

200's—Operating Costs

201. Electrical Energy

Due to fluctuations in energy costs and the unpredictability of future rates, it would be of little assistance to budget preparers to show electrical power rates for even the major utilities in California. Therefore, it is recommended that the budget preparer obtain current rate information from the supplier of electrical power prior to completing the Electrical Energy Consumption Worksheet in Part IV.

The ways in which electrical energy is consumed within a subdivision development are too diverse to guess the costs of electrical power to the common areas without an inventory of electrical equipment, appliances, etc., including the consumption rate of the equipment and an estimate of the hours of use over a given period of time. The worksheet in Part IV of this manual is designed to assist the budget preparer in this inventory process.

Hot Water

If hot water, heated by electricity, is supplied by the homeowners association to each dwelling unit (including laundry facilities), 540 KWH per month, per unit per 30-gallon water heater is a reasonable estimate of consumption.

Air Conditioning

One ton (1 ton = 12,000 BTUs) of refrigeration will serve approximately 400 to 600 square feet of floor area in a residential structure. Each ton of capacity requires approximately 1.4 KWH per hour of operation. The hours of operation of an air conditioning unit depend upon such factors as the outside temperature, insulation in the structure, exposure to the direct sun and other factors. If you assume a 500-square-foot recreation building is used eight hours a day, seven days per week, the cost can be calculated as follows:

8 hrs. x 7 days/wk. x 52 wks. x 1.4 KWH = 8.15 KWH/SF/YR

The factor shown on the electrical worksheet is estimated for 6 months of use per year.

Pools and Spas

The electrical energy needed for swimming pools and spas is consumed by a water circulating pump in each unit plus a blower motor in the spa (or occasionally electric heaters). A rough estimate of energy consumption per month for each can be made if the horsepower of the motors can be determined. Circulation pumps generally operate 8 to 12 hours per day, 100% of the year due to health and sanitary reasons. Spa blowers operate when the unit is used. Twenty minutes per unit, per day is a reasonable estimate of time use for spa blowers on smaller projects. Large projects would use up to 12 hours maximum. (See electric worksheet.)

Pump Type	Typical Motor Sizes
Spa/pool pump	1 – 2 HP
Spa blower	1 1/2 – 2 HP
Solar pump	1/12 – 1/4 HP
Sump pump	1/4 – 1/2 HP

Larger spas and pools will require larger motors.

Hours of use for solar pumps would depend on the size, location (climate) and efficiency of the system. A closed system that is tied to the pool circulation pump would run while the cleaning/circulating pump is operating.

General Equipment Requirements

Size of Pool	Motor	Heater
Average Spa	1 HP + 1 1/2 to 2 HP Blower	250,000 BTU
15,000 gallon	1 HP	250,000 BTU
20,000 gallon	1 1/2 HP	325,000 BTU
40,000 gallon	2 HP	400,000 BTU
150,000 gallon	Varies	2 @ 400,000 BTU

Other Pump and Motors

Hot water circulation pumps can range from 1/12 to 1/4 HP.

Security gate motors can vary depending on size and weight of the gate and method of opening.

Normally, structures with subterranean parking should include a sump pump(s) as a line item in the budget. If an electrical ventilation system is installed, include on the electrical consumption worksheet.

202. Gas Energy

Due to increases in energy costs over the past few years and the unpredictability of future rates, it would be of little assistance to budget preparers to show gas rates for even the major utilities. Therefore it is recommended that the budget preparer obtain current rate information from the supplier of gas as far down the line as possible in the budget preparation process. The rate schedule for common-interest subdivisions should be used rather than the rate schedule for single family residences.

Gas rates are usually “per therm.” A therm or thermal unit is equivalent to approximately 100,000 BTUs. A cubic foot of natural gas presently contains approximately 1,050 BTUs.

Charges for natural gas can be approximated by multiplying the estimated consumption in therms by the rate for the area in which the subdivision is located. (See Gas Consumption Worksheet in Part IV.)

Example: Assume a heating unit with a 50,000 BTU/hour input rating is to be operated 70 hours per month. (The BTU rating of equipment utilizing gas energy is shown on a metal plate on the equipment. If both an input and output rating are shown on the plate, the input rating should be used in all calculations.)

50,000 BTUs x 70 hrs. = 35 therms/month
100,000

Hot Water

Generally, the cost of supplying hot water to the individual dwelling units in any common-interest subdivision is billed to the owner or resident of the unit. The water heater itself is usually a part of the dwelling unit. In some cases, the owners' association must pay the costs associated with supplying hot water. In budgeting for hot water, the governing body of the association should consider the following facts:

- If water heated by natural gas is supplied by the association to each dwelling unit (including the laundry facilities with the unit), consumption should average approximately 20 therms per unit per month.
- A recreation room with a kitchen in a clubhouse facility consumes energy approximately equivalent to that consumed by one dwelling unit.
- If automatic washers and dryers are coin operated by the association, it is not ordinarily necessary to budget gas as an expense item because the income derived normally offsets the utility and maintenance costs.
- For associations that supply domestic hot water to units heated by propane, the following conversion factors may be helpful:

Approximately 800 cubic feet or 22 gallons of propane is necessary to supply one dwelling unit per month.

Pool Heating

Consumption of gas for pool heating is subject to many variables. On the average, it costs seven times more to heat a pool in winter than during the summer. Outside temperature, wind, and humidity can also affect the amount of gas consumed in any one month for heating pool water by as much as 50%. The human factor must also be taken into account. If the users of the pool insist upon a water temperature of more than 75 degrees, the cost of heating is significantly increased.

In calculating the monthly cost of pool heating, the following information should prove useful:

- 8.33 BTUs are required to heat one gallon of water one degree Fahrenheit in one hour.
- 100,000 BTUs equals 1 thermal unit or therm.
- 40,000-gallon pools in Southern California rarely lose more than 8 degrees overnight.
- If propane gas is used for pool heating, it should be noted that 1 therm = 1.1 gallons and 1 gallon = 36.4 cubic feet. Also, 1 cubic foot = 2,500 BTUs. This information should allow you to compute the cost if you know the cost per gallon (see Gas Worksheet).

Note: The presumption is a recreation pool, with heating equipment, will be used all year or 100%. For very hot or cold climates where a heater will not or cannot be used all year, a 70% usage should suffice.

Space Heating

The best guide in budgeting for an existing facility is to multiply the historical energy consumption times the current utility rate. If there is no history or if for any reason the history is not reliable, one can assume that the installed heating unit or units are of adequate capacity. To calculate the cost of heating, multiply the BTU input of the heater by the anticipated hours of operation per year and divide the product by 100,000 to determine the number of therms per annum. Then multiply the number of thermal units by the per therm cost of gas in your area. Add 15% for pump and blower operation.

The number of hours that heat will have to be supplied to a structure will vary according to climatic conditions and construction features. In a moderate climate, 800 hours per year is a reasonable estimate based on 4 hours per day, 200 days per year.

Solar Heating

Solar Pool and Spa Heating

Solar systems for pools can greatly reduce or eliminate the need for expensive natural gas for pool heating, depending on the level of swimming comfort and the length of swimming season desired. Solar can also be used to heat hot tubs or spas in conjunction with conventional heaters and may reduce gas consumption by up to 25%.

“Active” solar pool heating includes collector panels, controls, and plumbing. The pool’s own filter pump serves to pump the water up to the collectors, where it is warmed, and back down to the pool. The collector area needed to provide 100% of pool heating needs is equivalent to the surface area of the pool; typically, systems are sized to provide 60%–75% of the need. Price per square foot installed is in the range of \$12–\$14. Homeowners’ association sized pool heating systems cost in the range of \$4,500–\$8,500.

Solar Water Heating

Solar water heaters are generally sized to meet 70% of the demand for hot water on an annual basis. “Backup” systems using electricity or natural gas supply the other 30%. In a condominium building, solar water heating is most economically installed as a central system with centralized backup. In a townhouse-type development, individual systems for each unit are often used. Solar water heating systems may be integrated with solar pool heaters.

Solar water heating systems include glazed collectors, a storage tank, a pump, controls, and plumbing. The size of system required depends on the hot water needs of the residents. Common rules of thumb hold that hot water use is 20 gallons per person per day in multifamily housing; that 1/2–3/4 square foot of collector space is needed for every gallon of demand; and that 1 1/2–2 gallons of storage capacity must be provided for every square foot of collector space. Thus, a family of four using 20 gallons of water apiece will require 40–60 square feet of collector and between 50 and 120 gallons of storage space. On multifamily new-home construction, the California Energy Commission estimates the cost per unit for solar water heating to be about \$1,000. Townhouse-type construction with individual solar systems generally cost more.

The California Energy Commission estimates that the average family of four living in a multifamily housing structure will save 211 therms of gas a year with a solar water heater.

Solar Space Heating

Ideal installation can expect a maximum savings in energy consumption for space heating of 50%.

Leasing Solar Equipment

It has become more popular to lease solar equipment for hot water and pool heating. In many cases, the monthly savings in energy is enough to make the lease payment. In addition, users of leased solar equipment may still be eligible for some tax credits. If your association leases equipment, the monthly payment amount should be included in the budget.

203. Water

Common-interest subdivisions use water for irrigation purposes for common areas, for supplying water for swimming pools, clubhouses, recreational facility showers, laundry rooms, and dwelling units that are not individually metered.

Water rates vary appreciably from place to place and the rate for estimating association expenses should be obtained from the supplier of water to your subdivision. Rates are customarily quoted as cost per 100 cubic feet.

Irrigation of landscaping typically consumes four acre feet of water per acre, per year. However, weather conditions and the type of soil can have a significant effect on this average. Projects in the Palm Springs area generally use 8–12 acre feet per year. Water usage will vary greatly with sprinkler system design.

Domestic consumption assuming 2 1/2 occupants per unit can be estimated at between 200 and 250 gallons per day, per unit or about 33 cubic feet per unit, per day.

Some developments equipped with sprinkler systems or fire hydrants may be subject to a fire standby charge and should be included in the budget.

You may obtain the proper rate from your water district by contacting the customer service department of the water supplier to your subdivision. Also, a determination should be made whether or not any fees will be required. A worksheet for calculating water costs is included in Part IV of this manual.

Water Sub-Metering

Water sub-metering is becoming more common. Common water expense must first be included under item 203 on the budget worksheet before it can be listed as revenue offset under item 503 of the budget worksheet. Typical fees include:

- \$2/unit/yr., plus \$100/year per project for inspections by the Bureau of Weights & Measures.
- Meter reading, \$4–\$8/unit/mo. with a minimum of \$175–\$250 per month. Small projects may be done by the management company.

Typical reserves for equipment include:

Sub-meters cost \$300 each. Replacement by new certified meters needs to be done every 10 years. Other equipment may include batteries and computerized reading equipment with signal repeaters.

204. Sewer

The cost of sewer treatment is most commonly charged in one of three ways: 1) additional charge on individual property tax bill; 2) surcharge on water bill based on amount of water usage; or 3) flat fee per unit or lot.

If the project for which the budget is being prepared has separate water meters for domestic use and the sewer charge is on the water bill, this item should be marked with a zero and noted accordingly.

Septic Tanks

Properly installed and operating septic tanks should last the life of the improvement being served. On an average of every three years, septic tanks must be pumped at a cost ranging from:

Normal Maintenance and Operating Costs/Per/Year

- Pumping septic tanks \$250–\$350/tank
- Emergency services \$30* (unit/year)

* Associations that tend to have continual problems should raise this portion of the cost to \$30–\$40 per year.

Storm Drains/Water Retention Basins

Some projects may include storm drains or water retention basins. Proper maintenance and reserve costs should be allocated for these items, as well as the cost to replace the filters based on local agencies' maintenance and/or manufacturer's requirements.

205. Cable Television/Master Antenna

The monthly contract rate for cable TV may range from \$40–\$50 per unit or more, depending on the locality and the extent of the service offered. Check with your cable provider to determine the actual amount.

Some projects may be served by a master antenna system. These installations normally consist of a master antenna

receiving certain signals and amplifying and conveying the signals by cable to the individual units. The cost of maintaining this system may be minimal if the antenna is mounted on the roof of a two- or three-story multiple-family structure and serves only the units in the structure. In such cases, the maintenance cost normally ranges from \$0.75–\$1.25 per unit, per month.

More extensive systems are provided in large projects and may require extensive underground cabling. Costs for this type of service generally run from \$2.50–\$5 per unit, per month.

207. Custodial

This category includes the cost of services for floor cleaning, carpet vacuuming and shampooing, window washing, furniture dusting, and similar janitorial work. For cleaning and maintenance of carpet, figure \$0.10–\$0.18 per square foot per month. For care of hardwood floors and tile, estimate \$0.18–\$0.25 per square foot per month. If the work is independently contracted for, the rate will be approximately \$18–\$25 per hour. If the work is to be done by employees of the association, \$12 per hour, or two-thirds of the contract rate is a reasonable estimate of the expense.

The cleaning and maintenance of restrooms and laundry rooms may be provided for under a blanket maintenance contract with an independent contractor. If not, the separate cost for this work should be budgeted at \$40 per cleaning for each two restrooms and \$30 per month for each laundry room. Five to nine cleanings per month should be adequate to keep the restrooms in presentable condition.

There are always economies of size, and large areas (over 3,000 square feet) will cost far less per square foot than small areas. **In no event should custodial service be calculated at less than \$350 per month for any type of custodial cleaning.** In small projects it might be more economical to have the landscape contractor do the custodial work.

All employers in California are required to implement and maintain an effective written Injury and Illness Prevention Program (IIPP) (California Labor Code

6401). Should the association determine to hire its own employees rather than independent contractors for services such as janitorial, landscape maintenance, pool and spa maintenance, the association then becomes the employer and must comply with the IIPP requirements for employers in California.

207A. Custodial Supplies

An additional line item should be considered to cover the cost of custodial supplies. An average of \$50–\$200 a month is a good preliminary amount until the association has some history of expenses in these areas.

208. Landscape Maintenance

With the exception of high-rise structures, landscaping costs often represent one of the largest single budgetary items in common-interest subdivisions. Proper budgeting requires careful consideration of the anticipated intensity of use of the landscaped area and the level of maintenance desired.

The costs represented in the tables are averages for the three areas listed. Urban areas in Northern California should use the costs shown next to Southern California.

In any case, not less than \$175 per month should be used.

Golf Courses

Normal maintenance, not including over-seeding or flower planting, averages approximately \$0.70/SF/YR (SF/YR = square foot per year). In addition to a cost per square foot per year, the budget preparer should create a landscape maintenance budget that would consider the cost of staff, equipment, irrigation repair and other unique activities that are mandated for the maintenance of golf courses. It is recommended that bids be obtained in order to determine your cost more accurately.

Classes A and B

Areas consisting of 60%–70% grass and 30%–40% shrubs, trees and flower beds. (If planting areas are broken up into a large number of small plots, the rate is likely to be higher than for the maintenance of mass plantings.)

Statewide—\$0.40–\$0.60/SF/YR

Class C

Areas with 90%–100% lawn sufficiently open to permit the use of a large riding mower.

Statewide—\$0.35–\$0.60/SF/YR

Class D

Gentle slopes with low maintenance ground cover and/or drought tolerant plants.

Palm Springs—\$0.30–\$0.40/SF/YR

Southern California—\$0.15–\$0.25/SF/YR

Northern California—\$0.15–\$0.25/SF/YR

Steep and/or show slopes.

Palm Springs—\$0.35–\$0.45/SF/YR

Southern California—\$0.25–\$0.35/SF/YR

Northern California—\$0.20–\$0.30/SF/YR

Class E

Unplanted or natural areas requiring weed abatement, fire breaks, rodent control (see Item 217), erosion/drainage control, trash pickup, etc. Small natural areas and fuel-modified zones or those requiring brush control should use the high end of the range. Large areas of open space can use a lower amount.

Small natural areas and irrigated fuel-modified zones—\$0.06–\$0.10/SF/YR

Large natural areas and non-irrigated fuel-modified zones—\$0.02–\$0.05/SF/YR

Class F

Bridle paths—\$0.05/SF/YR

Class G

Parkways—\$0.48–\$0.50/SF/YR

Class H

High-Rise or Mid-Rise projects with minimal landscaping: pots/planters—\$16 per pot/planter per month

Trees

If trees exist on the property and require additional maintenance, see Item 313.

Environmental Compliance

Costs for maintaining environmentally sensitive areas such as wetlands, oak tree preservation, tide pools, etc., should be estimated by professionals specializing in this type of maintenance.

208A. Landscape Supplies

An additional line item should be considered to cover the cost of supplies, sprinkler repairs and landscape replacement. An amount of \$0.05/SF/YR for irrigated areas is a good preliminary number until the association has some history of expenses in these areas.

209. Refuse Disposal

This service may be supplied by a municipality or a service district. It is more frequently provided by an independent contractor. The service may provide for individual garbage can collection or for bin pickup. Normally, there is one bin for 12 units.

Where individual garbage can collection service is provided, it is unusual for the association to bear the costs of refuse collection except that provided to the recreational common area of the development.

It is best to contact the local agency or vendor in your area to get an accurate cost estimate of pickup charges. Include the name and telephone number on Page 3 of RE 623 if applicable. Costs have averaged \$15 per unit per month.

Individual cities may impose special requirements for recycling, etc. This should also be considered when determining the cost of this service.

210. Elevators

The most commonly used elevators are either overhead traction or hydraulic lift. The costs for service contracts are as follows:

Overhead Traction Type

Full service contract—\$4,500–\$5,500/YR

Hydraulic Lift Type

Full service contract—\$2,500–\$3,000/YR

High-Speed Elevator

High-speed overhead elevators are usually found only in high-rise buildings. They are ordinarily serviced under a long-term service contract provided by the manufacturer. Maintenance costs payable by the association will be contained in the contract. If these elevators are not maintained by an independent contractor under service contract, information necessary to budget for the maintenance should be obtained from the manufacturer or its representative. The cost averages \$7,200 per year per elevator.

Include an additional \$200 per year per elevator for interior maintenance or refurbishment.

211. Private Streets, Driveways, and Parking Areas**Sweeping**

Sweeping is normally done once a month. The present contract rate is approximately \$50 per acre of street surface area per sweeping with a minimum charge of \$100. Occasionally the cleaning of streets, driveways, and parking areas are included in the maintenance contract for landscaping. Sometimes costs are based on a per unit or per lot cost rather than on an acreage basis.

Maintenance costs will vary due to such factors as soil condition, road base, weather conditions, and quality of construction.

Subterranean garages should be swept once a week and washed to remove oil and grease stains at least once a month. In budgeting for this work, use a figure of \$1 per space per month, or one half-cent per square foot of garage area per month. If this service is included in the landscape maintenance contract, there is no need to budget separately for it.

212. Heating and Air Conditioning Maintenance

In all planned developments and in most cluster, garden, and low-rise condominium structures, heating and air conditioning equipment for dwelling units is individually owned by the owner of the dwelling unit. The individual owner has sole responsibility for the costs of operating, repairing and replacing the heater and air conditioner, which supplies the dwelling unit. Sometimes air conditioning units are located within the interior of a condominium unit, but the cooling coil may be connected by tubing and electrical wiring to a condensing unit on the roof within the common area. The CC&Rs usually provide that the maintenance and replacement of the condensing unit is the responsibility of the unit owner even though it is located within the common area.

It is not uncommon for a condominium owners' association to own central heating and/or air conditioning equipment which supplies dwelling units within the development. In planned developments, the association owns and maintains heating and air conditioning equipment for the clubhouse, dressing rooms, and other structural improvements of the common area.

Simple wall heaters and floor furnaces usually only require regular periodic cleaning. This generally can and will be handled by the building custodian in a recreation building and by the individual owner in a dwelling.

Forced air heating units require filter cleaning or changing and occasional lubrication. These costs can generally be handled under miscellaneous repairs.

Combined heating and cooling units require a regular servicing and an allowance of \$25 per month should be considered for average recreation rooms. Larger installations may be on a separate service contract and a budget allowance should be provided to adequately cover the contract price.

213. Swimming Pools And Spas**Weekly Service**

Cost for professional pool service varies with size and location. The average charge for a pool is \$45 per call. If a

spa is included, the charge is \$60 per call. Average winter service can be taken care of with one or two calls a week. Summer service can be done with two or three calls per week. However, heavy use in large projects or those with many young people will require more frequent care than the average.

Multiple pools in one location can reduce the average costs per pool as much as 40%.

Prices shown do not include chemicals (see 213A).

Pool only—\$200/month
Spa only—\$125/month
Pool and spa—\$325/month

Note: The costs represented are averages only. Cleaning services vary on frequency of cleaning, and new inspection guidelines will warrant higher monthly fees. It is highly recommended that estimates be obtained from local maintenance companies.

For larger pools in excess of 500 square feet, \$0.50 per square foot per month should be used to estimate the monthly service cost.

213A. Pool and Spa Supplies

An additional line item should be considered to cover the cost of supplies. It is recommended to allocate 20%–30% of the monthly contract amount.

214. Tennis Courts

Maintenance and Operation (Asphalt or Concrete)

- Sweeping
(1 HR/WK at \$10/HR)—\$40/month
- Refuse pickup
(10 min./day at \$10/HR)—\$50/month
Total—\$90/month
- Night lighting energy cost—use worksheet.

Sweeping and refuse pickup may be included in the landscaping contract.

215. Access Control

There are any number of systems and devices that can be employed to enhance the control of access to the property. These include:

- Individual key systems with magnetic locks providing entry to individual dwelling units. This may be used in conjunction with an intercom, telephone or closed circuit television setup. Operational and maintenance costs may be carried by individual owners or the association.
- Motorized gate maintenance costs are estimated as follows:

Type of Gate	Maintenance (per month per gate)
Arm type	\$70
Sliding gate	\$70
Overhead gate	\$70
Swinging gate	\$90

- A patrol service on a contract basis. If motorized, figure \$18–\$30 per hour. For a foot patrol, slightly less.
- Attended guard gates. If 24-hour per day service is provided by contract to the association, it will require 4.5 people on a 40-hour workweek basis with all the normal employee benefits. At a monthly rate of \$4,000 per person, the annual cost per guard gate would amount to \$216,000. In some developments, cost reductions for automobile entry gates are being realized through the use of closed circuit television. If an automobile is assigned to a guard gate, add \$4,000 per automobile to the annual budget.

Intercoms and Telephone Entry Systems

Intercoms would normally require \$1 per unit per month to cover maintenance and service calls, with \$25 per month as a minimum. Costs for telephone entry systems average \$45 per location per month per directory location. If you have rented telephone entry equipment,

the monthly cost may be higher. Contact your telephone company for an estimate. If a TV system is included, the servicing could be higher and a reserve for the equipment should be provided.

If your project includes a major recreation facility, it is recommended that consideration for a telephone be budgeted at each center at an estimated cost of \$50/telephone/month.

216. Reserve Study

Subject to certain limitations, California Civil Code section 5550 requires the governing body of a common interest development to cause a study of the reserve account requirements of the subdivision every three years. It is recommended that a subdivision within the first year of its operation initiate the beginning of the three-year requirement and have the reserve study performed. It is also recommended that as subsequent phases become annexed into the subdivision, the reserve study be amended to reflect the new reserve components recently annexed.

Our Operating Budget Guidelines are intended for use during the first year of operation of a common-interest subdivision. It is recommended that the governing body of the association transition the use of the DRE budget to that of an operating budget, reflecting current actual costs as they exist.

Reserve study costs generally fall within \$1,000–\$7,500 or \$350–\$2,500 per year. Depending on the size of the community and amenities included, it may go higher. Updates can be as minimal as \$500 per study. Larger communities with multiple and complex components require a more detailed study.

217. Miscellaneous Maintenance

Minor Repairs

For miscellaneous maintenance of common facilities and dwelling units for new construction, include the following on a per unit per month basis:

- With association maintained exteriors—\$5
- Without association maintained exteriors—\$1

- Condominium conversions with exterior maintenance—\$7
- High-rise projects (over six stories)—\$12

Pest Control

For those projects requiring pest control services, the average cost is ordinarily \$2 per unit per month.

In accordance with Civil Code section 4780, a community apartment, condominium project, or stock cooperative, as defined in Sections 4105–4190, is responsible for the repair and maintenance of the common area occasioned by the presence of wood destroying organisms unless the CC&Rs indicate otherwise.

The required reserve for termite extermination has been removed from this manual. This reserve item can now be considered optional. When and where an infestation occurs and how severe the infestation will be is difficult to predict. Annual inspections are needed to discover any infestation in its early stages before it becomes a serious problem. For all potential pest problems, frequent pest control inspections are necessary. **The average cost for pest control service is ordinarily \$2 per unit per month or \$30 per month, whichever is the higher cost.**

It is suggested that if an infestation does occur, obtain at least three bids from extermination companies. If a reserve has not been established, a special assessment may be needed at that time to pay for the extermination expenses. In addition to pests, larger planned developments with detached units may have a problem with rodents. Slope areas can incur considerable damage from rodents. Allowing \$75–\$150 per acre per month of irrigated landscaping for rodent control is reasonable.

Lakes and Waterways

Maintenance, operation, and reserve costs for water works projects are directly related to the initial engineering of the system. A poorly designed system will be less energy efficient and therefore more costly to maintain and operate.

The average cost to maintain small lakes and waterways range from \$0.20–\$0.25/SF/YR with waterways at the high end of the range. The cost to maintain large lakes (10–13 acres) ranges from \$0.72–\$0.84/SF/YR. Add to this cost \$25 per pump per month for pump maintenance.

Operating and reserve estimates for larger lakes should be determined by a geotechnical engineering study of the entire system and/or a consultant specializing in lake environments.

Snow Removal

Snow removal costs should be based on an average year's snowfall. When snow removal is to be contracted, estimates or bids should be obtained from local contractors. Average cost is approximately \$.20/SF/YR.

If the association is to use its own equipment and employees, the full hourly rate of employees is to be multiplied by the necessary hours of work involved. The costs of operating any equipment should be added. Reserves must be established to replace tools and equipment.

Community Network

Many developers and builders are installing high-speed cable systems in their homes with the idea of providing community intranet or a website. Costs associated with this technology can run from \$8,000 per year to \$200,000 per year depending on the level of sophistication of the system and the site.

The fee to the service provider will run about \$35 to \$75 per unit per month depending on the level and number of services provided. Actual contracts should be used to support the cost used in the budget whenever possible.

Allow \$300–\$500 per month for a regularly updated Association website. This should include Internet service (ISP) and technical support.

Maintenance Manual Inspections

Many projects are provided with a maintenance manual that details the requirements for maintenance, repair, and replacement of the common area improvements. Language for implementation of the manual is spelled

out in the CC&Rs and includes multiple inspections, including an annual inspection. Most of the inspections can be or will be performed by the vendors providing the services to the association or the property manager. The independent annual inspection is typically provided by an inspection expert or the maintenance manual company and will cost from \$500–\$3,000 per year, depending on the size and complexity of the project.

Lighting Maintenance and Supplies

Some projects may consider or include lighting maintenance service. A contract for lighting maintenance and supplies can provide for regular inspection, upkeep and timely replacement of lighting components and fixtures. The coordination of light and motion sensors with timers can also help reduce energy cost. The cost of this contract will vary with the size and complexity of each project.

218. Fire Sprinklers, Fire Alarms and Fire Extinguishers

The State Fire Code requires any structure over 5000 square feet or over three stories to have fire sprinklers. Typical fees for maintenance include:

- Off-site monitoring runs from \$40–\$55 per location per month. Each location requires a separate alarm panel with two phone lines. Each phone line normally costs from \$38–\$50 per month. Wireless monitoring may also be available. Consult vendor for cost estimate.
- Annual inspections of the fire sprinkler system cost from \$125–\$200 per building, and fire sprinkler quarterly inspections range from \$85–\$100 per building. A five-year recertification of the system, which includes inspecting all of the sprinkler heads, costs from \$300–\$400 per building.
- Fire alarm systems should be inspected quarterly and usually costs about \$45. A typical fire alarm panel costs around \$3,000 and should usually last 15–20 years before having to be replaced.
- Fire extinguishers need to be inspected, recharged, and recertified annually at a cost of \$15–\$20 per extinguisher.