

## Appendix F

### Estimated Useful Life Tables

**General Requirements.** This table lists the recommended Estimated Useful Life (EUL) in years of the categories of assets that shall be considered in a Capital Needs Assessment. The different EUL values given reflect the occupancy demographic of the dwelling units, either multi-family or elderly.

The systems and average useful life years is based on regular preventive maintenance properly performed at prescribed frequencies. Many factors can affect the EUL such as maintenance programs, climatic conditions, challenging environments (wet locations, near salt water or heavy industry), use of heavy-duty equipment features, and use of corrosion resistant materials. It is the responsibility of the CNA Consultant to use best professional judgement in making final determinations of EUL based on specific Property conditions, and the Consultant must provide justification for all variances to the EUL values listed herein.

If an observed item is not listed, it should be assigned to the most closely related category. When identifying an alternative to an existing component the user may specify an EUL for the alternative which differs from the EUL in the following tables for that component type but must provide an explanation.

<b>1. Site Systems</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
<b>Storm Water Drainage</b>		
Catch basins, inlets, culverts	50	50
Marine or stormwater bulkhead	35	35
Earthwork, swales, drainways, erosion controls	50	50
Storm drain lines	50	50
Stormwater management ponds	50	50
Fountains, pond aerators	15	15
<b>Access and Egress</b>		
Security gate- lift arm	10	10
Security gate- rolling gate	10	10
<b>Paving Curbing and Parking</b>		
Asphalt Pavement	25	25
Asphalt Seal Coat	5	5
Concrete Pavement	50	50
Curbing, Asphalt	25	25
Curbing, Concrete	50	50
Parking, Gravel Surfaced	15	15
Permeable Paving Systems (brick, concrete pavers)	30	30
Striping and Marking	5	5
Signage, Roadway   Parking	15	15

<b>Flatwork</b> (sidewalks, plazas, terraces and patios)		
Asphalt	25	25
Concrete	50	50
Gravel	15	15
Permeable Paving (brick, concrete pavers)	30	30
<b>Landscape Appurtenances</b>		
Fencing, chain-link	40	40
Fencing, wood picket	15	20
Fencing, 1x6 wood board - privacy	15	20
Fencing, 1x6 wood board – dumpster enclosure	12	15
Fencing, wrought Iron	50	50
Fencing, steel or aluminum	20	25
Fencing, concrete masonry unit (CMU)	30	30
Fencing, PVC (6' high)	25	25
Signage, Entrance/Monument	25	25
Mail Kiosk	10	15
Retaining Walls, heavy block (50-80 lb)	50	50
Retaining Walls, reinforced concrete masonry unit (CMU)	40	40
Retaining Walls, treated timber	25	25
<b>Site Utilities</b>		
<b>Water</b>		
Water Mains/Valves	50	50
Water Tower	50	50
Irrigation System	25	25
<b>Electric</b>		
Electric distribution center	40	40
Electric distribution lines	40	40
Transformer	30	30
Emergency Generator / Auxiliary fuel storage tank	25	25
Solar Photovoltaic panels	15	15
Photovoltaic Inverters	10	10
Pole mounted lights	25	25
Ground lighting	10	10
Building Mounted Lighting	10	10
Building Mounted High Intensity Discharge (HID) Lighting	10	20
<b>Fuel Gas</b>		
Gas Main	40	40
Gas supply piping	40	40
Site Propane, Storage & Distribution	35	35
Gas lights/fire pits	20	20

<b>Sanitary Sewer</b>		
Sanitary Sewer lines	50	50
Sanitary waste treatment system	40	40
Lift Station	50	50
<b>Trash</b>		
Dumpsters	10	10
Compactors (exterior, commercial grade)	15	15
Recycling containers/equipment	15	15

<b>2. Building Frame and Envelope</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
<b>Foundation</b>		
Slab, reinforced concrete	100	100
Slab, post tensioned	100	100
Continuous reinforced concrete footing and CMU stem wall	100	100
Piers, reinforced concrete pad footing and CMU pier	100	100
Piers, treated timber post/pole	40	40
Foundation waterproofing	50	50
Foundation drainage equipment	10	10
<b>Framing Systems - Floors and Walls</b>		
Wood, timbers, dimensioned lumber, laminated beams, trusses	100	100
Tie downs, clips, braces, straps, hangers, shear walls/panels	75	75
Steel, beams, trusses	100	100
Site-cast reinforced concrete	100	100
Reinforced masonry, concrete masonry unit (CMU)	40	40
Precast concrete panel	40	40
<b>Framing Systems - Roofs</b>		
Wood frame and board or plywood sheathing	75	75
Tie downs, clips, braces, straps, hangers	75	75
Steel frame and sheet metal or insulated panel sheathing	100	100
Reinforced concrete deck	100	100
<b>Exterior Wall Finishes</b>		
Aluminum Siding	40	40
Vinyl Siding	25	25
Cement Board Siding	45	45
Plywood/Laminated Panels	20	20
Exterior Insulation Finishing System (EIFS)	20	20
Stucco, over wire mesh/lath	50	50
Metal/Glass Curtain Wall	30	30

Precast Concrete Panel (tilt-up)	45	45
Brick/block veneer	60	60
Stone Veneer	50	50
Glass Block	40	40
Cedar/Redwood shakes, clapboard	20	20
Pine board, clapboard	20	20
<b>Roofing Systems</b>		
<b>Asphalt Shingle</b>		
Asphalt Shingle, 15-year	15	15
Asphalt Shingle, 20-year	20	20
Asphalt Shingle, 25-year	25	25
Asphalt Shingle, 30-year	30	30
<b>Metal Roof Panels</b>		
Structural (Galvanized Steel)	25	25
Premanufactured Architectural (Aluminum or Galvanized Steel)	25	25
Custom Fabricated Standing Seam (Copper, Stainless Steel)	75	75
Custom Fabricated Flat Seam (Copper, Stainless Steel)	50	50
<b>Slate Shingle</b>		
Slate shingle, S-1	100	100
Slate shingle, S-2	75	75
Slate shingle, S-3	50	50
<b>Clay/cementitious tile</b>	40	40
<b>Wood Shingle, Cedar Shakes/Shingles</b>	25	25
<b>4-Ply Built-Up</b>		
Asphalt, flat (dead level)	18	18
Asphalt, sloped (1/4" per foot)	25	25
Cold-Tar	35	35
Hot Applied Rubberized Asphalt	30	30
<b>2-Ply Modified Bitumen</b>		
Mopped Down, flat (dead level)	15	15
Mopped Down, sloped (1/4" per foot)	20	20
<b>Single Ply</b>		
EPDM, flat (dead level)	15	15
EPDM, sloped (1/4" per foot)	20	20
Thermoplastic (Hypalon, PVC, TPO, Vinyl)	20	20
Modified Bitumen, torched on flat (dead level)	10	10
Modified Bitumen, torched on sloped (1/4" per foot)	15	15

Rubberized/elastomeric white/cool roof	15	15
<b>Roof Drainage</b>		
Gutters/Downspouts, aluminum	10	10
Gutters/Downspouts, copper	50	50
Low slope-roof drains, scuppers	30	30
<b>Roof Trim and Accessories</b>		
Soffits, Wood	20	20
Soffits, Vinyl or Metal	25	25
Fascia, Wood, Vinyl	20	20
Roof Hatch	30	30
Service Door	30	30
Roof Skylight	30	30
<b>Flashing and Moisture Protection</b>		
Caulking and Sealing	15	15
Concrete/Masonry Sealants	10	10
Wood waterproofing and sealants	10	10
Building wraps & moisture resistant barriers	50	50
Paints and stains, exterior	8	8
Parapet caps and copings, aluminum	25	25
<b>Exterior Stairs, Rails, Balconies / Porches and Canopies</b>		
Exterior Stairs, wood frame/stringer	30	30
Exterior Stair Tread-wood	15	20
Exterior Stairs-steel frame/stringer	40	40
Exterior Stair Tread-metal, concrete filled	30	30
Exterior Stairs, Concrete	50	50
Fire escapes, metal	40	40
Balcony/Porch, wood frame	25	25
Balcony/Porch, steel frame or concrete	50	50
Balcony/Porch, wood decking	20	20
Balcony/Porch, composite decking	50	50
Railings, wood	20	20
Railings, metal	50	50
Railings, composite	50	50
Canopy, Concrete	50	50
Canopy, Wood/Metal	40	40
<b>Windows</b>		
Wood, operable	35	45
Wood, fixed	40	45
Aluminum	35 (30)	40 (30)
Vinyl	30	30

Vinyl/Alum Clad Wood	50	50
Storm/Screen Windows	10	15
<b>Exterior Doors and Entry Systems</b>		
Unit Entry Door, Exterior, solid wood/metal clad	25	30
Common Exterior Door, aluminum and glass	30	30
Common Exterior Door, solid wood /metal clad	25	25
Storm/Screen Doors	7	10
Sliding Glass Doors	25	30
French or Atrium Doors, wood/metal clad	25	30
Automatic Entry Doors	30	30
Commercial Entry Systems	50	50
Overhead Door	30	30
Automatic Opener, overhead door	20	20
Entry Lock Sets	7	7
<b>Crawl Space and Attic Ventilation</b>		
Sealed crawl space system	40	40
Vents, screens, covers	30	30
Vapor Barrier (VDR) ground or underfloor	30	30
Penetrations, caulking/sealing	15	15
Crawl space active vent fans	10	10
Screened gable end or soffit Vents	30	30
Roof vents, passive	40	40
Roof Vents, powered	20	20
<b>Insulation</b>		
Loose fill, fiber glass, cellulose, mineral wool	50	50
Batts, blankets, rolls, fiber glass or mineral wool	60	60
Rigid foam board	60	60
Sprayed foam	60	60

<b>3. Interior Elements*</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
<b>Common Areas - Floors</b>		
Floor tile, ceramic, natural stone	50	50
Concrete/Masonry/Terrazzo	75	75
Hardwood floor, 3/4" strip or parquet substrate	30	30
Hardwood floor, finish	10	10
Wood floor, laminated/veneered	20	25
Resilient tile or sheet floor (vinyl, linoleum)	15	20 15
Carpet, broad loom	5	5
Carpet, loop pile	15	15

Carpet tiles	5	5
Epoxy Coating (2-part)	10	10
<b>Common Areas - Walls</b>		
Drywall	35	40
Plaster	50	50
Paints, stains, clear finishes, interior	15	20
Epoxy paints, 2-part	15	15
Fabric wall covering	5	5
Vinyl wall covering	10	10
Wallpapers	15	20
Wall tile, ceramic, glass, natural stone	35	50
Wood (finish only)	15	15
<b>Common Areas - Ceilings</b>		
Drywall	10	10
Plaster	10	10
Concrete	50	50
Acoustic tile suspended system, spline	25	25
Acoustic tile suspended system, lay-in	20	20
Acoustic tiles	15	20
Wood (finish only)	30	30
<b>Common Areas - Interior Doors</b>		
Hollow core doors	20	25
Solid core doors, wood, metal clad, fire rated	20	20
Passage and lock sets	15	20
Closers	7	7
Bifold and sliding doors	15	20
<b>Common Areas - Millwork</b>		
Door trim	20	30
Wall trim (base, chair rail, crown moldings)	30	35
Cabinets & vanities - wood	15	20
Cabinets & vanities – particle board	15	20
Tops, granite, natural stone, engineered stone	50	50
Tops, solid surface, stainless steel	40	50
Tops, plastic laminates, wood	15	25
Vanity tops, cultured marble, molded acrylic, fiber glass	25	35
<b>Common Areas - Appliances</b>		
Refrigerator/freezer	10	10
Range, cook top, wall oven	20	25
Range hood	20	25
Microwave	10	10

Disposal (food waste)	5	7
Compactors (interior, residential grade)	7	10
Dishwasher	15	15
Clothes washer/dryer	10	15
<b>Common Areas - Specialties</b>		
Interior Mail Facility	20	25
Common area bath accessories (towel bars, grab bars, toilet stalls, etc.)	7	12
Mirrors & medicine cabinets	20	25
Closet/storage specialties, shelving	20	25
Common area interior stairs	50	50
Common area railings	20	20
Bath/kitchen vent/exhaust fans	15	15
Ceiling fans	15	15
Window treatments, drapery rods, shades, blinds, etc.	15	25
Indoor recreation and fitness equipment	10	15
Entertainment centers, theatre projection and seating	15	25
<b>Dwelling Units - Floors</b>		
Floor tile, ceramic, natural stone	20	25
Concrete/Masonry/Terrazzo	75	75
Hardwood floor, 3/4" strip or parquet substrate	30	30
Hardwood floor, finish	10	10
Wood floor, laminated/veneered	15	20
Resilient tile or sheet floor (vinyl, linoleum)	10	15
Carpet	7	10
<b>Dwelling Units - Walls</b>		
Drywall	35	40
Plaster	50	50
Paints, stains, clear finishes, interior	10	15
Wallpapers	10	15
Wall tile, ceramic, glass, natural stone	30	40
<b>Dwelling Units - Ceilings</b>		
Drywall	35	40
Plaster	50	50
Concrete	50	50
Acoustical tile (surface mounted)	15	20
<b>Dwelling Units - Interior Doors</b>		
Hollow core doors	20	25
Solid core doors, wood, metal clad, fire rated	30	35
Passage and lock sets	12	20
Bifold and sliding doors	12	20

<b>Dwelling Units - Millwork</b>		
Door trim	20	30
Wall trim (base, chair rail, crown moldings)	25	35
Cabinets & vanities - wood	20	25
Cabinets & vanities – particle board	15	20
Tops, granite, natural stone, engineered stone	50	50
Tops, solid surface, stainless steel	40	50
Tops, plastic laminates, wood	15	25
Vanity tops, cultured marble, molded acrylic, fiber glass	25	35
<b>Dwelling Units - Appliances</b>		
Refrigerator/freezer	10	20
Range, cook top, wall oven	15	25
Range hood	10	20
Microwave	10	12
Disposal (food waste)	7	10
Compactors (interior, residential grade)	7	10
Dishwasher	10	12
Clothes washer/dryer	10	15
<b>Dwelling Units - Specialties</b>		
Bath accessories (towel bars, grab bars, toilet stalls, etc.)	7	12
Mirrors & medicine cabinets	15	25
Closet/storage specialties, shelving	15	25
Interior stairs	50	50
Railings	20	25
Bath/kitchen vent/exhaust fans	10	10
Ceiling fans	10	15
Window treatments, drapery rods, shades, blinds, etc.	3	5

<b>4. Mechanical Systems</b>	<b>EUL Multi-family</b>	<b>EUL Elderly</b>
<b>Centralized HVAC - Equipment</b>		
Boilers, Oil Fired, Sectional	25	25
Boilers, Gas Fired, Sectional	25	25
Boilers, Oil/ Gas/ Dual Fuel, Low MBH	30	30
Boilers. Oil/ Gas/ Dual Fuel, High MBH	40	40
Boilers, Gas Fired Atmospheric	25	25
Boilers, Electric	20	20
Boiler Blowdown and Water Treatment	25	25
Boiler Room Pipe Insulation	25	25
Boiler Room Piping	50	50
Boiler Room Valves	15	15

Boiler Temperature Controls	15	15
Heat Exchanger	35	35
Combustion Air, Duct with Fixed Louvers	30	30
Combustion Air, Motor Louvers and Duct	25	25
Combustion Waste Flue	40	40
Cooling tower	25	25
Chilling plant	15	15
Steam supply station	50	50
Free standing chimney	50	50
<b>Centralized HVAC - Distribution</b>		
Fuel oil/propane storage tanks, above ground	25	25
Remediate/remove abandoned tanks/fuel lines	100	100
Fuel transfer system	25	25
Gas/oil distribution lines	50	50
Gas meter	40	40
2 pipe/4 pipe hydronic distribution-above grade	50	50
2 pipe/4 pipe hydronic distribution-in ground	25	25
Hydronic/Water Circulating Pumps	20	20
Hydronic/Water Controller	20	20
Radiation-steam/hydronic (baseboard or freestanding radiator)	50	50
Fan Coil Unit, Electric	20	20
Fan Coil Unit, Hydronic	30	30
Central exhaust fans/blowers	20	20
Chilled Water Distribution	50	50
<b>Decentralized HVAC (Individual Units and Common Areas) - Equipment</b>		
Electric heat pump, condenser, pad or rooftop	15	15
Electric AC condenser, pad or rooftop	20	20
Electric furnace/air handler	20	20
Evaporative Cooler	15	15
Gas furnace/air handler	20	20
Hydronic heat/electric AC air handler	20	20
Hydronic feed electric heat pump/air handler	25	25
Wall mounted electric/gas heater	20	20
Electric baseboard heater	25	25
Packaged Terminal Air Conditioning (PTAC)	15	15
Window or thru-wall air conditioners	10	10
Package HVAC rooftop	15	15
Air filtration/humidity control devices (humidifiers, HRV's)	20	20
<b>Decentralized HVAC (Individual Units and Common Areas) - Distribution</b>		
Duct, rigid sheet metal, insulated if not in conditioned space	35	35
Duct, flexible, insulated	20	20
Duct, fiberglass	15	15

Duct, sealing-mastic or UL 181A or 1818 tape	20	20
Diffusers, registers	20	20
Fireplace, masonry and firebrick	75	75
Fireplace, factory assembled	35	35
Fireplace insert, stove	50	50
Chimneys, metal with chimney covers	35	35
Chimneys, masonry	40	40
<b>Decentralized HVAC (Individual Units and Common Areas) - Controls</b>		
Dwelling/common area thermostat	15	20
Heat sensors	15	15
Outdoor temperature sensor	10	10
Pneumatic Lines and Controls	30	30

<b>5. Electrical Systems</b>	<b>EUL Multi-family</b>	<b>EUL Elderly</b>
<b>Service and Distribution</b>		
Building service panel (Main Distribution)	40	40
Circuit breakers	30	30
Building meter	40	40
Tenant meters, meter panel	40	40
Tenant electrical panel	50	50
Transformers (oil filled or dry)	30	30
Wiring and Cabling, <600v	40	40
Wiring and Cabling, >600v	30	30
Switches and outlets	35	35
Ground Fault Circuit Interrupter (GFCI)	25	25
Lightning Protection	40	40
<b>Lighting and Fixtures</b>		
Lighting- exterior entry	15	20
Lighting- interior common spaces	25 (15)	30 (20)
Lighting- tenant Spaces	20	25
Door bells, chimes	20	25

<b>6. Plumbing Systems</b>	<b>EUL Multi-family</b>	<b>EUL Elderly</b>
<b>Water Supply</b>		
PVC/CPVC pipe, supply	75	75
Copper/brass hard pipe, supply	75	75
Copper Tube, supply	50	50
Galvanized pipe, supply	40	40
Domestic cold water pumps	15	15

Water Softener/Filtration	15	15
Backflow preventer, individual unit	10	10
Backflow preventer, main service	30	30
<b>Sanitary Waste and Vent</b>		
PVC/CPVC pipe, waste	75	75
Cast iron sanitary waste	75	75
Sewage Ejectors	50	50
Commercial Sump Pump	15	15
Residential Sump Pump	7	7
<b>Domestic Water Heating</b>		
DHW circulating pumps	15	15
DHW storage tanks	15	15
DHW supply and return	30	30
Exchanger, in tank or boiler	15	15
External tankless heater, gas or electric	15	15
Solar hot water	20	20
Residential hot water heater, gas or electric	12	15
Flue, gas water heaters	35	35
Boilers, Oil Fired, Sectional	22	22
Boilers, Gas Fired, Sectional	25	25
Boilers, Oil/ Gas/ Dual Fuel, Low MBH	30	30
Boilers, Oil/ Gas/ Dual Fuel, High MBH	40	40
Boilers, Gas Fired Atmospheric	25	25
Boilers, Electric	20	20
Boiler Blowdown and Water Treatment	25	25
Boiler Room Pipe Insulation	25	25
Boiler Room Piping	50	50
Boiler Room Valves	25	25
Boiler Temperature Controls	15	15
Heat Exchanger	35	35
<b>Plumbing Fixtures</b>		
Faucets and valves (dwelling units)	15	20
Faucets and valves (common units)	7	7
Bath tubs and sinks, fiberglass	20	25
Bath tubs and sinks, cast iron	75	75
Bath tubs and sinks, enameled or stainless steel	40	40
Bath tubs and sinks, porcelain	50	50
Toilets/bidets (dwelling units)	50	50
Toilets/bidets/urinals (common areas)	15	20
Toilet Tank Components	5	5
Flush valves	10	15
Tub/shower units or integrated assemblies	30	30

<b>7. Data and Communications</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
Satellite dishes/antennae	20	20
Telecom panels & controls	20	20
Telecom cabling & outlets	20	20

<b>8. Vertical Transportation</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
Elevator, hydraulic – underground cylinder	15	15
Elevator, hydraulic – car and pump unit	35	35
Elevator, traction	50	50
Elevator, geared traction	35	35
Electrical switchgear	50	50
Electrical wiring	30	30
Elevator controller, call, dispatch, emergency	15	20
Elevator cab, interior finish	15	20
Elevator cab, frame	35	50
Elevator, shaftway doors	20	20
Elevator, shaftway hoist rails, cables, traveling	25	25
Elevator, shaftway hydraulic piston and leveling	25	25
Wheelchair and stairway lift	25	25

<b>9. Life Safety and Fire Protection</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
<b>Fire Sprinkler Systems and Standpipes</b>		
Fire sprinkler, heads	25	25
Fire sprinkler, piping systems	40	40
Fire sprinkler, equipment and devices	20	20
Standpipes	50	50
Fire pumps, electric driven	25	25
Fire pumps, engine driven	20	20
Fire hose stations	50	50
Fire extinguishers	10	15
<b>Fire Alarm Systems</b>		
Activation Devices (Pull Station, Smoke Detector, etc.)	10	10
Notification Devices (AV Horn/Strobe)	15	15
Control Panels	15	15
Wiring	30	30

<b>Detection and Emergency Systems</b>		
Residential Unit smoke detectors	5	5
Residential Unit carbon monoxide detectors	5	5
Call station	10	15
Emergency lights, illuminated signs	8	10
Smoke and fire detection system, central panel	15	15
Buzzer/intercom, central panel	20	20
Tenant buzzer I intercom /secured entry system	20	20
Standby Power Supply, Battery	5	5

<b>10. Amenities</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
<b>Recreational Facilities</b>		
Sport Court- asphalt	25	25
Sport Court- synthetic	15	15
Sport Court-hardwood	50	50
Sport Court-paint markings	5	7
Tot Lot (playground equipment)	10	15
Tot Lot- lose ground cover	3	5
Pool Deck	15	15
Pool/Spa Plastic Liner	8	8
Pool/Spa pumps and equipment	10	10
Decks-treated lumber	20	20
Decks-composite	50	50
<b>Support Structures</b>		
Carpports, wood frame	30	30
Carpports, metal frame	40	40
Garages	50	50
Storage Sheds	30	30
Penthouse (mechanical room)	50	50

<b>11. Additional Considerations</b>	<b>EUL Multi- family</b>	<b>EUL Elderly</b>
<b>Environmental Items</b>		
Pest Control	1	1
Lead based Paint Encapsulation	20	20
Asbestos Encapsulation	10	10