improved area of the drive-in by the number of spaces.

NUMBER OF SPACES	200	300	400	500	600	700	800	900	1000
MULTIPLIER	1.25	1.16	1.08	1.00	.97	.94	.91	.89	.86
GROSS AREA PER SPACE	350	400	450	500	550	600	650	700	750
MULTIPLIER	.84	.89	.94	1.00	1.04	1.08	1.12	1.16	1.20

\*For multiple-screen theaters add the cost of additional screens, and adjust the modifiers to the average number of spaces and gross improved area per screen. The following unit costs for screen structures are typical cost ranges per vertical square foot of screen area, from a simple open structure to an ornate enclosed frame with storage and office area.

### MISCELLANEOUS UNIT COSTS TABLE

The following costs may be used to adjust items included in the Cost Per Space pricing, to add for those items which have not been included or as a build-up method to develop a complete theater cost.

	LOW	AVG.	GOOD
Screen structures, per square foot of screen area			
Wood frame on poles with			
guy wires . . . . .	\$ 12.00	\$ 14.00	\$ 16.25
Wood frame on poles set in			
concrete, timber bracing . . .	16.25	18.50	21.25
Wood frame on timbers,			
concrete footings, plain . . . .	19.75	23.25	27.50
ornate . . . . .	26.75	31.25	37.00
Steel frame,			
concrete footings, plain . . . .	22.50	28.00	35.00
ornate . . . . .	30.25	35.50	41.75
Tilt-up concrete, concrete frame,			
and steel-framed			
screen enclosure . . . . .	33.50	41.00	50.50
Sound systems, each			
Car speakers . . . . .	17.75	26.25	38.75
add for heaters . . . . .	88.75	99.25	111.00
post and junction box .	26.00	39.25	59.00
Remote systems,			
transistor type, etc. . . . .	21.25	29.25	40.00
Lighting, low level, each			
Ramp, entry/exit, etc. . . . .	63.75	88.25	122.00
Directional signage . . . . .	152.75	219.75	316.25
Ticket booths, each . . . . .	5,000	6,100	7,500
Projection and miscellaneous equipment, excluding food service			
Total cost per screen . . . . .	26,750	47,250	83,250

Miscellaneous paving, lighting, fencing, drainage, playground equipment, etc., see Section UIP 16.

### GO-CART TRACKS

The following are average costs of a complete go-cart facility. Facilities will vary by the quality of construction and by size and amenities on the course. Costs are per linear foot of track, with a typical width of 22' to 30' for full-size courses. Car costs are not included, and will run \$2,325 to \$6,950 each. For remote control shutoff, add \$1,725 to \$2,550 plus \$470 per car.

Minimum-quality facility, small, simple oval or kiddie course, flat with minimum bumpers, lights and fencing, excluding all buildings and parking lot. . . . . \$70.00 – \$90.00

Average facility, typically 600 to 900 linear feet of concrete track, safety rail bumper system, adequate banking, standard design, lighting and fencing, some landscape, excluding buildings and parking lot. . . . . \$115.00 – \$180.00

Good course, 800 feet and longer, well banked, berms, multi-oval, good concrete paving and steel safety rail system, course lighting, railing and fencing, landscaped layout, waiting/viewing area, excluding buildings, canopies or parking lots. . . . . \$150.00 – \$205.00

# RECREATIONAL FACILITIES

## SECTION UIP 17

### RADIO AND TV TOWERS

Radio and television towers are individually designed for the location, considering climatic conditions such as ice, wind, seismic and antenna loads. Costs are typical cost ranges excluding extremes. Due to the number of variables involved, we would suggest that whenever possible, manufacturers', installers' or contract costs be obtained.

Included in the costs are concrete footings, erection, painting, guy wires, lighting, platforms, and designers' fees. Antennas and transmission cables are not included. Multiple antenna installations and mono-poles will tend to be at the high end of the range.

### SELF-SUPPORTING TOWERS

HEIGHT (FEET)	COST RANGE	HEIGHT (FEET)	COST RANGE
50	\$ 11,750 – \$ 18,250	225	\$159,000 – \$216,500
75	24,250 – 35,500	250	187,500 – 252,250
100	39,500 – 56,250	300	259,750 – 339,000
150	78,750 – 108,750	350	339,000 – 433,000
200	131,250 – 173,000	400	425,500 – 541,250

### TRIANGULAR GUYED TOWERS

(Price per linear foot, up to 400 feet high)

10" Ham radio*, police and fire bands	\$ 52 –	\$ 75
20" Taxi and public service bands	83 –	117
24" Radio, V.H.F., U.H.F. bands	104 –	152
30" Cellular applications	127 –	212
40" Microwave towers	155 –	265
54" Master TV systems	260 –	585

\*NOTE: Use high end of range for small crank-up self-supporting towers, add 100% for motorized operation.

Add 35% for every 100 feet of height over 400 feet.

### SATELLITE DISHES

The following are average installed costs small commercial satellite dish systems. The costs include a 10' dish, receiver, descrambler, cable and all items necessary for a complete installation. The costs range from very basic systems, whose dishes are adjusted manually, to systems with many user features, extensive on-screen displays and automatically moving dishes.

LOW	AVERAGE	HIGH
\$2,100	\$3,500	\$5,725

Deduct 20% for dishes 6' and under.

Small residential Ku Band dishes will run \$100 to \$1,100.

### SHIP AND BOAT DOCKS

The following are typical cost ranges per square foot including fenders, railings, utilities, and miscellaneous items commensurate with the type and quality, exclusive of buildings.

#### LIGHT CONSTRUCTION (Wood girders, nailed)

2" floating deck, light posts	\$18.25 –	\$ 29.75
2" decking, light posts	20.00 –	27.00
3" decking, light piling	22.75 –	34.50

#### MEDIUM CONSTRUCTION (Wood girders, bolted)

2" floating deck, winch or light piling	30.50 –	56.50
3" decking, light piling	31.25 –	43.75
4" decking, average piling	35.25 –	52.25

#### HEAVY CONSTRUCTION (Heavy wood girders)

4" or heavier decking, heavy piling	56.00 –	81.00
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#### HEAVY CONSTRUCTION (Major shipping dock)

Heavy concrete deck and piling	85.00 –	127.00
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### SMALL BOAT MARINAS

The typical cost range for floating slips in modern commercial developments is \$3,875 to \$7,250 per slip, including ramps, anchor piers, utilities, lockers, designers' fees, etc., but excluding all land improvements, based on a typical mixture of boat types and sizes. Actual contracts have ranged from \$2,025 per slip for small berths on calm riverfront with no utilities to \$13,000 per slip for a high-quality commercial complex with complete utilities and heavy anchorage.

	UNIT COST	LOW	AVG.	GOOD
Deck and frame, per square foot of deck;				
Frame only, metal	\$ 6.95	\$ 11.75	\$ 19.90	
wood	3.15	7.15	16.15	
Deck only, 2" treated wood				
marine plywood	4.85	5.60	6.55	
concrete plank	6.05	7.45	9.20	
fiberglass panels	7.75	9.30	11.25	
metal decking	6.35	8.00	10.10	
Deck and frame, preassembled, portable dock, gangway or ramps;				
light-duty pipe, wood deck	12.75	14.75	17.25	
medium-duty truss, wood deck	14.50	20.50	28.75	
metal deck	24.25	32.00	42.00	
Add for handrails, per linear foot	19.25	22.25	25.75	
ladders, 4' to 6', each	78.00	158.75	323.25	
lockers, storage box, each	220.00	420.00	805.00	
benches, 4' to 6', each	105.00	185.00	315.00	
roof, fabric canopies, per sq. ft.				
metal or fiberglass	4.35	5.95	8.10	
wood	6.65	9.20	12.70	
utilities, electrical, each	285	605	1,300	
water or fire	160	325	665	
Flotation, drum or box, /sq. ft. of deck	4.05	7.65	14.45	
Anchorage system, piles, see Section UIP 1.				
metal poles, light, per lin. ft.	3.15	5.55	9.70	
telescoping	26.25	29.75	33.50	
stiff arm brace, per lin. ft.	28.25	31.75	35.50	
winch and cable, each (excl. conc. anchor)	1,150	1,950	3,350	
Swim rafts, complete, per sq. ft.	14.50	17.50	21.00	
Boat storage racks, metal, per boat	450	600	800	
Boat lifts, manual, 1200# – 3000#	1,100	1,425	1,925	
personal watercraft	725	975	1,300	
motorized, add	300	450	675	
straddle hoists, cost per ton	3,175	4,700	6,950	
add for jib mast	14,250	15,750	17,750	
Miscellaneous paving, lighting, fencing, see Section UIP 16; sheet piling, sea walls, Section UIP 1.				

# RECREATIONAL FACILITIES

## SECTION UIP 17

### SPORTS COURTS

(Cost per playing court only, including design fees, excluding all building improvements.)

#### TENNIS COURTS

(60' x 120' = 7,200 Sq. Ft.)	COST RANGE
Concrete court, posts, net, striping	\$23,500 – \$36,000
Add for lighting	7,500 – 10,275
Add for fencing	6,375 – 9,425
Add for resilient cushioned layer, per sq. ft.	.90 – 3.35
Additional paved area, per sq. ft.	2.90 – 4.20
Asphalt court (2" to 4"), per sq. ft.	2.65 – 4.45
Clay court, per sq. ft.	2.60 – 3.90
Umpire chair, each	415 – 585
add for roof	90 – 160
striping, cost per court	210 – 335

For detailed lighting, fencing, net costs, etc., see Section UIP 16.

**NOTE:** For two or more courts, deduct 5% per court.

#### PLATFORM TENNIS, prefabricated (30' x 60' = 1,800 Sq. Ft.)

Metal or wood deck, metal supports, fencing, lights	\$41,000 – \$46,500
Deduct for wood undercarriage & supports	3,225 – 6,100
Add for under deck heating	4,725 – 5,550

#### HANDBALL – RACQUETBALL COURTS

(Prefabricated, 20' x 40' = 800 Sq. Ft.)

Prefinished wall and ceiling panels, wood floor, lighting, complete	\$30,750 – \$46,000
Add for spectator viewing wall	9,150 – 48,850
Unit costs, per sq. ft. of surface, except as indicated:	
Wall panels, laminated, prefinished	8.35 – 11.00
viewing window	36.00 – 44.50
clear glass wall	47.25 – 66.50
opaque glass wall	100.00 – 122.00
Flooring, hardwood	7.75 – 13.25
Ceiling panels	4.45 – 7.75
Lighting, per fixture, fluorescent	280 – 360
high-intensity discharge	470 – 585

**NOTE:** For two or more courts, deduct, 15% to 25%.

#### SHUFFLEBOARD COURTS (concrete courts, complete, 52' x 6')

Residential	\$ 925 – \$1,325
Commercial, parks and playgrounds	1,500 – 2,325

#### BATTING CAGES, cost per station

School, ceiling mount canopy or ext. net, tube frame	\$ 2,050 – \$ 3,450
add for motorized operation	4,875 – 5,725
pitching machines, individual, each	1,450 – 3,050
coin-op, auto feed	4,875 – 5,825
protective screens, portable, each	255 – 345
Commercial, center automated range, concrete stations with chain link, canopy netting, lighting, complete	
batting cages	13,500 – 17,750
equipment, pitching, conveyor-feed system	6,000 – 8,875
misc. range supplies (bats, balls, etc.)	720 – 1,175

#### BACKBOARDS, per vertical square foot (exterior, excluding paving)

Masonry	\$14.50 – \$18.50
Metal	14.25 – 15.75
Wood	19.50 – 26.00

**NOTE:** Playground equipment, see Section UIP 16. Synthetic surfaces, see Page 3.

### RECREATIONAL ENCLOSURES

The following costs are average cost ranges per square foot of complete recreational shell-type enclosures or buildings including the basic tennis and handball/racquetball courts as noted, but excluding swimming pools and decks. Costs include architects' fees.

The cost for individual facilities can vary greatly depending upon the type of structure and its appointments, including the extent of lounge, refreshment, exercise and spectator areas, etc.

**MINIMUM:** Air-supported (bubble) or light screened structures, of light translucent material with minimum lighting and plumbing.

	COST RANGE
Golf (60' to 80' clear height, incl. stations & turf)	\$15.00 – \$18.25
triangular domes	17.75 – 22.00
Tennis (28' to 40' clear height, including courts)	14.75 – 22.75
stressed membrane over metal frame	22.00 – 33.25
Swimming (enclosure only, no plumbing)	6.65 – 12.00
Swimming (screen enclosure only on light frame, residential)	8.90 – 11.50

**LOW:** Rigid steel frame with steel siding or wood frame with wood or steel siding, minimum sports lighting and plumbing, minimum restrooms, no dressing rooms or showers.

Tennis (20' to 28' clear height, including courts)	\$29.75 – \$38.25
Handball/racquetball (court enclosure only, no plumbing)	51.00 – 67.75
exterior masonry court (court enclosure only, no H.V.A.C.)	37.00 – 50.00
Swimming (translucent plastic or screened enclosure, structural frame, no plumbing)	20.25 – 35.00

**AVERAGE:** Rigid steel frame with insulated steel panels or masonry bearing walls, adequate sports lighting and plumbing, dressing rooms, showers.

Complete tennis (24' to 32' clear height, including courts)	\$43.25 – \$53.75
Handball-racquetball facilities only (including courts)	60.00 – 80.00
Swimming (good curtain walls, plastic, glass, motorized roof, no plumbing, enclosure only)	41.00 – 58.25

**GOOD:** Masonry bearing walls or insulated sandwich panels, good quality fixtures and lighting, lounge, snack bar, pro shop, health facilities, sauna.

Complete tennis (30' to 35' clear height, including courts)	\$55.50 – \$77.75
Handball/racquetball facilities only (including courts)	81.50 – 105.00
Complete swimming facilities (natatorium buildings)	60.00 – 130.00

**SAUNA BATHS:** Cost per square foot of floor area for prefabricated units including interior wall finish, door, heater and controls. Wall structure, exterior cover etc., are included under Interior Construction in the Segregated Cost sections or add from Unit-in-Place.

15 to 24 sq. ft.	\$160 – \$220	50 to 74 sq. ft.	\$95 – \$135
25 to 49 sq. ft.	135 – 170	75 to 100 sq. ft.	85 – 110

**NOTE:** For separate heater costs and steam generators, see Section UIP 3.

