
MULTI-FAMILY DESIGN GUIDELINES

10/13/92

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INTRODUCTION

Guideline Use

Fig. 1: SUMMARY DESIGN REVIEW PROCESS

Recognize that all projects must reflect high design quality which are harmonious with the natural and manmade environments (TMC 18.60.010).



Review required multi-family design criteria (TMC 18.60.053) for general requirements on project design quality.



Review the illustrative Multi-family Design Guidelines herein for specific design examples and orientations.



Project Architect reviews all criteria and guidelines then:

a. adapts the illustrative design concepts to the specific site

or

b. develops an alternative design approach with results in a similar level of design quality.



Planning staff reviews and works with Project Architect.



Tukwila Board of Architectural Review evaluates the development and ensures that only well designed projects which maintain neighborhood livability are approved.

The City of Tukwila has adopted a policy that all multi-family developments must reflect high design quality; regardless of whether the project is oriented toward the low, middle, or high cost housing market. This does not mean that only high cost projects will be permitted in Tukwila. However, it does mean that maintaining livable neighborhoods requires architectural focus, design symmetry, and neighborhood harmony in low cost housing as well as high cost housing.

Tukwila's Zoning Code includes various development standards to reflect basic minimum requirements such as density, building setbacks, and parking. Board of Architectural Review (BAR) approval is the basis for ensuring high design quality (TMC 18.60).

BAR approval does not focus on required "numbers" to define quality design. Instead, it relies on overall results as generally defined in TMC 18.60.053.

This Design Manual is provided to help the applicant understand the City's general desired level of quality, and to provide the BAR with a further basis for determining the needed level of design quality.

These design guidelines are not requirements nor are they a substitute for competent work by design professionals on a site specific basis. The City encourages innovative design alternatives which better reflect site specific conditions and opportunities. The City recognizes that there are many techniques and architectural forms which can be used to reflect a design quality equivalent to these guidelines.

In some cases such as high density projects on sensitive or prominent sites, the design quality reflected in these guidelines must be exceeded in order to maintain the existing level of neighborhood livability.

When using these Design Guidelines to review senior citizen housing developments the following items shall not apply because they do not address the density, use or other characteristics of senior housing:

- I. Site Planning
Figure 3
- II. Building Design
Items 2 and 6
- III. Landscape/Site Treatment.
Figures 31 and 32
Items 30, 31, 32, 33 34, and 35

The remaining introductory section discusses a vision for Tukwila's neighborhoods. This is followed by specific design guidelines which have been grouped to generally reflect the BAR review criteria (TMC 18.60) that they illustrate.

I. SITE PLANNING

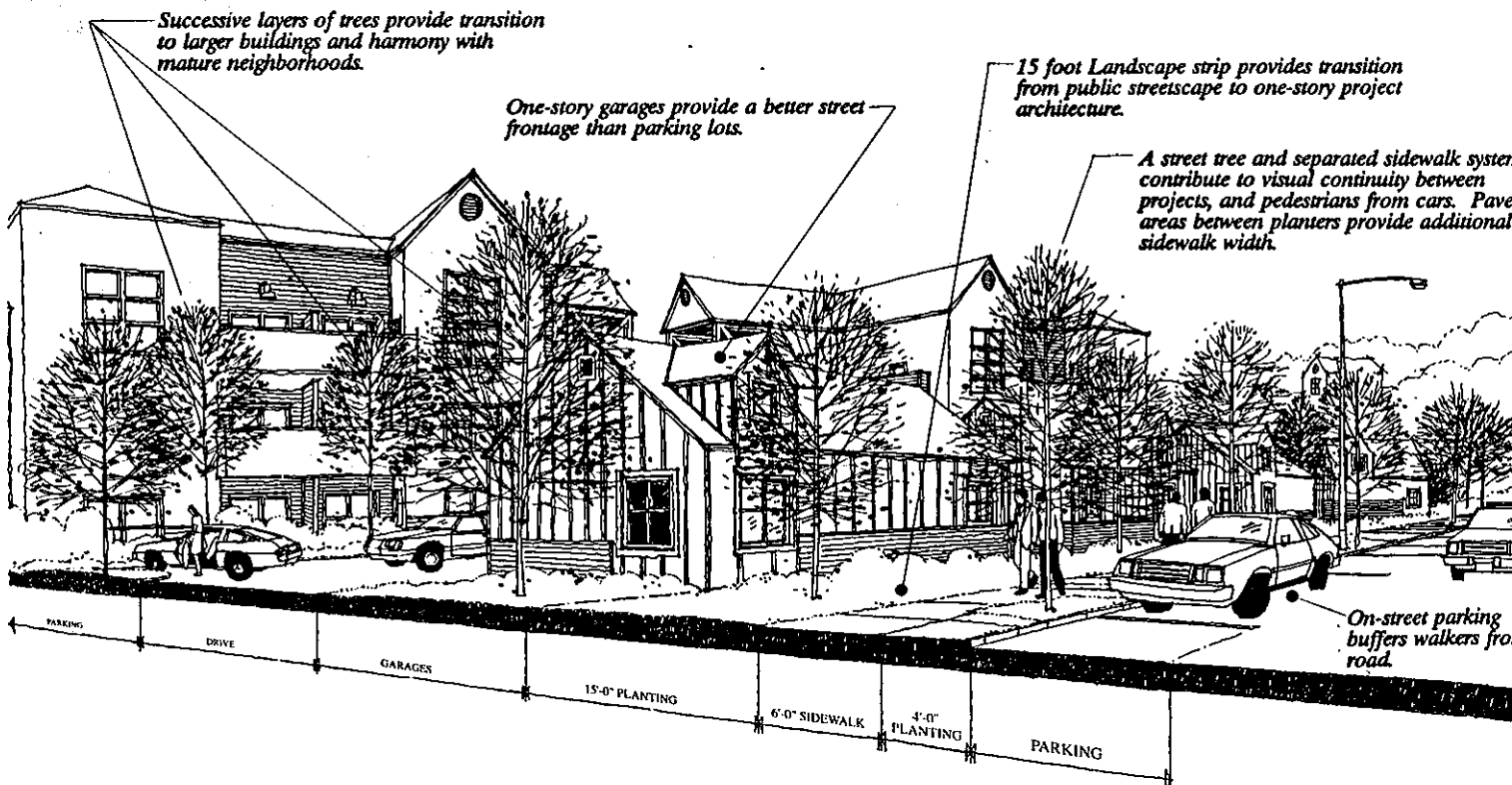
Streetscape

The transition from public to private spaces

1. "The challenge facing builders in the 90's ... is to develop pedestrian atmosphere reducing the impact of the automobile. Many developments in the last twenty years have produced streetscapes often dominated by garage doors and driveways creating an environment with less neighborhood interaction: an environment discouraging pedestrian activity." ("Development Digest"; Winter, 1990.)

2. A streetscape which is safe and reflects a high quality coordinated design, is essential in multi-family neighborhoods. This overlay of street front design harmony is important to maintaining the sense of "community" which can be lost in an environment of diverse, sometimes sterile/mediocre project designs and automobiles.

Fig. 2: Project siting, architecture and landscaping provide a sense of high quality design from road to interior spaces, design harmony between projects, and complement desirable neighborhood elements.



I. SITE PLANNING

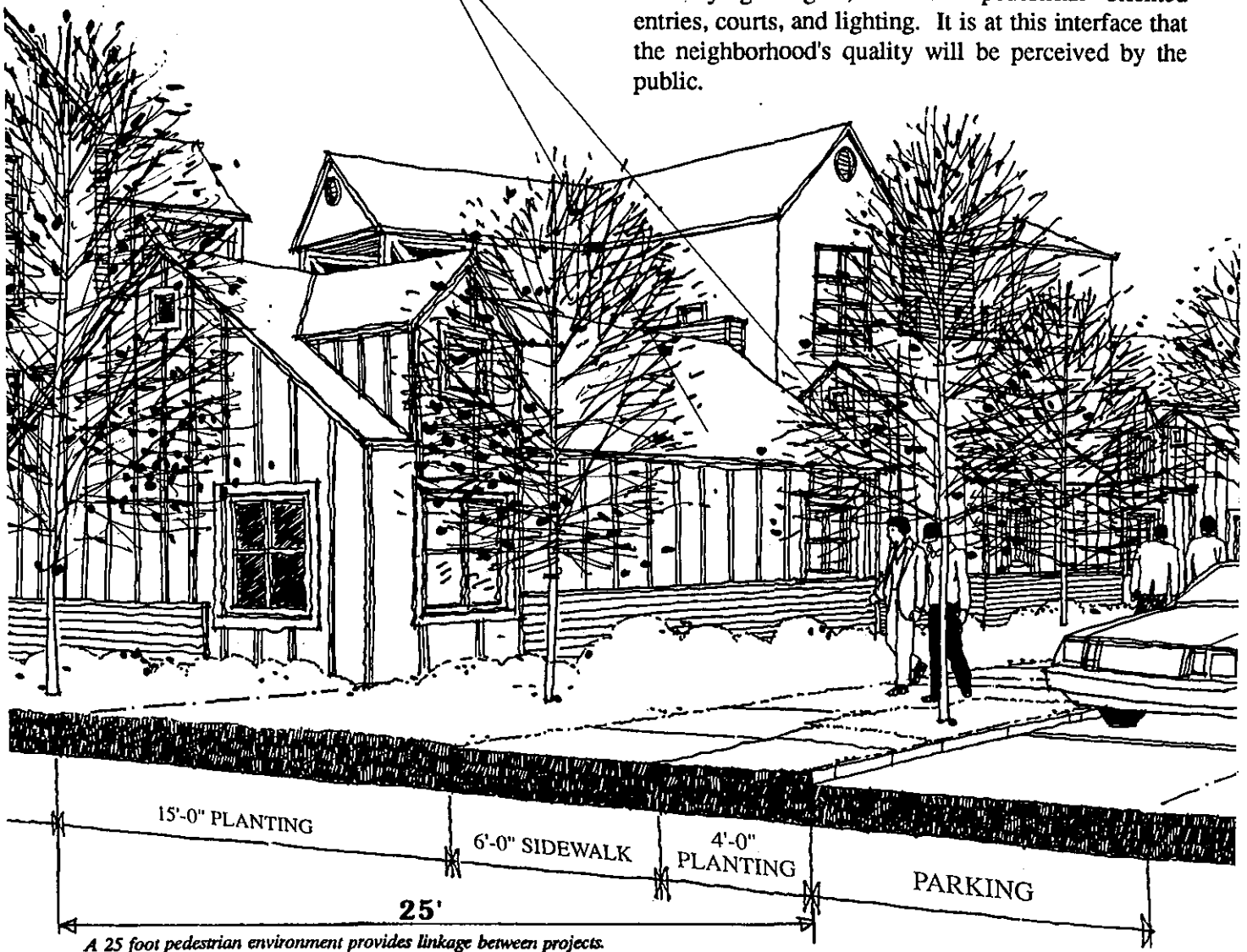
3. The public oriented elements of a well designed, pedestrian streetscape include separated sidewalks; coordinated placement and retention of large stature trees; coordinated street furniture, signage, and lighting; and integrated recreational facility links. Curb-line sidewalks may be acceptable on cul-de-sacs or local access loops with low traffic volumes (i.e., generated by 20 housing units)

4. The private site elements of a well designed pedestrian streetscape include buildings which use siting, scale, and materials to provide a sense of quality design and enclosure without overwhelming the pedestrian with building mass.

5. There should be a gradual, high quality transition from a pedestrian oriented streetscape to multi-story buildings. The transition should emphasize quality pedestrian scale architecture and materials, plantings of varying heights, and use pedestrian oriented entries, courts, and lighting. It is at this interface that the neighborhood's quality will be perceived by the public.

Fig. 3: Street trees and one story pitched roof buildings are used to help enclose the pedestrian streetscape without dominating it.

One-story pitched roof building are used to enclose the pedestrian streetscape without dominating it.



I. SITE PLANNING

Site Design Quality

Fig. 4: Buildings and landscaping are sited to reduce the prominence of large paved areas.

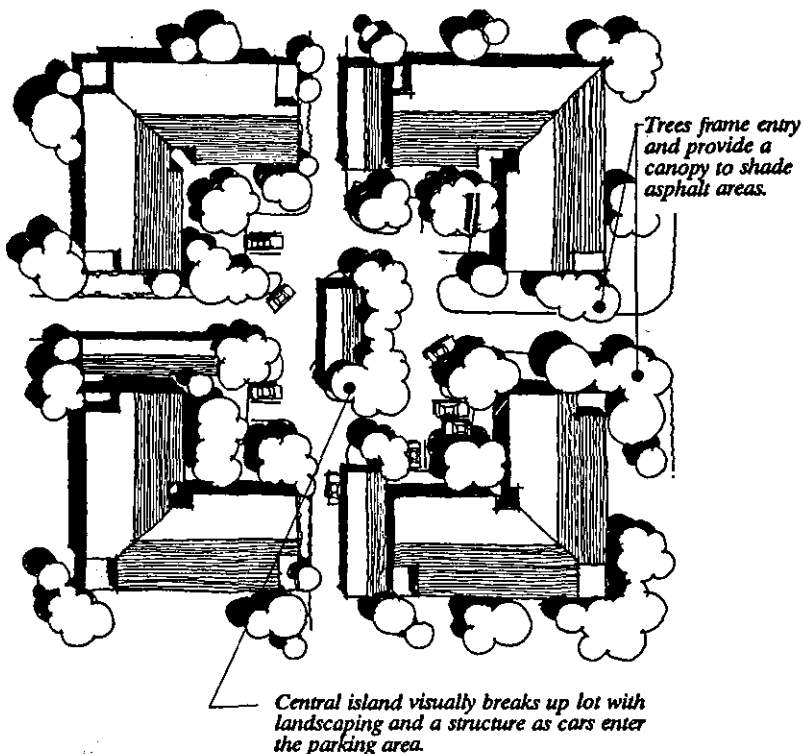


Fig. 5: Parking is located to the side of the project to minimize an auto dominated streetscape.



6. Site planning and building architecture must provide a high quality project design. Landscaping should not be needed to hide mediocre building design, but further enhance an already good design, and result in a high quality project.

7. Site design should be integrated with the neighborhood. Project design integration should include coordination of circulation, landscaping, recreation spaces, and building location with the surrounding area. A visual distinction using landform, landscaping, or materials may separate a project from the general neighborhood. However, high "fortress" walls should be avoided and buildings should not turn their backs to the street.

8. Walls, shrubs, and other visual obstructions between street frontage and building architecture should be limited to a maximum 3.5 ft. height to allow easy surveillance by Police Department car patrols. Higher fencing may be installed if it uses visually open materials such as wrought iron bars and 3 inch spaced grape stake fences.

9. Minimize the prominence of street front parking areas by using architecture and landscaping to break up or screen these sterile asphalt pads, moving parking to the side or rear, and breaking up large parking areas into smaller (i.e., 20-40 space) groupings. Vehicles should be treated as a means of transportation; not emphasized as a prominent design feature. (Fig. 11, 12, and 23)

I. SITE PLANNING

Natural Environment

Fig. 6: Site buildings to group open space in significant areas, retain mature trees, and create opportunities for residents to meet and recreate.

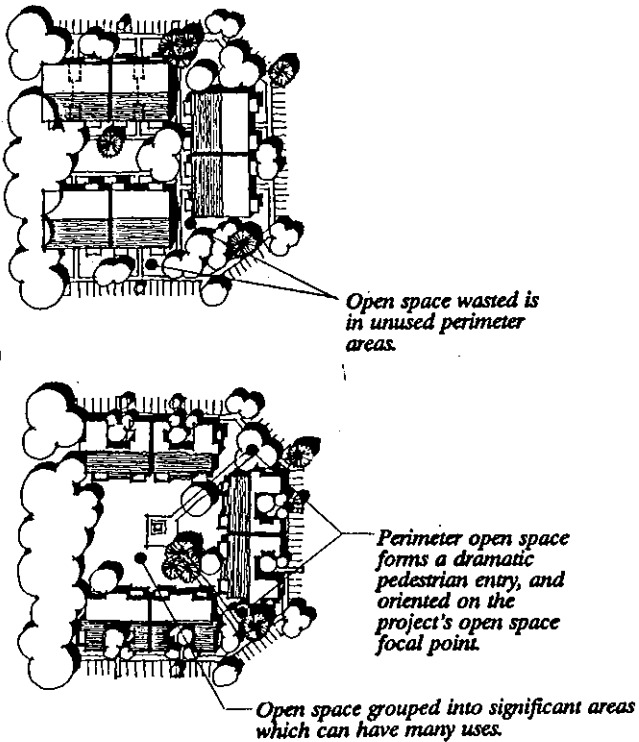
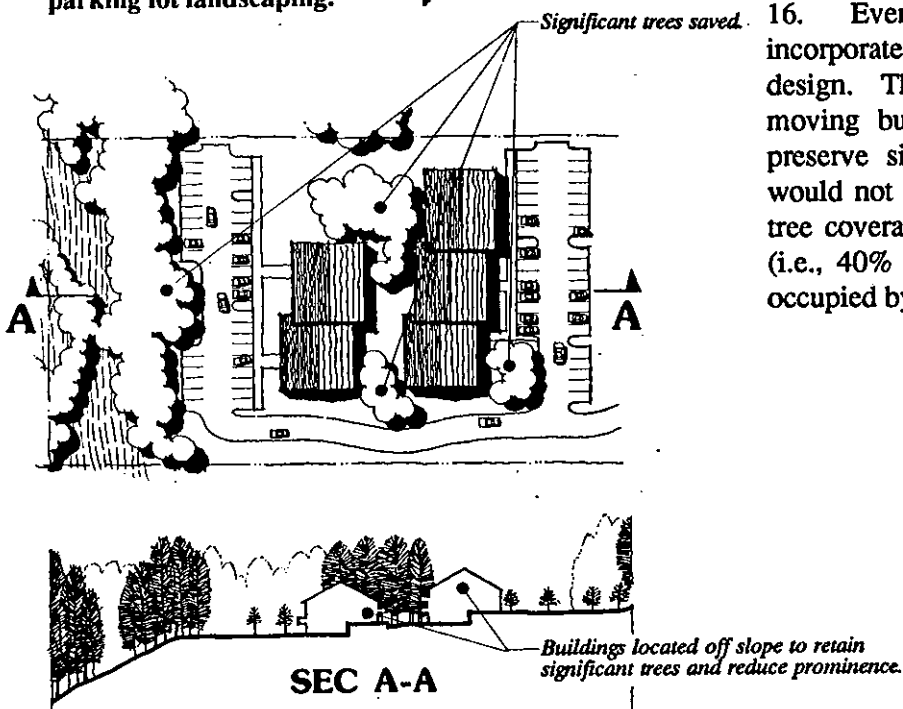


Fig. 7: Significant trees are retained through building siting and use of required interior parking lot landscaping.



10. Minimize a project's visual prominence and enhance the harmony with its natural setting. (Fig. 7)

11. Open space should be designed as a series of connected, natural woods and formal garden areas, each serving a precise functional and aesthetic purpose. Diversity in organizing these spaces is important since monotonous housing developments are as often the result of repetitive spatial organization as they are repetitive building masses.

12. One or more open space focal points should be incorporated as a basic site planning element.

13. Building scale and materials should provide a sense of human scale, enclosure and warmth in defining these spaces. Small, isolated planters alone are not adequate to break up paved areas and building mass, separate structures, and define spaces.

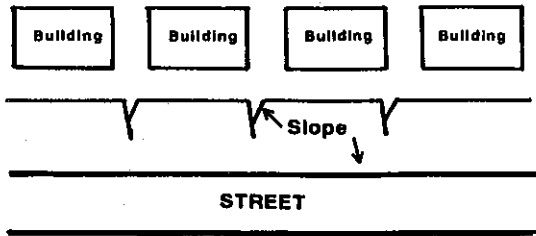
14. Buildings should be located to maximize significant tree retention on slopes, retain tree stands, and minimize disturbing sensitive areas.

15. Retaining large stature trees and tree stands on site, very significantly improves the integration of new developments into Tukwila's mature neighborhoods. Significant trees would include trees with over a six inch diameter as measured five feet above grade.

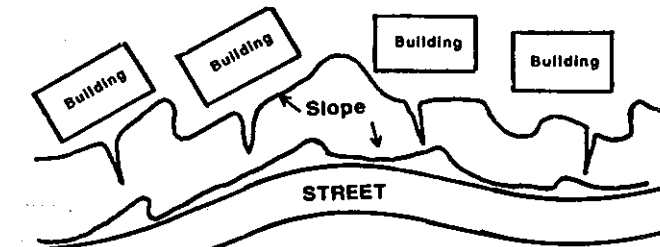
16. Every possible effort should be made to incorporate existing natural vegetation into project design. This should include, but not be limited to moving buildings or reducing project densities to preserve significant stands of mature trees. This would not include preserving a higher percentage of tree coverage than required in landscaping standards (i.e., 40% horizontal tree coverage of all areas not occupied by a building).

I. SITE PLANNING

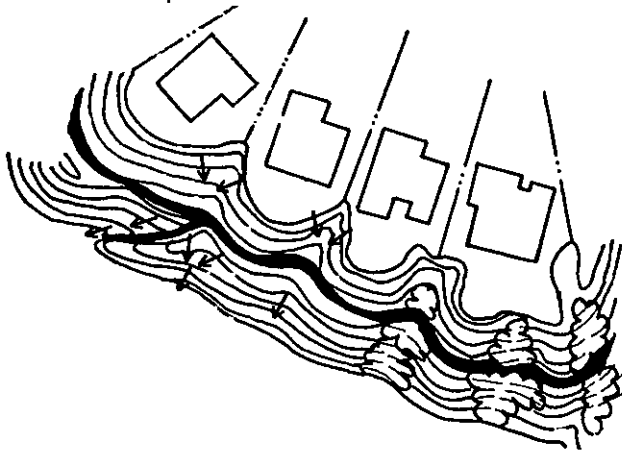
Fig. 8: The topographical representation below shows radical water flow, foliage placement in swales, and lots that conform with the landform configuration. The shaded area is a concrete terrace drain required by building codes. The sketch contrasts site planning for conventionally graded and landform graded slopes.



Conventional Site Planning



Landform Site Planning

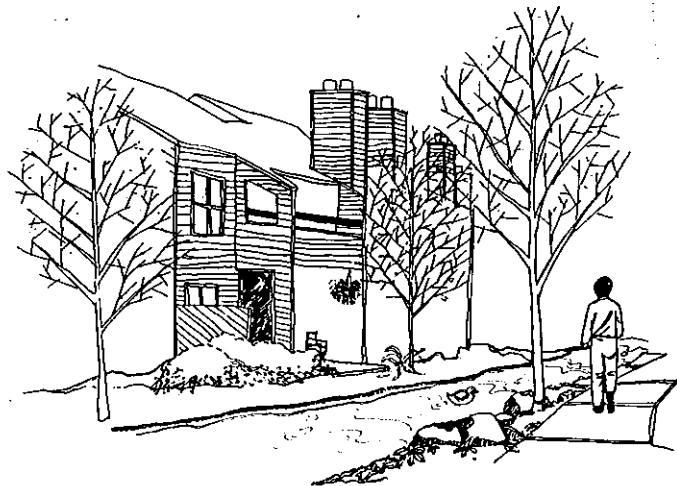


17. Site coverage on slopes should be minimized to reduce visual impact. Site coverage limitations are not as significant on flat sites where lower buildings may be preferable to maximize architectural harmony with nearby structures and the streetscape.

18. Landform grading should be used when feasible to reflect the natural topography and retain mature trees.

19. Creative design should be applied to turn natural site "problems" into project amenities. (Fig. 9)

Fig. 9: Creative site planning can turn a drainage problem into an open space amenity.



I. SITE PLANNING

Circulation

Fig. 10: Key sidewalk intersections and segments are marked with contrasting pavers.

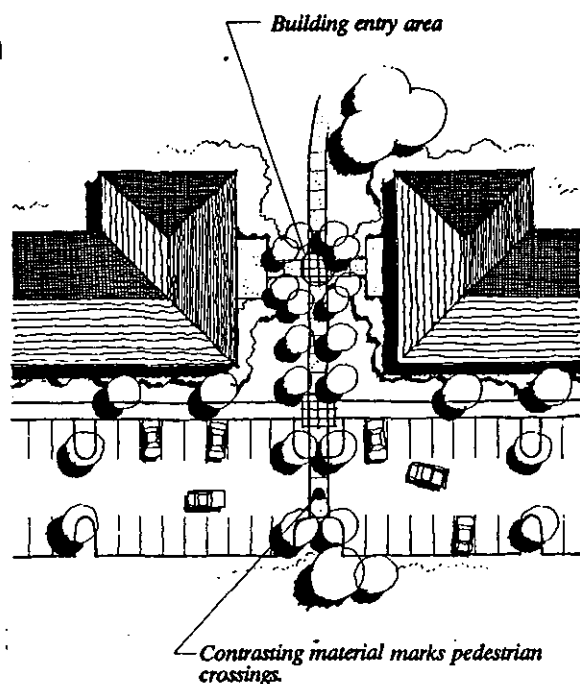
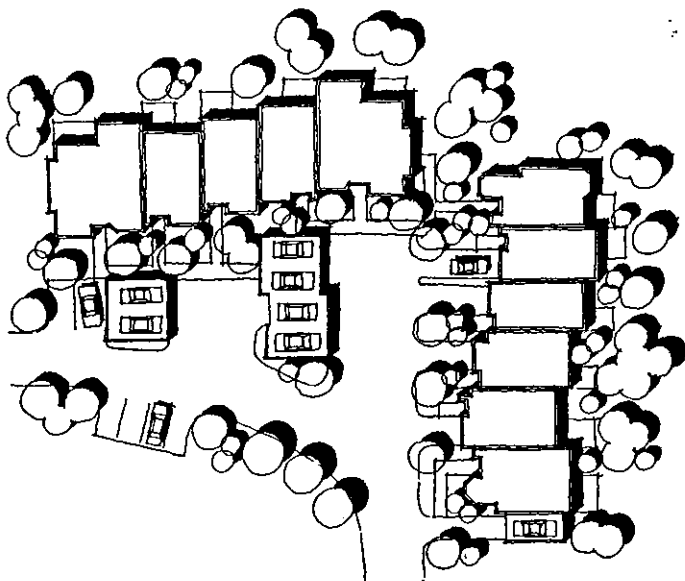


Fig. 11: Detached garages and cul de sacs reduce parking area prominence on the streetscape.



20. The project entry should reflect a high level of quality using distinctive materials, landscaping and structures.

21. A comprehensive system of pedestrian sidewalks should link all building entries, parking lots, recreation areas and the project entries; with the area-wide sidewalk system.

22. Sidewalks should be a minimum of six feet wide between public roadway and the junction where pedestrian traffic begins to disperse. This would allow one pedestrian to pass another and remain on the sidewalk. A minimum four foot wide sidewalk may then be acceptable.

23. Sidewalk crossings of on-site roadways should be distinguished by a different material and slightly raised to prevent runoff from flowing across them.

24. The on-site vehicle circulation system should be designed as follows:

- A maximum of two vehicle access points, depending on parcel characteristics and difficulty of access, to reduce traffic impacts and the site area devoted to roads instead of architecture and landscape/recreation space,
- Create very low volume cul-de-sacs to allow multiple use as street oriented social/recreation areas, and
- Stress shared driveways between adjacent developments.

25. Driveways should avoid crossing pedestrian walkways and paths from residence to children's play area.

I. SITE PLANNING

Parking

Fig. 12: Site design incorporates scattered, less dominating parking areas.

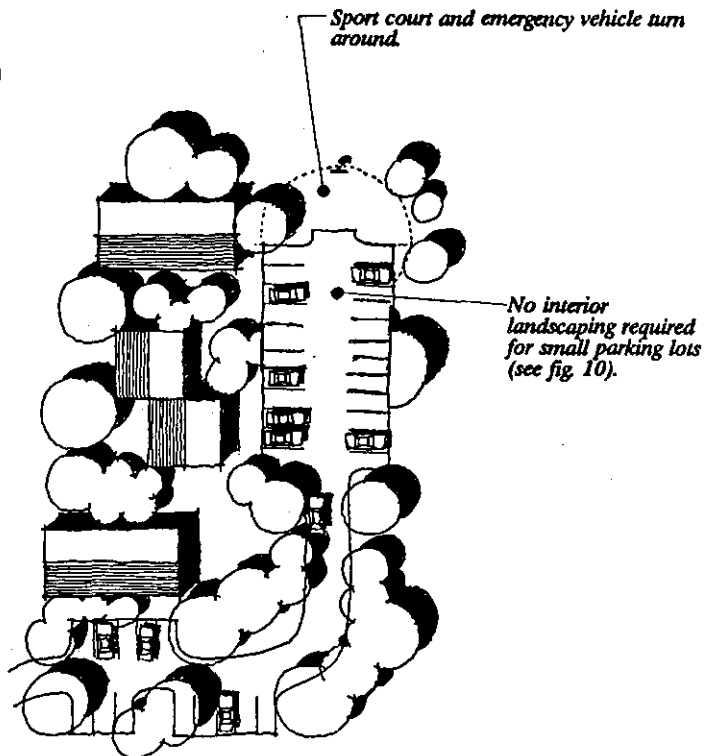
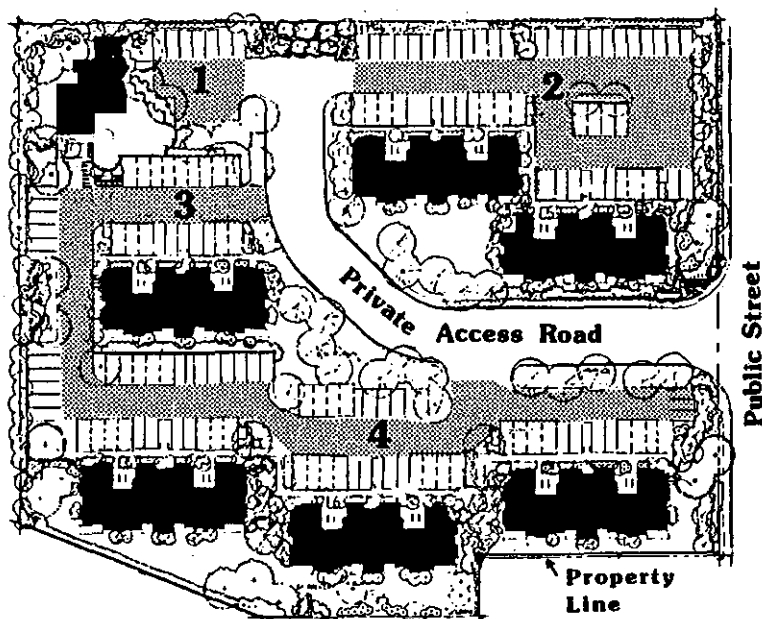


Fig. 13: A site plan with four parking areas, an access road and parking circulation aisle.



26. The prominence of parking areas should be minimized by building siting, under building and tandem parking, and interior perimeter landscaping. Parking areas should not dominate the buildings they are intended to serve.

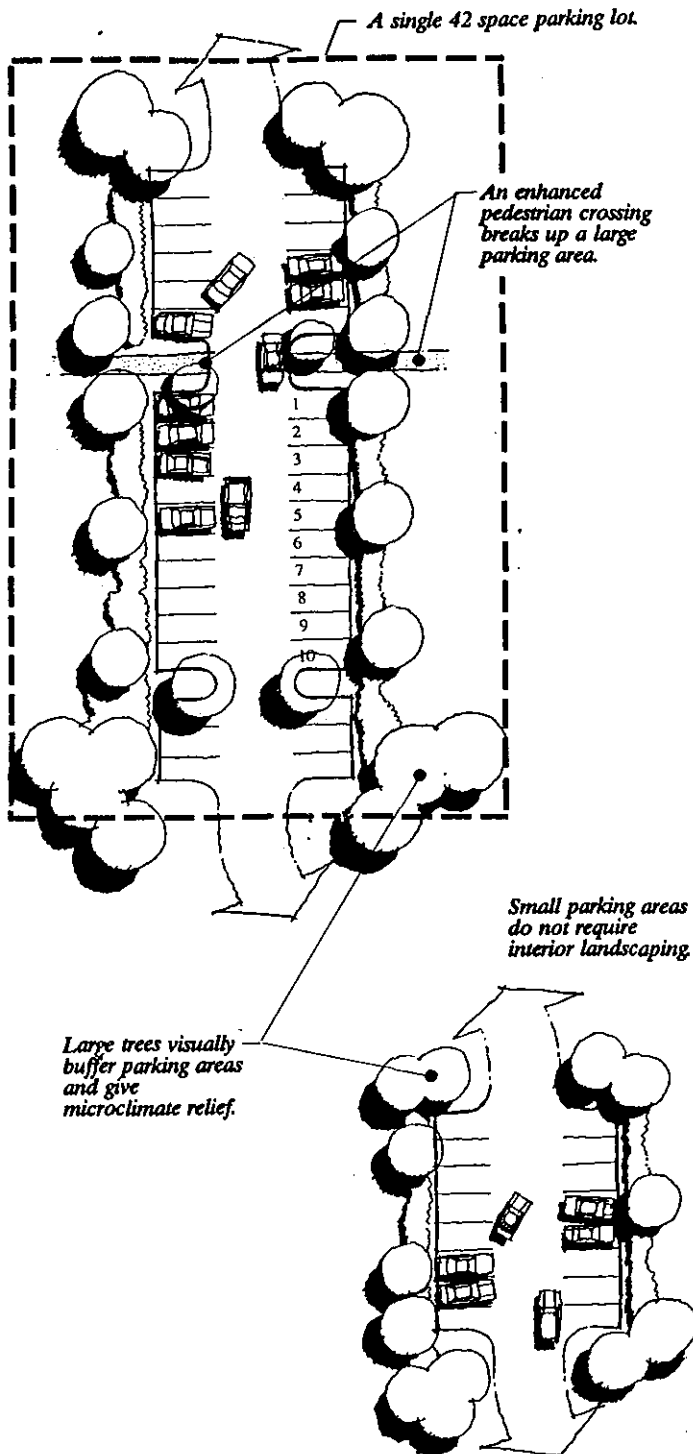
27. Parking areas should be located within 200 feet of the farthest dwelling unit for the convenience of residents. It is also desirable in many instances to use several smaller parking areas rather than a few large lots.

28. The optimum design for a parking area is not necessarily the one which parks the maximum number of vehicles, but the one that also provides ample stall and aisle widths, pedestrian walks, adequate turning radii, reasonable grades, efficient movement of traffic, pleasant appearance, and convenient location.

29. In apartment and row house developments, it is desirable to locate parking where conflicts between autos and pedestrians are minimized. In large parking lots, pedestrian walkways allowing people to move safely should be used. In small parking areas, walkways between lines of parked cars may be difficult to justify in light of economy and proximity to adjacent walks. Walkways lend a pleasant visual pattern to the parking area, especially when planted. Additional space should be provided where cars overhang curbs.

I. SITE PLANNING

Fig. 14: Interior and perimeter landscaping reduce the visual affects of large paved parking areas. Interior landscaping should be increased as parking lots get larger.



30. When do parking lots become too big? Four to six spaces, is pedestrian and human in character, while over twelve cars becomes "car dominated territory." The critical number seems to be ten. This marks the breaking point between a human lot and a sea of cars. Small lots can be accomplished by breaking large parking areas into sections divided with landscape areas. Each section should serve not more than 10 to 12 cars. Landscape islands and areas should be located to protect cars as well as to break up seas of asphalt.

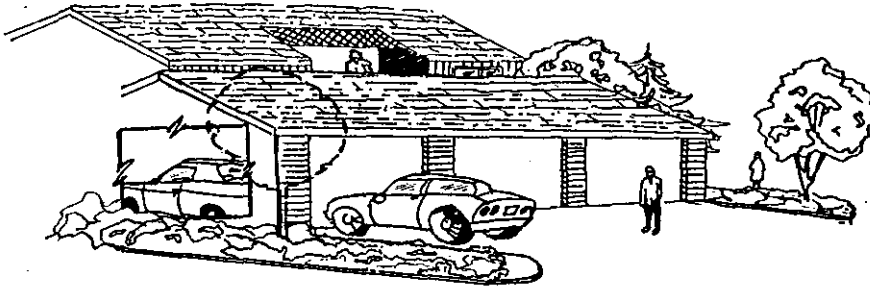
31. A landscaped area shall be placed at the end of each interior row in the parking area with no more than 10 stalls between the landscape areas.

Parking area design should also incorporate the following:

- All driveways onto public streets should be located a minimum of 50 feet from the intersection.
- All maneuvering needs should be provided for entirely on-site.
- All areas not necessary for vehicular maneuvering or parking should be landscaped.
- Landscape areas within parking lots should not be less than 5 feet in width and protected with curbing.
- An average 15 square feet of interior landscaped area per parking space for parking areas with more than 40 spaces should be provided as a general rule. The minimum 12 square feet per parking space is intended to be applied only in unusual situations where site constraints severely limit developable area or where superior site design effectively break up the effects of large paved areas and create a pedestrian friendly design.

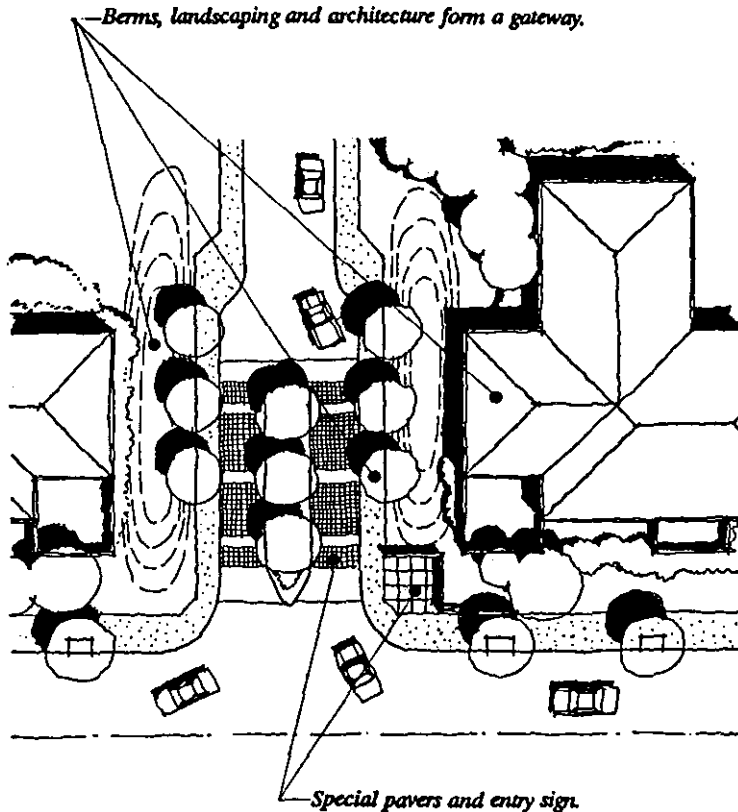
I. SITE PLANNING

Fig. 15: Tandem parking spaces should only be used in conjunction with under structure parking.



Entrance Areas

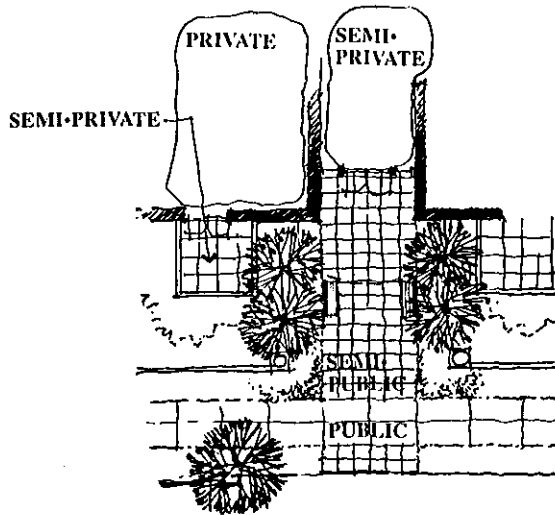
Fig. 16: Project entry provides an immediate sense of high quality design.



32. The entrance to the site, building and individual unit creates a transition between the outside public world and a successively less public inner world. Living units, with a graceful transition between the outside and inside, are more tranquil than those which open directly off the street or parking area. The experience of entering a building influences the perception of interior spaces. If the transition is too abrupt, there is no feeling of arrival and the inside of the home fails to be as private.

I. SITE PLANNING

Fig. 17: A high quality pedestrian entry is given equal weight with auto entries.

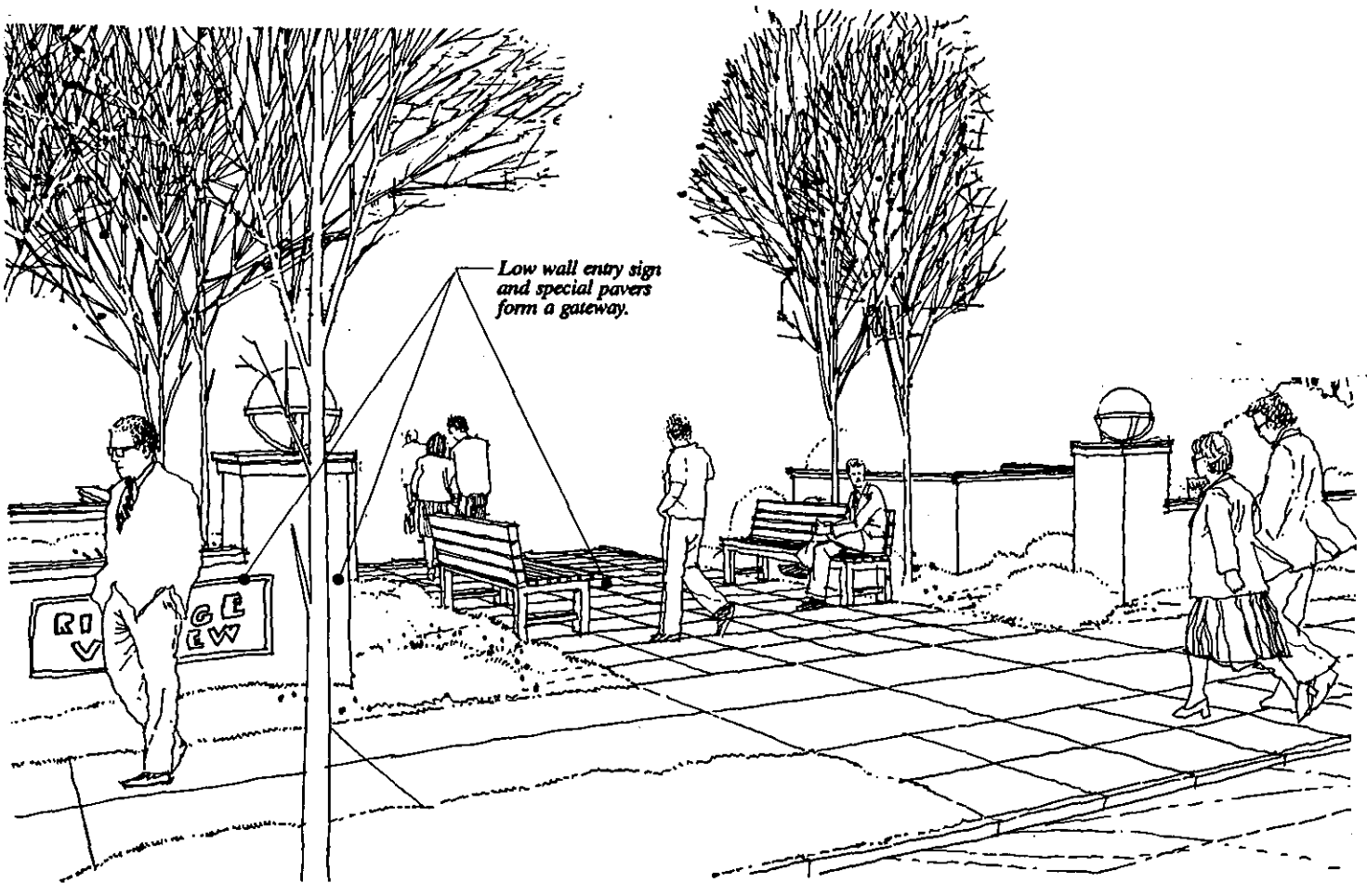


33. It is possible to make the transition in many different physical ways. In some cases, for example, it may just be inside the front door-- a kind of entry court, leading to another door or opening that is more definitely inside. In another case, the transition may be formed by a bend in the path that then moves through a gate. Transition might also be provided by changing the texture of the path, so that one steps off the sidewalk onto a gravel path, and then up a step or two under a trellis.

Some entry elements include:

- An accent tree which defines area with overhead branches.
- A low wall for plants or draping vines.
- A trellis or arbor.
- A change in level.
- A change in path texture.

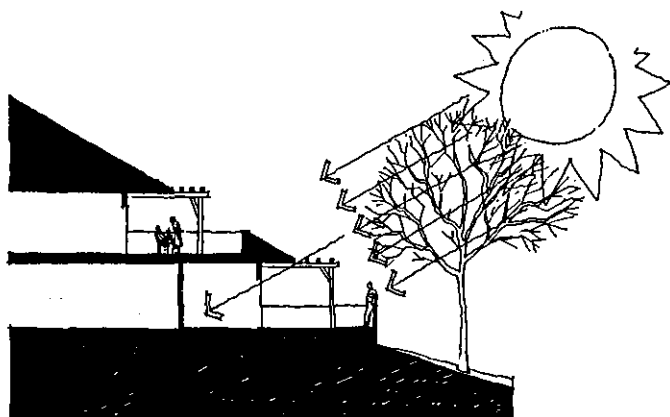
34. The most successful solution will consist of a combination of the above suggested symbolic definers or other comparable mechanisms.



I. SITE PLANNING

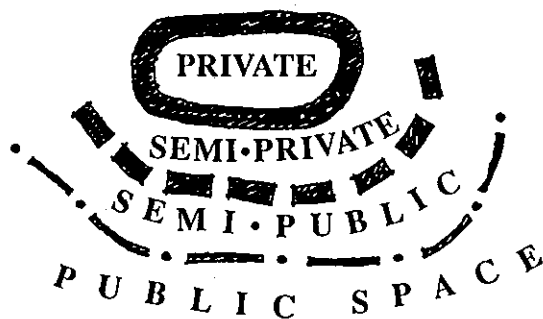
Solar Orientation

Fig. 18: Outdoor oriented recreation areas maximize solar exposure.



Crime Prevention

Fig. 19: Site planning should create varying degrees of privacy.



35. To maximize the warming effect of solar radiation in winter months and maximize shade in the summer months:

- Utilize deciduous trees for summer shade and winter sun.
- Orient active living spaces to the south.
- Design building overhangs to shield the high summer sun and expose the area to the lower winter sun.

36. If possible, all buildings should be located and oriented to take advantage of natural energy saving elements such as the sun, landscape, and landform.

37. The opportunity (or invitation) for crime can be greatly reduced through physical design and site layout. Considerations for crime control should be included at the project's inception. Where hardware afterthoughts have been too heavily depended upon, crime opportunities have continued to exist and crime prevention has failed.

38. The Concept of Defensible Space should be employed to reduce opportunities for crime. "Defensible space" is a term used to describe a series of physical design characteristics that maximize resident control of behavior--particularly crime. A residential development designed under defensible space guidelines clearly defines all areas as either public, semi-private or private. In so doing, it determines who has the right to be in each space, and allows residents to be confident in responding to any questionable activity or persons within their complex. Residents are thus encouraged to extend their private realms, establish their zone of influence which inevitably results in a heightened sense of responsibility towards the care and maintenance of these outdoor areas.

I. SITE PLANNING

Fig. 20: Cul de sacs create semi-private "courts" to provide increased security and informal play areas.

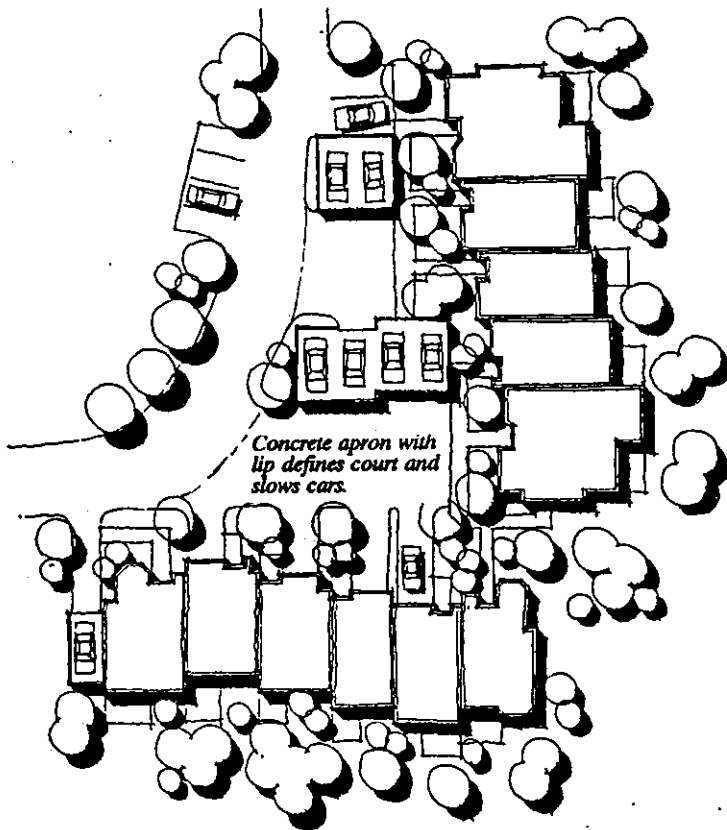
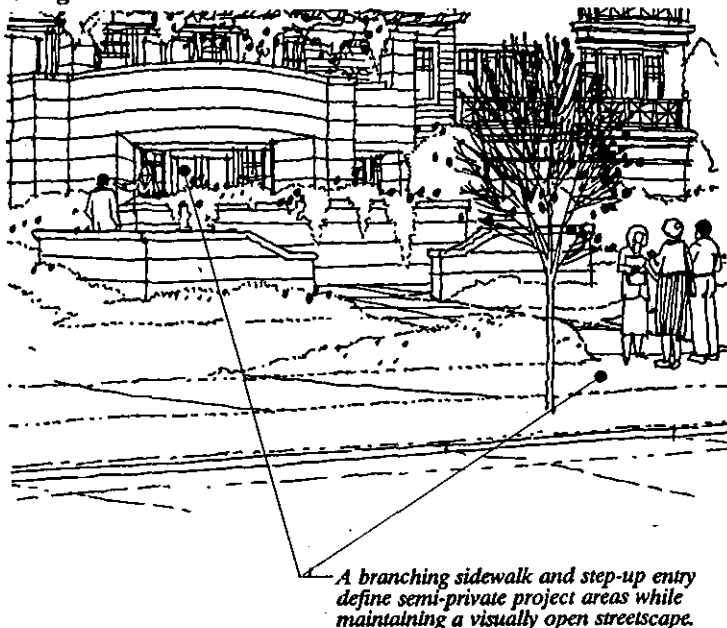


Fig. 21: Semi-private project areas are separated from general public areas using transitional spaces which are visually open in design.



39. A series of techniques can be used to create defensible space and consequently reduce crime. They are summarized in the following:

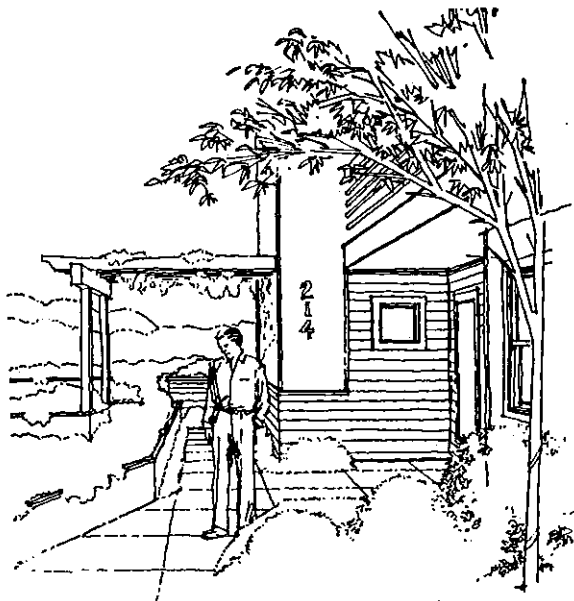
- Defining zones of privacy (public, semi-private, private) with real or symbolic barriers. This allows residents to identify "strangers".
- Establishing perceived zones of influence (allowing residents to extend their private realms).
- Providing surveillance opportunities.

Additional design considerations include the following:

- **Parking Layout.** Parking for residents should be located so that distances to dwellings are minimized and allow easy surveillance from nearby areas and windows.
- **Orientation of Windows.** Windows should be located so that areas vulnerable to crime can be easily surveyed by residents.
- **Location of Service and Laundry Areas.** Laundry rooms should be located in such a way that they are observed by others.
- Windows and lighting should be incorporated to assure surveillance opportunities.
- Mailboxes should not be located in dark alcoves out of sight.
- **Barriers to Police.** In semi-public and semi-private areas, barriers which would hinder police patrol, such as confused parking patterns and tall shrubs, should be avoided.

I. SITE PLANNING

Fig. 22: A transition from semi-private to private spaces with low volume paths, trellises and alcoves.



- **Identity.** A system for identifying the location of each residential unit and common facilities at the project entry should be established.
- **Hardware.** Police department should be contacted for information regarding appropriate hardware such as door locks, window latches, etc.
- **Lighting.** More light is not necessarily indicative of better and safer lighting. Lighting levels should be carefully selected and oriented so that points and areas vulnerable to crime are accented.

Lighting should be provided in areas of heavy pedestrian or vehicular traffic and in areas which are dangerous if unlit, such as stairs and ramps, intersections or where abrupt changes in grade occur. Areas that have high crime potential should be well lit so that people traveling through them at night may feel secure.

- **Landscaping.** Plant materials such as high shrubs, should not be located so that surveillance of semi-public and semi-private areas is blocked. This will provide the opportunity for crime.

40. Sticker shrubs may discourage crime activities. Low shrubs and umbrella trees (where the canopy is maintained above 5 feet from the ground) will allow surveillance opportunities, hence reducing the potential for criminal behavior.

II. BUILDING DESIGN

Fig. 23: Multi-family building line and proportions are harmonious with surrounding single family dwellings.

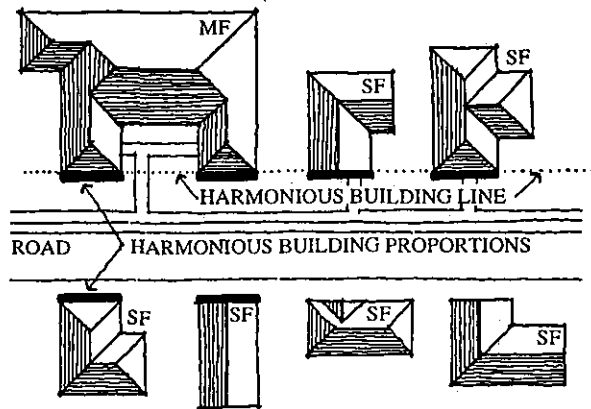
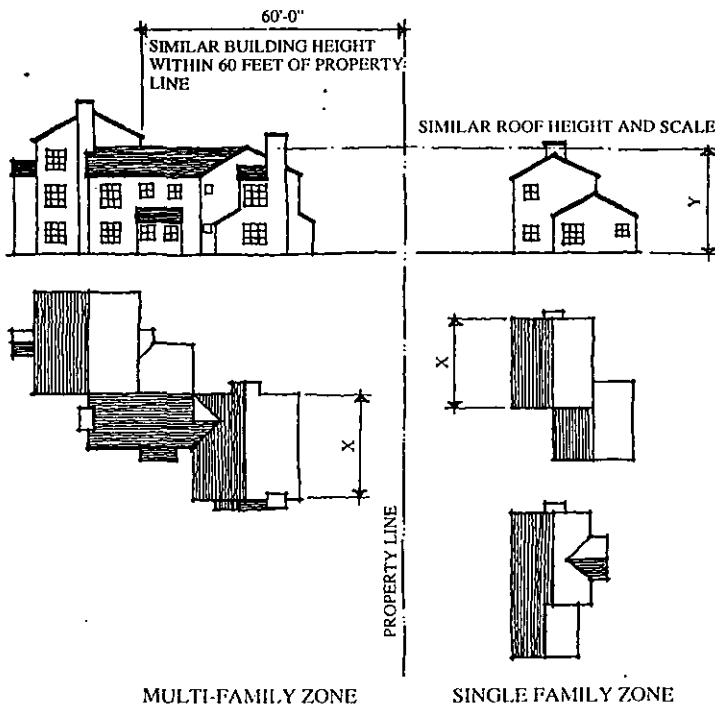


Fig. 24: Multi-family building shape, height and length are similar to adjacent single family buildings.



1. Building design harmony with the surrounding neighborhood should be emphasized. Building design elements should include scale/mass, modulation, height, the proportions of entries, windows and other openings (fenestration), color, materials, and shapes.

This is not to require mimicry or that creativity is prohibited. Only that the creative act be sensitive to the neighborhood context. The City recognizes that its neighborhoods are in constant change and that the creative response to change is necessary in retaining its valuable residential areas.

2. Portions of multi-family developments adjoining Comprehensive Plan "Single Family Residence" areas should maintain a scale, facade and orientation similar to single family uses for compatibility with existing structures. Surrounding single family neighborhood building patterns may be used when adjacent single family lots are vacant. A project site plan and cross-sections should show the footprint of all adjacent structures within 100 feet of the property line to help evaluate compatibility.

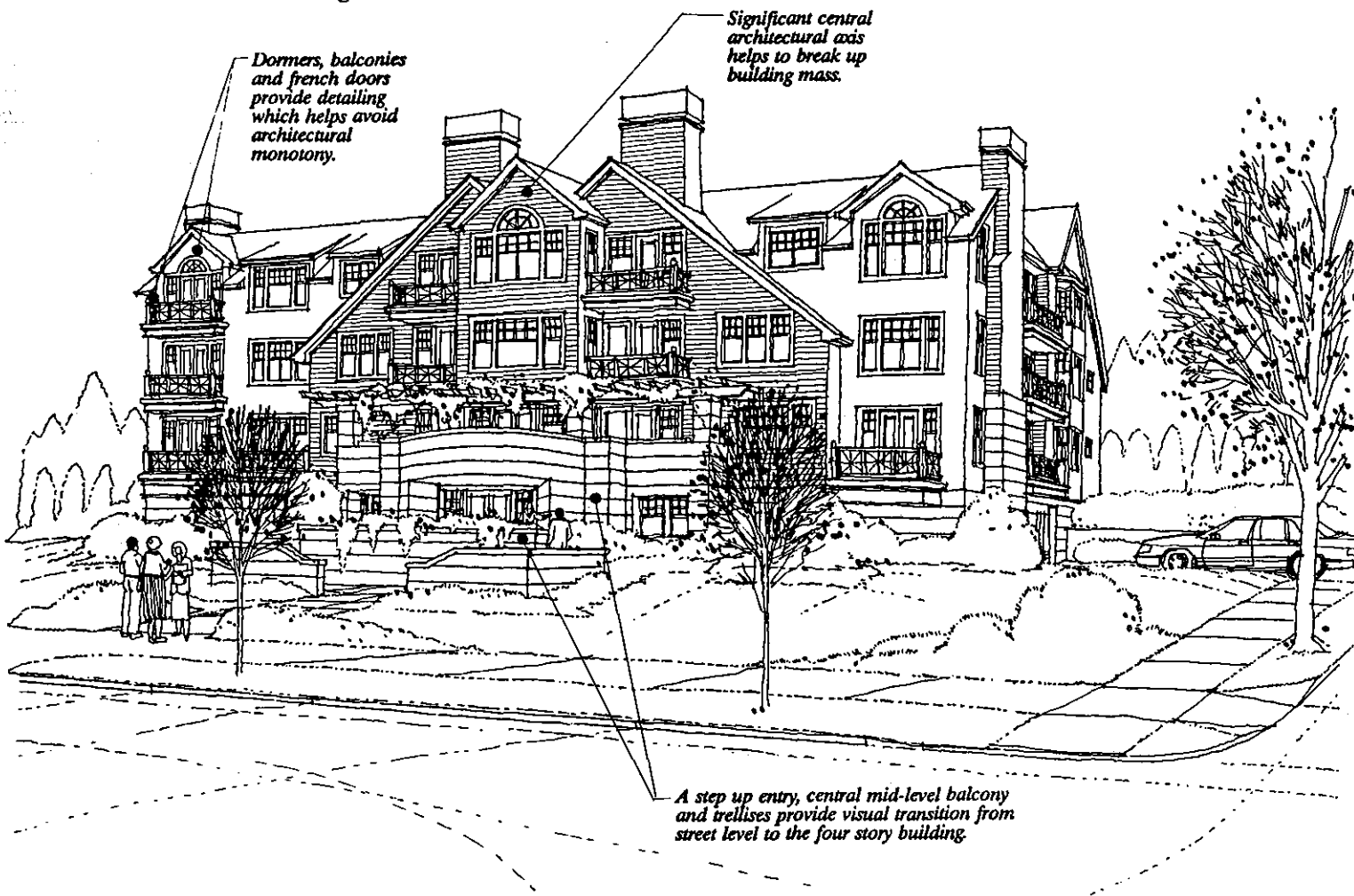
3. Sloped roofs, minimum 5 ft. rise over 12 ft. run, should be used on multi-family buildings to enhance design harmony with surrounding single family neighborhoods, and on steep slopes to enhance design harmony with surrounding land forms. A 4-1/2 foot rise may be appropriate in combination with wide (i.e., 24 inch) overhangs, as may be mansard roofs in special circumstances to lower buildings below the tree or ridgeline.

II. BUILDING DESIGN

4. More prominent sites and architecture require a higher level of design quality. This would include projects which are located near hill tops or intersections, or which include large visible building masses.

5. Building design and siting should define a visual focal point associated with each structure. A building entry or open space often fulfills this role. Such a focal point is denoted by structural articulation, materials, and color for identity and interest. Shapes, materials, colors and landscaping should also be used to create a transitional sequence to the focal point. Abrupt, design band aids, such as tacked on entry alcoves and insignificant walks, should be avoided.

Fig. 25: No particular architectural design is specified. However, the sum of a structure's shape, fenestration, fine detailing and colors should be superior architectural design which is harmonious with the neighborhood.



II. BUILDING DESIGN

6. Structures should be separated by a distance equal to one-half the sum of the adjacent building heights.

Where a building has varying heights, each portion of that building shall satisfy the separation requirement (Fig. 25). The effect of topographic changes may be considered.

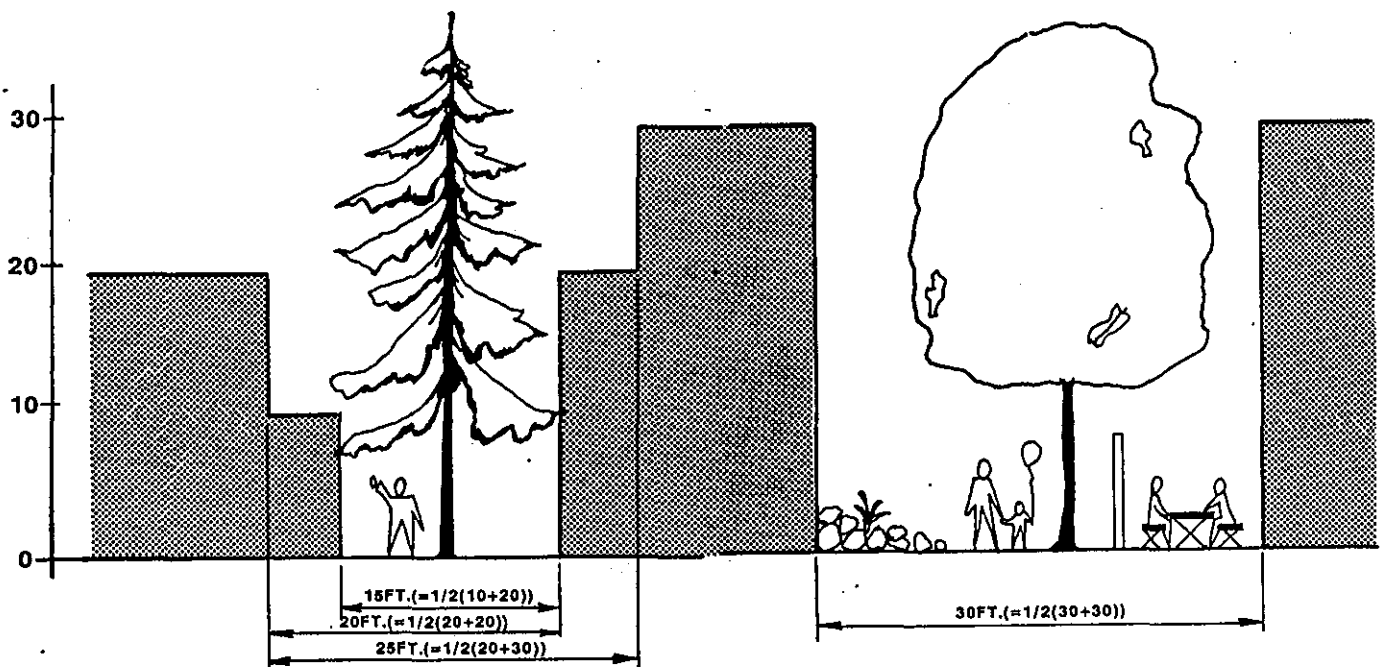
7. Where building height exceeds 35 feet, the Board of Architectural Review should apply the Design Criteria to establish a building separation distance not less than 35 feet.

8. Buildings should be separated at least 8 feet from driveways and parking spaces where facing windowed walls (but not the entry) of ground units and have a minimum 13 foot separation when facing the entry of ground units.

9. Buildings should be separated from common walkways by at least 8 feet in the structure's front and rear, and a minimum 4 feet on its side.

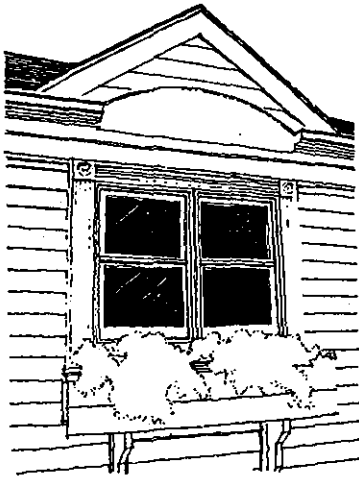
10. Separation guidelines should not apply to incidental structures such as trellises, 18 inch roof eaves, chimneys, covered walks, and pedestrian oriented amenities.

Fig. 26: Minimum building separation.



II. BUILDING DESIGN

Fig. 27: Design details need not be costly to significantly improve architectural quality.



11. A 3-story blank wall, even if at the narrow end of a building, does not reflect acceptable design quality. Architectural relief and fine detailing should be used to break up monotonous surfaces.

12. Avoid applied ornamentation which is not related to building structure or architectural design. This would include arbitrary, inconsistent forms and decoration; uninterrupted floating horizontal elements; and large blank surfaces.

13. All exterior maintenance equipment, including HVAC, equipment, storage tanks, satellite dishes, and garbage dumpsters should be screened from off-site and on-site common area view, in an architecturally integrated manner.

II. BUILDING DESIGN

Exterior Elevations

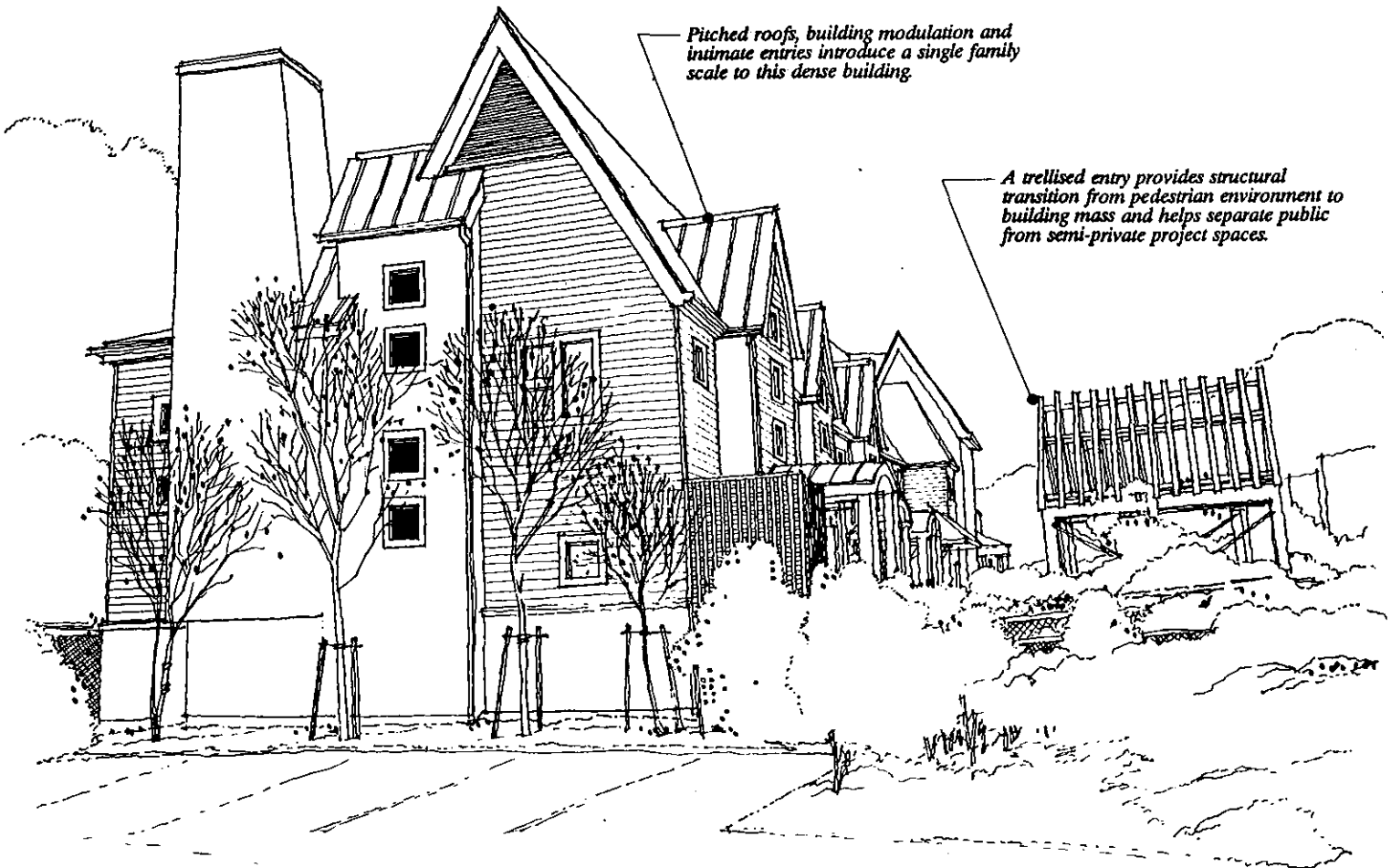
14. The exterior elevations of buildings should incorporate design features such as offsets, changes in materials and shapes, to preclude large expanses of uninterrupted building surfaces.

Additionally:

15. Structures shall not have an unbroken wall longer than 60 feet.

16. Site design should avoid the dominance of large individual building walls or the cumulative effect of successive smaller building wall repetition. Building separation and modulation should be sufficient to visually break up wall masses. The measures needed to visually break up wall masses will increase as a project increases in size and cumulative building mass. The minimum standards for this guideline are specified in TMC 18.50.

Fig. 28: Offsets, changes in materials, and other fine detailing are used to provide architectural interest.



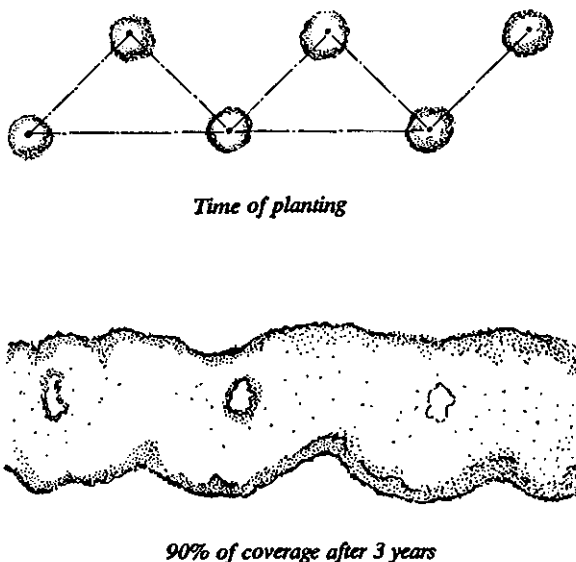
III. LANDSCAPE/SITE TREATMENT

Landscape Design

Fig. 29: Landscaping shown at 5 years after planting.



Fig. 30: Live groundcover is planted to achieve 90% coverage within 3 years from installation.



1. Plants can be used to curtail erosion, to soften the built environment, define or emphasize open space, give privacy, block wind and lessen the effects of solar radiation.

2. Although the landscape plan should reflect plants at maturity, landscaping should be considered as a design element harmonizing site plans and building design only to the extent of its effect in five years. This could mean using significantly larger initial plant stock for those project designs which rely heavily upon landscaping to provide relief for building and site design or screen the project.

4. Transition areas adjacent to buildings and parking lots should be landscaped with a combination of trees, shrubs, and ground cover. This provides a tiered visual transition between the open and built environments, and breaks up wall masses.

5. The design orientation for landscaped areas is largely discussed in Section I: Site Plan guidelines. This section focuses on the technical standards to be recognized in designing such landscape areas.

6. In general, landscape materials should be selected and sited to produce a hardy and drought-resistant landscape area consistent with project design. Selection should include consideration of soil type and depth, spacing, exposure to sun and wind, slope and contours of the site, building walls and overhangs, and compatibility of new plant material with existing vegetation to be preserved on the site.

All plant materials should be installed to current nursery industry standards which would include, but not be limited to the following or equivalent:

- Landscape plant material should be properly guyed and staked to current industry standards.
- Deciduous trees should be fully branched.
- Evergreen trees should be a minimum of 8 feet in height at the time of planting.
- All plant rows should be staggered for effective covering.
- Ground cover should be supplied at the time of planting in minimum of 4-inch containers as appropriate to achieve 90% coverage in 3 years, or as sod.
- Planting of trees in compacted soils should be prohibited unless minimum 12 inch gravel drain

III. LANDSCAPE/SITE TREATMENT

Fig. 31: Landscaping along street frontages should be high quality and reflect three tiers of plants.

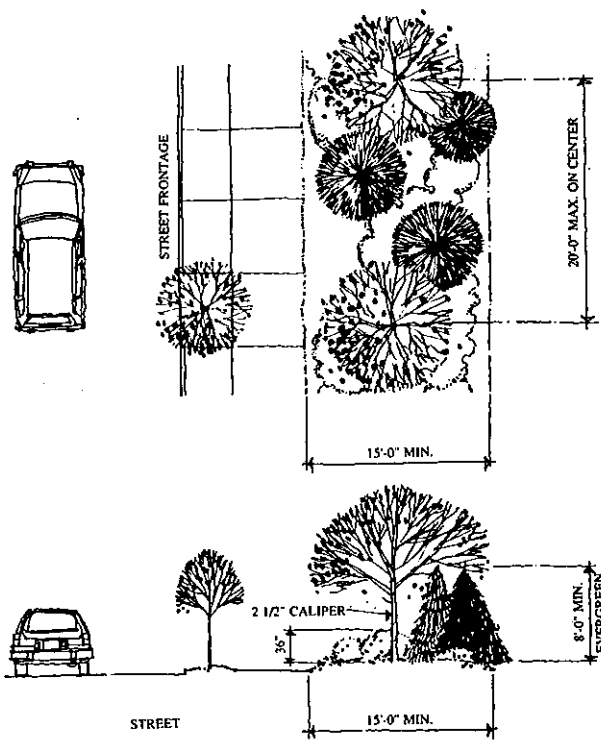
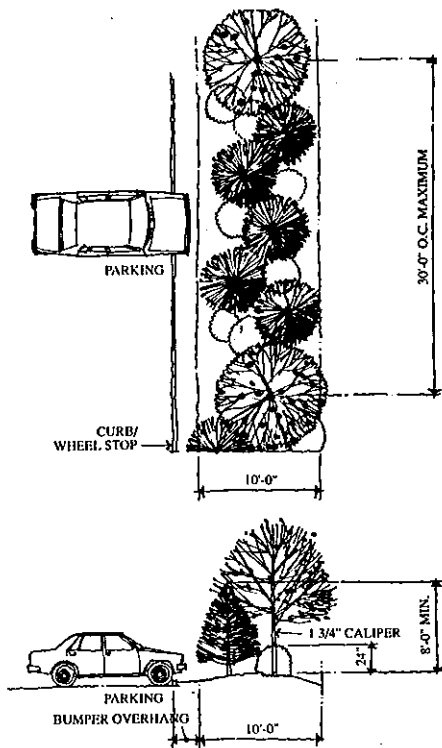


Fig. 32: Perimeter landscaping along the side and rear lot lines provide year-round buffering and transition.



sumps are installed under each tree to a minimum 36 inch depth, or the subgrade soil beyond the planting pit is rototilled to a 9 inch depth to the drip line or edge of planter, whichever is less.

Front yard plant material should reflect the following:

- shrubs, 2 gallons at time of planting
- deciduous trees to be minimum 2 1/2 inch caliper at time of planting, balled and burlapped
- evergreen trees to be 8 - 10 feet in height at time of planting, root balled and burlapped
- or equivalent per Board of Architectural Review.

Side and rear yard plant materials should reflect the following:

- shrubs, 2 gallons at time of planting
- deciduous trees (i.e. maples and ash) to be spaced an avg. of 30 feet on center and 2-1/2 inch caliper at time of planting, balled and burlapped
- evergreen trees (i.e. pine and fir) to be spaced an avg. of 25 feet on center and 7 feet in height at time of planting, balled and burlapped
- or equivalent per Board of Architectural Review.

Perimeter landscaping around parking areas should reflect the following:

- tree planting 20 - 30 ft. on center depending upon size (i.e., smaller species such as Japanese flowering cherry should have 20 ft. o.c. spacing)
- perimeter shrub screen
- shrubs to be 2 gallons at time of planting, spaced to achieve year-round screening to a 3 ft. height in five years
- or equivalent per Board of Architectural Review.

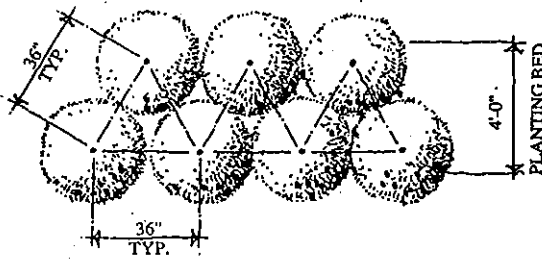
Plant materials within parking areas should reflect the following:

- evergreen trees to be 8 feet at time of planting, balled and burlap
- deciduous trees to be 2 inch caliper at time of planting
- 2 gallon shrubs.

Plants used for screening outdoor storage should consist of shrubs, minimum of 18 inches in height (1 gallon or larger) at the time of planting, spaced a minimum of 24 inches on center (or greater if larger plant material used).

III. LANDSCAPE/SITE TREATMENT

Fig. 33: A typical shrub hedge separating use areas with standard nursery stock.



7. Grass seeding should only be permitted between April 1st and October 15th to assure germination. Some form of erosion control will be necessary if seeding is not completed during this period. Hydro-seeding or mechanical spreading should be used on slopes.

8. Shrubs planted to define spaces or separate environments should be planted as a staggered double row whenever possible. This provides the significant depth especially necessary to separate environments such as parking areas from grassed fields and building entries.

These shrubs should be spaced to provide a lush continuous band within 3 years. This could be reflected in a double staggered row of plants for typical nursery stock spaced a maximum of 36 inches on center, depending on the specific material.

9. Shrub beds should be no more than a two feet wide per typical row of nursery stock plants, in order to minimize barked area and maximize live ground cover. A typical five foot wide barked planting bed for a single row of shrubs is not acceptable.

10. Plant materials should generally include native drought resistant species.

11. The native character of hillsides, ravines and wetlands should be protected and enhanced to provide habitat for a wide range of wildlife. Invasion and takeover by more vigorously growing non-native species such as English ivy, St. John's wort, and Himalayan blackberry tend to exclusively promote habitat for various rodent species.

12. Only native species which enhance a diverse habitat should be planted on the remaining natural hillsides, ravines, and wetlands. Plant buffer areas where the selection of introduced species is carefully reviewed for potential invasion of such natural areas should be recognized on a site-by-site basis by the landscape architect.

III. LANDSCAPE/SITE TREATMENT

Trees

13. Trees should be planted at an average rate of 1 per 30 linear feet of transition area (grouping is an option), shrub beds should be designed as a staggered double row, and ground cover should achieve 90% coverage in 3 years except for minimum (i.e., 2 foot) planter beds. Figures 35-37 show various options for separating uses.

14. Landscape design guidelines for required front, side and rear perimeters are illustrated in figures 31 and 32.

15. Trees should generally be specimen quality, balled and burlapped, and have a minimum size at planting as shown below. This minimum tree size may be increased based on the amount of buffering demanded, prominence of location, and size necessary to realize the applicant's assertion of landscape prominence within five years.

16. An example of increasing tree size should be along the street frontage when large paved areas are being moderated or where dominating wall masses are being softened. An example of decreasing tree size would be where a stand of trees is being planted and only a few specimen quality trees are needed to define the planting area and provide visual planting depth. Typical planting sizes are shown below:

<u>Tree Type</u>	<u>Minimum Planting Size</u>
Large stature deciduous (i.e. maple, ash, oak)	2 1/2 inch caliper
Large stature evergreen (i.e. pine or fir)	8 ft. height
Small stature tree (i.e. Japanese pear or flowering dogwood)	1 3/4 inch caliper

III. LANDSCAPE/SITE TREATMENT

Protection of Existing Trees

Fig. 34: Tree wells can help save hillside trees only to a depth of 4 feet.

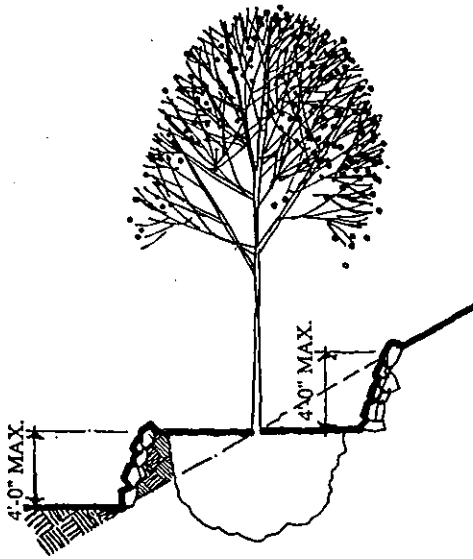
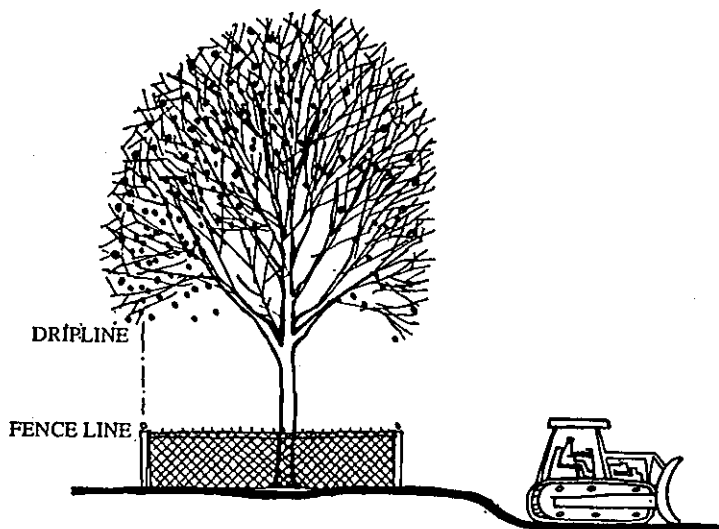


Fig. 35: Trees protected with a chain link fence at the drip line during construction.



17. Significant existing trees should be protected as discussed under Site Planning.

18. The survival and general health of a tree depends as much on the condition of its root system as it does on the factors influencing the above-ground portion. This vital root system extends out to, and sometimes beyond the tree's drip line (the outermost reach of branches).

Any significant disturbance to the root area, such as high surface compaction, root severing, over-watering and/or removal of organic material in which the tree has composted over several years, will almost certainly kill the tree. Tree removal and replacement would be required after a few seasons of progressive deterioration.

Based upon identification and examination, an evaluation can be made to determine which trees will prove valuable to the site design. This evaluation is an important factor in the placement and design of buildings, circulation patterns and other site elements.

19. Significant trees should be protected during construction with a chain-link fence or plastic vinyl construction fence at the drip line. The protection fence should be installed prior to issuance of grading permit. Removal or destruction of fencing should be cause for a Stop Work Order until reviewed by City staff.

III. LANDSCAPE/SITE TREATMENT

Design for Screening and Separation

Fig. 36: Separation of marginally compatible uses with only plants.



20. Landscape design for screening and separation can be oriented toward full privacy, separation of uses, or screening unsightly elements such as dumpsters, etc.

21. Full privacy should require an opaque fence or evergreen barrier at least six feet high or above eye level, depending on the angle of view. Noise reduction requires a dense fence (i.e., concrete/masonry) wall or berm in addition to plantings.

22. Area separation requires a continuous physical barrier not less than three feet high. A greater degree of separation would require a higher opaque barrier. A separation planting strip could be deciduous or evergreen.

23. Landscape design for screening should reflect the degree of concealment desired. Plants are not often effective in providing full screening; they should be used in combination with a wall or landform. Plant screens are most effective when used to soften or provide soft transition to a screen wall or break up the visual lines of a partially concealed structure.

24. A privacy fence should be required along side and rear yards if adjoining single family zones as specified below:

- 6 feet high
- sight-obscuring wood (or equivalent) fence
- exterior materials and colors shall be consistent with building architecture.

25. The following are alternative design solutions for various degrees of screening and separation:

Alternative 1. Using only plantings for partial separation of marginally compatible uses such as parking from residences or recreational sites.

Area: Width not less than 15 feet.

At least one row of deciduous and evergreen trees staggered and spaced not more than 15 feet apart.

At least one row of evergreen shrubs spaced not more than five feet apart which will grow to form a continuous hedge at least five feet in height within three years of planting.

Lawn, low growing evergreen shrubs, and evergreen ground cover covering the balance of the area.

III. LANDSCAPE/SITE TREATMENT

Fig. 37: Separation of marginally compatible uses with fencing and plants.

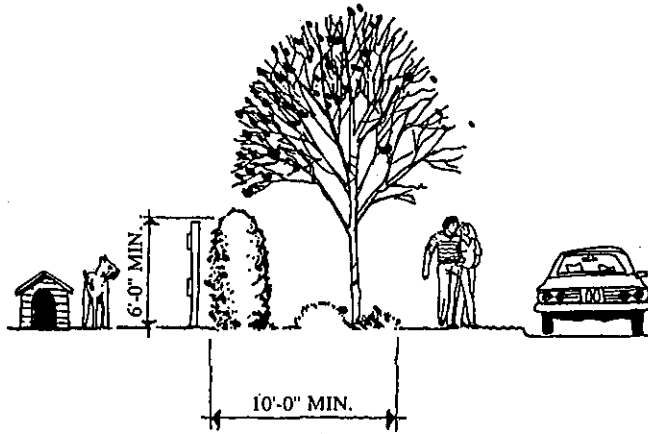
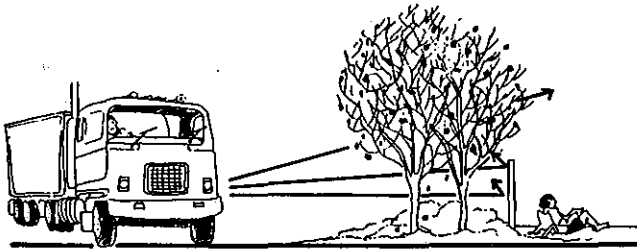


Fig. 38: Full separation of incompatible uses with masonry wall and plants.



Alternative 2. Using a fence and planting for full visual separation of marginally compatible uses.

Area: Width not to be less than 10 feet.

At least one row of deciduous and/or evergreen shrubs spaced not more than 5 feet apart.

Lawn, low growing evergreen shrubs, and evergreen ground cover over the balance of the area.

Alternative 3. Using a wall and planting for full separation of incompatible uses. This structural approach is often the only effective mitigation of impacts such as high freeway noise on outdoor recreation areas.

Area: Width not to be less than 5 feet.

A masonry wall not less than 6 feet in height and no less than 5 feet of landscaping transition.

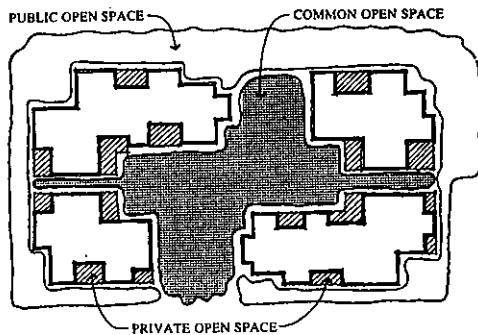
III. LANDSCAPE/SITE TREATMENT

Interior Parking Area Landscaping

Usable Outdoor Space

Recreation Area Design

Fig. 39: Recreation area design for safety includes siting the children's play lot in a central or easily observed area.



26. Minimum parking area landscaping at the perimeter and interior areas are specified in Chapter 18.52 of the Tukwila Zoning Code. Design concepts for these areas are shown in figures 11, 12, 13 and 32.

27. As much design emphasis should be put into developing outdoor spaces as the buildings themselves. Outdoor space tends to be unusable when it is simply the "leftovers" after buildings are placed on the land. (See Fig. 6)

28. Buildings or other substantial structures should be used to reduce the impact of noise sources when such noise would interfere with normal conversation as identified in Federal Environmental Protection Agency guidelines (i.e., 55-65 dBa).

29. Outdoor spaces should have a definite functional shape, be internally designed to fulfill that function, and be functionally associated with a specific unit or unit group (see "Defensible Space" in Site Plan guidelines).

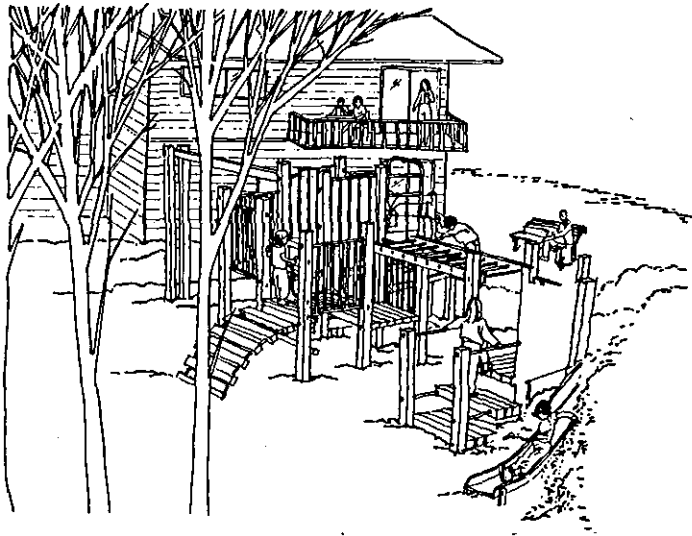
30. A full range of active and passive recreation opportunities should be provided for the various resident age groups: infant (0-4), child (5-12), teen (13-18), and adult.

31. Infant needs may be satisfied by passive spaces and overlap with child facilities.

32. The child group is the critical group for on-site recreation design since members tend to use facilities independent of parental supervision, are not necessarily old enough to travel streets to relatively distant public parks, and make complex demands of recreation spaces.

III. LANDSCAPE/SITE TREATMENT

Fig. 40: A recreation space for the 5-12 year old group which facilitates group interaction and skill testing.



33. At least one on-site play area designed for the child group should be provided. This area design should be characterized by interactive group equipment which tests skills. The Parks and Recreation Director should be consulted in the review of acceptable design proposals.

34. The child play area should reflect the design elements below:

- Visually accessible to casual surveillance by passersby and residents. This is a key element in facility safety and generally requires a central location.
- Care should be taken to provide separation of play areas from general impersonal passersby for security.
- Easy safe access from residence to play area(s).
- Hard surface areas for wheeled toys and tricycles.
- Equipment with zones to satisfy the specific sensory and skill needs up to age 12.
- Use water and sand if limited to two materials. These provide more possibilities for play and fun than all asphalt deserts combined. The ability to move over, under, around or through something affords a child control. He can change his relationship to it.
- A child should be able to control his level of involvement with others. Make small sheltered areas for solitary play, larger spaces for group play.
- An adjacent sitting area for monitoring the children.

35. Teen and adult on-site recreation facility demand may be satisfied with active recreation fields and sport courts, recreation rooms, pools and passive recreation trails. Linkages with existing public trail and park facilities should be made where possible, either through immediate construction or agreement to jointly participate in the coordinated provision of such a linkage at a later date.

IV. MISCELLANEOUS STRUCTURES/STREET FURNITURE

Lighting

Fig. 41: Maximum parking area light standard height is 20 feet or the building height; whichever is less.

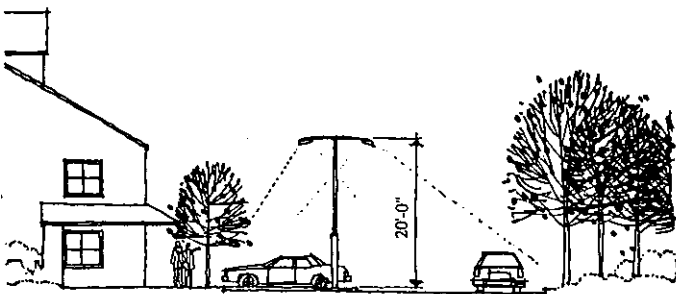
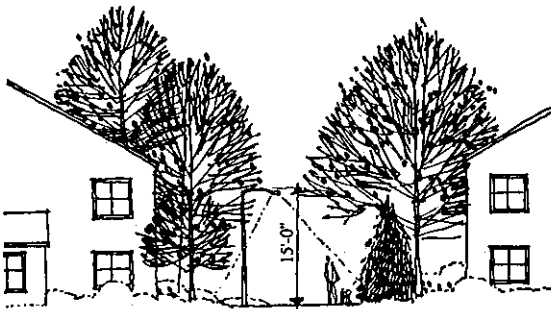


Fig. 42: Maximum grounds lighting standard height is 15 feet.



1. All exterior lighting (i.e., distribution, intensity, and pattern) should reflect project architectural design.

2. Exterior lighting should be provided in parking areas and along internal pedestrian walkways to assure adequate and safe pedestrian circulation for residential activities and guests.

3. Maximum parking area light standard height should be 20 feet or the height of the building; whichever is less.

4. Maximum walkway and grounds lighting should be 15 feet. Light fixture height is limited to enhance a sense of scale and enclosure for common areas at night.

5. All lighting standards should have glare cut-off features to avoid off-site spill-over.

6. Fixtures should be placed so that light patterns overlap at a height of 7 feet which is sufficiently high to vertically illuminate a person's body. This is particularly important consideration now that lighting fixture manufacturers are designing luminaries with highly controlled light patterns.

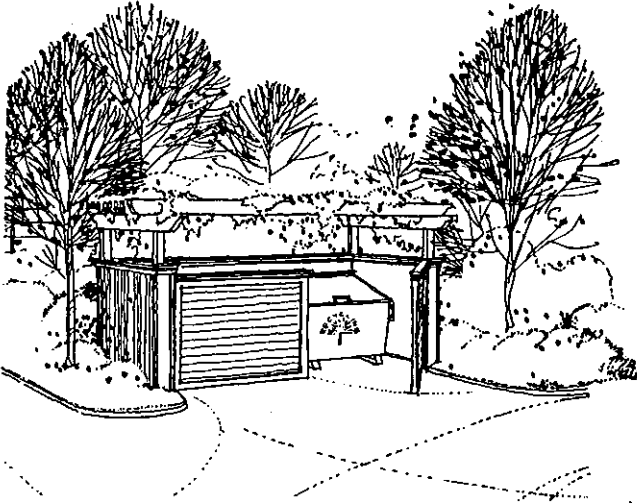
7. At hazardous locations, such as changes of grade, lower level supplemental lighting or additional overhead units should be used. Where low-level lighting (below 5 feet) is used, fixtures should be placed in such a way that they do not produce glare. Most eye levels occur between 3 feet 8 inches for wheelchair users and 6 feet for standing adults.

8. The walkway lighting is provided primarily by low fixtures, there should be sufficient peripheral lighting to illuminate the immediate surroundings. Peripheral lighting contributes to a feeling of security in an individual because he can see into his surroundings to determine whether or not passage through an area is safe. Such an area should be lighted so that the object or person may be seen directly or in silhouette.

IV. MISCELLANEOUS STRUCTURES/STREET FURNITURE

Fencing, Walls, and Screening

Fig. 43: Dumpsters are sited and screened to minimize prominence.



Street Furniture

9. All fencing, walls, and screening should reflect building architecture and be harmonious with adjacent project designs. This should include consideration of proportion, color, texture, and materials. Perimeter fencing should be designed to be attractive from both sides.

10. Fencing and walls along street frontages should define space but be designed to be visually open and inviting to support a lively pedestrian environment.

11. All exterior mechanical equipment including HVAC, electrical equipment, storage tanks and satellite dishes, must be screened from on-site and off-site view.

12. Several small dumpsters adjacent to buildings such as garages are preferable to a single large free standing site. Dumpsters should have solid architectural wall screening only to the container height to minimize its prominence.

13. Recycling containers and areas should conform to King County standards or as amended by Tukwila standards.

14. All garbage container lids should be light weight and designed for operation by physically frail persons.

15. Street furniture should be coordinated to carry out the project's design concept.

16. Opportunities for social gathering by residents in shared open spaces should be enhanced by the provision of seating and other amenities. The use of bollards and other barrier features should be provided to separate vehicular traffic from pedestrian-oriented areas.

ACKNOWLEDGEMENTS

No set of design standards can be done without heavy reliance on past studies and documents. The following is a partial list of documents which were heavily used or contained the basis of design standards, concepts or illustrative graphics.

American Planning Association, Chicago, IL; "Planning News"

City and County of San Francisco, CA; 07/89; "Residential Design Guidelines"

City of Seattle, WA; 01/92; "Proposed Design Review Process and Guidelines for the City of Seattle" (Draft)

City of San Jose, CA; 11/86; "Residential Design Guidelines for the City of San Jose"

City of Anaheim, CA; 12/91; "Residential Design Guidelines" (Draft)

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National Association of Home Builders, Wash. D.C.; 1986; Higher Density Housing: Planning, Design, Marketing

National Association of Home Builders, Wash. D.C.; 1990; Seminar and Materials on "Making Small Lots Work: Innovative Land Use for Single Family Homes"

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Multnomah County, OR; 11/77; "A Developer's Handbook"

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