

2.3.5 "R-2" RESIDENCE ZONE.

2.3.5.1 Purpose. This zone provides for medium density, single-family and multifamily, residential development, together with schools, parks, and other public services necessary for an urban residential environment.

2.3.5.2 Permitted Land Uses. The following Land Use Classes are principal Permitted Land Uses within this zone, subject to compliance with the development and compatibility criteria listed for the Development Designator indicated and to any additional conditions listed for each use. The number or letter in quotation marks following the Land Use Class refers to the Development Designator provisions of Sec. 3.2.3.

A. Residential Use Group, Sec. 6.3.8

1. Family Dwelling "I", subject to: Sec. 3.5.7.1.F (Ord. No. 9443, §1, 11/27/00)
2. Family Dwelling "K", subject to: Sec. 3.5.7.1.F (Ord. No. 9443, §1, 11/27/00)
3. Family Dwelling "FLD-6", subject to: the development regulations in Sec. 3.6.1 and Sec. 3.5.7.1.F (Ord. No. 9443, §1, 11/27/00, Ord. No. 10636, §8, 2/24/09)
4. Residential Care Services: Adult Care Service or Physical and Behavioral Health Service "I", subject to: Sec. 3.5.7.8.B.1, .C.1, and .D (Ord. No. 9138, §1, 10/5/98)
5. Residential Care Services: Adult Care Service or Physical and Behavioral Health Service "41", subject to: Sec. 3.5.7.8.B.1, .C.4, .D, and .G (Ord. No. 9138, §1, 10/5/98)
6. Residential Care Services: Rehabilitation Service - children's facilities "41", subject to: Sec. 3.5.7.8.A, .B.1, .C.1, and .D
7. Residential Care Services: Shelter Care - victims of domestic violence "41", subject to: Sec. 3.5.7.8.A, .B.1, .C.1, .D, and .I

B. Agricultural Use Group, Sec. 6.3.3

1. Crop Production "41", subject to: Sec. 3.5.2.2

C. Civic Use Group, Sec. 6.3.4

1. Cemetery "41", subject to: Sec. 3.5.3.1.A
2. Cultural Use "12", subject to: Sec. 3.5.3.2
3. Educational Use: Elementary and Secondary Schools "11", subject to: Sec. 3.5.3.7 (Ord. No. 9075, §1, 6/15/98)
4. Postal Service "12", subject to: Sec. 3.5.3.2
5. Protective Service "12", subject to: Sec. 3.5.3.2 and Sec. 3.5.13.6
6. Religious Use "12"

CITY OF TUCSON *LAND USE CODE*
 ARTICLE II. ZONES
 DIVISION 3. URBAN RESIDENTIAL ZONES
 "R-2" RESIDENCE ZONE

- D. Commercial Services Use Group, Sec. 6.3.5
1. Administrative and Professional Office "8", subject to: Sec. 3.5.3.2
 2. Communications "41", subject to: Sec. 3.5.4.20.B, .C, and .D.1 or .D.2 (Ord. No. 8813, §1, 3/3/97)
 3. Day Care "41"
 - a. Adult day care, subject to: Sec. 3.5.4.25.A
 - b. Child care, subject to: Sec. 3.5.4.3.A, .B, .C, .D, .E, .F.1, and .G.4 (Ord. No. 8808, §1, 1/27/97)
- E. Recreation Use Group, Sec. 6.3.7
1. Neighborhood Recreation "12", subject to: Sec. 3.5.13.2 and Sec. 3.5.13.3

2.3.5.3 Special Exception Land Uses. The following Land Use Classes are not permitted within this zone, unless approved through the special approval procedure noted for the Land Use Class, and are subject to any additional conditions listed. The number or letter in quotation marks following the Land Use Class refers to the Development Designator provisions of Sec. 3.2.3. For further information concerning Special Exception Land Use applicability, refer to Sec. 5.3.9. (Ord. No. 8653, §1, 2/26/96)

- A. Commercial Services Use Group, Sec. 6.3.5
1. Communications "41", limited to wireless communication towers and antennae, subject to: Sec. 3.5.4.20.B, .C, and .E.2, or Sec. 3.5.4.20.B, .C, and .F.1, or Sec. 3.5.4.20.B, .C, and .G (Ord. No. 8813, §1, 3/3/97)
 2. Day Care "41", subject to: Sec. 3.5.13.5 and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §2, 7/1/04)
 - a. Child care, subject to: Sec. 3.5.4.3.A, .B, .C, .D, .E, .F.3, .G.6, and .H, or
 - b. Child care, subject to: Sec. 3.5.4.3.A, .B, .H, and .I
 3. Medical Service "19", subject to: Sec. 3.5.4.8.B, Sec. 3.5.4.9.A, .B.1, .C, and .D, and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §2, 7/1/04)
- B. Residential Use Group, Sec. 6.3.8
1. Home Occupation: Travelers' Accommodation, Lodging, subject to: Sec. 3.5.7.4.C, .E, .F, .G, .H, .I, .J, .K, .L, .M, and .N and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §2, 7/1/04)
 2. Residential Care Services: Adult Care Service or Physical and Behavioral Health Service "41", subject to: Sec. 3.5.7.8.B.1, .C.2, and .D and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9138, §1, 10/5/98; Ord. No. 9967, §2, 7/1/04)
 3. Residential Care Services: Rehabilitation Service or Shelter Care "41", subject to: Sec. 3.5.7.8.A, .B.1, .C.2, .D, and .I and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53, or (Ord. No. 9967, §2, 7/1/04)

4. Residential Care Services: Rehabilitation Service or Shelter Care "41", subject to: Sec. 3.5.7.8.A, .B.1, .C.4, .D, and .H and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §2, 7/1/04)

C. Utilities Use Group, Sec. 6.3.12

1. Distribution System "41", subject to: Sec. 3.5.11.1.A, .B, .E, .H, .I, and .K and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §2, 7/1/04)
2. Renewable Energy Generation "38", subject to: Sec. 3.5.11.2.B, .C, .D, and E. and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 10818, §1 7/7/10)

D. Civic Use Group, Sec. 6.3.4

1. Educational Use: Elementary and Secondary Schools "11", subject to: Approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §2, 7/1/04)
2. Cultural Use "12", subject to: Sec. 3.5.3.5.B, .C, .D, .E, .F, .G, and .H and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. Ord. No. 9336, §1, 12/13/99; Ord. No. 9967, §2, 7/1/04)

(Ord. No. 9075, §1, 6/15/98)

2.3.5.4 Secondary Land Uses. The following Land Use Classes are permitted within this zone as Secondary Land Uses, subject to the requirements of Sec. 3.2.4 and to any additional requirements listed with the use. (Ord. No. 8653, §1, 2/26/96)

A. Home Occupations are permitted as Secondary Land Uses to Family Dwelling.

1. Home Occupation: General Application, subject to: Sec. 3.5.7.2
2. Home Occupation: Day Care, subject to: Sec. 3.5.7.3
3. Home Occupation: Group Dwelling, subject to: Sec. 3.5.7.9.B, .C, and .D
4. Home Occupation: Travelers' Accommodation, Lodging, subject to: Sec. 3.5.7.4.B, .E, .F, .G, .H, .I, .J, .K, and .L

B. The following are permitted as Secondary Land Uses to Religious Use.

1. Civic Use Group, Sec. 6.3.4
 - a. Cemetery, subject to: Sec. 3.5.3.1.D
2. Industrial Use Group, Sec. 6.3.6
 - a. Salvaging and Recycling, subject to: Sec 3.5.5.6.A and .C (Ord. No. 9915, §2, 11/24/03)

(Ord. No. 8653, §1, 2/26/96)

C. Hazardous Material Storage is permitted as a Secondary Land Use to a Permitted Land Use, subject to: Sec. 3.5.10.2.A and .B.1.

D. The following is permitted as a Secondary Land Use to Educational Use.

1. Industrial Use Group, Sec. 6.3.6

2.5.4 "C-2" COMMERCIAL ZONE.

2.5.4.1 Purpose. This zone provides for general commercial uses that serve the community and region. Residential and other related uses are also permitted.

2.5.4.2 Permitted Land Uses. The following Land Use Classes are principal Permitted Land Uses within this zone, subject to compliance with the development and compatibility criteria listed for the Development Designator indicated and to any additional conditions listed for each use. The number or letter in quotation marks following the Land Use Class refers to the Development Designator provisions of Sec. 3.2.3.

A. Commercial Services Use Group, Sec. 6.3.5

1. Administrative and Professional Office "31", subject to: Sec. 3.5.13.5
2. Alcoholic Beverage Service "30", subject to: Sec. 3.5.4.19.C and Sec. 3.5.13.5
3. Animal Service "30", subject to Sec. 3.5.4.1.A, .B, .C, and .D
 *Artisan Residence, See 2.5.4.2.A.24 (Ord. No. 10477, §3, 11/13/07)
4. Automotive - Service and Repair "30", subject to: Sec. 3.5.13.5
5. Billboard "32", subject to: Sec. 3.5.4.26, Sec. 3.5.13.5, and the Regulations of Chapter 3, Advertising and Outdoor Signs, of the Tucson Code (Ord. No. 8610, §1, 11/27/95)
6. Building and Grounds Maintenance "30"
7. Communications "31", subject to: Sec. 3.5.4.20.A and Sec. 3.5.13.5 or Sec. 3.5.4.20.B, .C, and .D.1 or .D.2 (Ord. No. 8813, §1, 3/3/97)
8. Construction Service "30"
9. Day Care "31", subject to: Sec. 3.5.13.5
10. Entertainment "31", subject to: Sec. 3.5.4.4.A, .B, .C, and .D, Sec. 3.5.4.19.C, and Sec. 3.5.13.5
11. Financial Service "31", subject to: Sec. 3.5.13.5 and Sec. 3.5.4.5.C (Ord. No. 10252, §1, 2/28/06)
12. Food Service "30", subject to: Sec. 3.5.4.6.C and Sec. 3.5.13.5
13. Funeral Service "30"
14. Medical Service - Extended Health Care "31", subject to: Sec. 3.5.13.5
15. Medical Service - Major "31"
16. Medical Service - Outpatient "31", subject to: Sec. 3.5.4.8.B
17. Parking "31", subject to: Sec. 3.5.13.5
18. Personal Service "30"
19. Research and Product Development "31"
20. Technical Service "31", subject to: Sec. 3.5.4.16.B

21. Trade Service and Repair, Minor, "30"
 22. Transportation Service, Land Carrier, "31", subject to: Sec. 3.5.13.5
 23. Travelers' Accommodation, Lodging, "31", subject to: Sec. 3.5.13.5
 24. Artisan Residence, "33", subject to: Sec. 3.5.4.28.A, .B, .C, .D, and .E (Ord. No. 10477, §3, 11/13/07)
- B. Retail Trade Use Group, Sec. 6.3.10
1. Construction Material Sales "31"
 2. Food and Beverage Sales "31"
 3. General Merchandise Sales "31", subject to: Sec. 3.5.9.2.A
 4. Heavy Equipment Sales "30", subject to: Sec. 3.5.9.3
 5. Medical Marijuana Designated Caregiver Cultivation Location "30", subject to: Sec. 3.5.9.8.B. and C. (Ord. No. 10850, §3, 11/23/2010)
 6. Medical Marijuana Dispensary "30", subject to: Sec. 3.5.9.8. A
 7. Medical Marijuana Dispensary Off-site Cultivation Location "30", subject to: Sec. 3.5.9.8.B.
 8. Medical Marijuana Qualifying Patient Cultivation Location "30", subject to: Sec. 3.5.9.8.D.
 9. Swap Meets and Auctions "30", subject to: Sec. 3.5.9.4
 10. Vehicle Rental and Sales "31", subject to: Sec. 3.5.9.5.A and .B (Ord. No. 8653, §1, 2/26/96)
- C. Civic Use Group, Sec. 6.3.4
1. Civic Assembly "31"
 2. Correctional Use: Supervision Facility "8", subject to: Sec. 3.5.3.4.B.1, .3.a, .4.b, .5.a, .8, and .10
 3. Cultural Use "31"
 4. Educational Use: Elementary and Secondary Schools "31", subject to: Sec. 3.5.3.7 (Ord. No. 9075, §1, 6/15/98)
 5. Educational Use: Postsecondary Institution "31", subject to: Sec. 3.5.3.3
 6. Educational Use: Instructional School "31"
 7. Membership Organization "30"
 8. Postal Service "31"
 9. Protective Service "31"
 10. Religious Use "31"

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ARTICLE II. ZONES
DIVISION 5. COMMERCIAL ZONES
"C-2" COMMERCIAL ZONE

- D. Industrial Use Group, Sec. 6.3.6
1. Craftwork "30"
 2. Processing and Cleaning "30"
 3. Salvaging and Recycling "30", subject to: Sec. 3.5.5.6.B, .C, and .E (Ord. No. 8653, §1, 2/26/96; Ord. No. 9915, §4, 11/24/03)
- E. Recreation Use Group, Sec. 6.3.7
1. Golf Course "1", subject to: Sec. 3.5.6.3 and Sec. 3.5.13.5
 2. Neighborhood Recreation "30"
 3. Recreation "31"
- F. Residential Use Group, Sec. 6.3.8
1. Family Dwelling "R"
 2. Family Dwelling "FLD-10", subject to: the development regulations in Sec. 3.6.1 (Ord. 10636, §10, 2/24/09)
 3. Group Dwelling "30"
 4. Residential Care Services: Adult Care Service or Physical and Behavioral Health Service "30", subject to: Sec. 3.5.7.8.C.4, .D, and .H (no minimum lot size)
 5. Residential Care Services: Rehabilitation Service - children's facilities "30", subject to: Sec. 3.5.7.8.A, .C.1, and .D
 6. Residential Care Services: Shelter Care - victims of domestic violence "30", subject to: Sec. 3.5.7.8.A, .C.3, and .D
 7. Residential Care Services: Rehabilitation Service or Shelter Care "31", subject to: Sec. 3.5.7.8.A, .C.4, .D, .F, and .H (no minimum lot size)
- G. Restricted Adult Activities Use Group, Sec. 6.3.9, subject to: Sec. 3.5.8.1
1. Adult Commercial Services "30"
 2. Adult Recreation "30"
 3. Adult Retail Trade "30"
- H. Storage Use Group, Sec. 6.3.11
1. Commercial Storage "31", subject to: Sec. 3.5.10.1
 2. Personal Storage "31", subject to: Sec. 3.5.10.3.C and .F (Ord. No. 9631, §1, 12/10/01)
- I. Utilities Use Group, Sec. 6.3.12
1. Distribution System "30", subject to: Sec. 3.5.11.1.A, .E, and .I

2. Renewable Energy Generation "38", subject to Sec. 3.5.11.2. A, B, C, and E. (Ord. No. 10818, §1, 07/07/10)

J. Wholesaling Use Group, Sec. 6.3.13

1. Business Supply and Equipment Wholesaling "31"
2. Construction/Heavy Equipment Wholesaling "31"
3. Food and Beverage Wholesaling "31"

2.5.4.3 Special Exception Land Uses. The following Land Use Classes are not permitted within this zone, unless approved through the special approval procedure noted for the Land Use Class, and are subject to any additional conditions listed. The number or letter in quotation marks following the Land Use Class refers to the Development Designator provisions of Sec. 3.2.3. For further information concerning Special Exception Land Use applicability, refer to Sec. 5.3.9. (Ord. No. 8653, §1, 2/26/96)

A. Residential Use Group, Sec. 6.3.8

1. Residential Care Services: Rehabilitation Service or Shelter Care "31", subject to: Sec. 3.5.7.8.A, .C.4, .D, and .H (no minimum lot size) and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and Sec. 23A-53. (Ord. No. 9967, §2, 7/1/04)

B. Civic Use Group, Sec. 6.3.4

1. Correctional Use: Custodial Facility "8", subject to: Sec. 3.5.3.4.B.1, .3.a, .4.b, .5.b, .8, .9, and .10 and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §2, 7/1/04)
2. Educational Use: Elementary and Secondary Schools "31", subject to: Approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and Sec. 23A-53. (Ord. No. 9075, §1, 6/15/98; Ord. No. 9967, §2, 7/1/04)

C. Commercial Services Use Group, Sec. 6.3.5

1. Alcoholic Beverage Service - Large Bar "30", subject to: Sec. 3.5.4.19.B and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §2, 7/1/04)
2. Communications "31", subject to: Sec. 3.5.4.20.B, .C, and .E.1, or Sec. 3.5.4.20.B, .C, and .E.2, or Sec. 3.5.4.20.B, .C, and .F.2, or Sec. 3.5.4.20.B, .C, and .G (Ord. No. 8813, §1, 3/3/97)
3. Entertainment - Dance Hall "30", subject to: Sec. 3.5.4.19.B and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §2, 7/1/04)
4. Financial Service, non-chartered financial institution facility, subject to: Sec. 3.5.4.5.D (Ord. No. 10252, §1, 2/28/06)
5. Food Service, limited to a soup kitchen, "31", subject to: Sec. 3.5.4.6.D and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §2, 7/1/04)
6. Medical Service - Outpatient, limited to a blood donor center, "31", subject to: Sec. 3.5.4.8.C and approval through a Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. 8582, §1, 9/25/95; (Ord. No. 9967, §2, 7/1/04)

D. Retail Trade Use Group, Sec. 6.3.10

1. Food and Beverage Sales - Large Retail Establishment "31", subject to: Sec. 3.5.9.7 and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §2, 7/1/04)
2. General Merchandise Sales - Large Retail Establishment "31", subject to: Sec. 3.5.9.7 and approval through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §2, 7/1/04) (Ord. No. 9293, §1, 9/27/99)

E. Industrial Use Group, Sec. 6.3.6

1. Salvaging and Recycling, limited to household goods donation center, "30", subject to: Sec. 3.5.5.6.B, .F, .G, .H, .I, .J, .K, and .L; Sec. 3.5.13.1.B; Sec. 3.5.13.2; Sec. 3.5.13.3; Sec. 3.5.13.4; and approval through a Limited Notice Procedure, Sec. 23A-40. This special exception use may be suspended or terminated for failure to conform to adopted conditions in accordance with Sec. 23A-54. (Ord. No. 9915, §4, 11/24/03; Ord. No. 9967, §2, 7/1/04)

F. Utilities Use Group, Sec. 6.3.12

1. Renewable Energy Generation "38" and approval through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 10818, §1, 07/07/10)

2.5.4.4 Secondary Land Uses. The following Land Use Classes are permitted within this zone as Secondary Land Uses, subject to the requirements of Sec. 3.2.4 and to any additional requirements listed with the use. (Ord. No. 8653, §1, 2/26/96)

A. Home Occupations are permitted as Secondary Land Uses to Family Dwelling.

1. Home Occupation: General Application, subject to: Sec. 3.5.7.2
2. Agricultural Use Group, Sec. 6.3.3
 - a. General Farming, subject to: Sec. 3.5.2.1.A.1 and .C.1 and Sec. 3.5.2.2

B. The following are permitted as Secondary Land Uses to the Commercial Services, Retail Trade, or Wholesaling Use Groups, limited to twenty-five (25) percent of the gross floor area. More than twenty-five (25) percent of the gross floor area may be allocated to the permitted Secondary Land Use if the criteria in Sec. 3.5.5 are met.

1. Industrial Use Group, Sec. 6.3.6
 - a. General Manufacturing
 - b. Heavy Equipment Manufacturing
 - c. Perishable Goods Manufacturing, limited to: Baked goods and confectionery products manufacturing only (Ord. No. 8653, §1, 2/26/96)
 - d. Precision Manufacturing
 - e. Primary Manufacturing

C. The following are permitted as Secondary Land Uses to Religious Use.

1. Civic Use Group, Sec. 6.3.4

a. Cemetery, subject to: Sec. 3.5.3.1.D

2. Industrial Use Group, Sec. 6.3.6

a. Salvaging and Recycling, subject to: Sec. 3.5.5.6.A and .C (Ord. No. 9915, §4, 11/24/03)

(Ord. No. 8653, §1, 2/26/96)

D. Hazardous Material Storage is permitted as a Secondary Land Use to a Permitted Land Use, subject to: Sec. 3.5.10.2.A and .B.1.

E. The following is permitted as a Secondary Land Use to Alcoholic Beverage Service.

1. Industrial Use Group, Sec. 6.3.6

a. Perishable Goods Manufacturing, subject to: Sec. 3.5.5.2.F, .G, and .H

(Ord. No. 8653, §1, 2/26/96)

F. The following is permitted as a Secondary Land Use to Educational Use.

1. Industrial Use Group, Sec. 6.3.6

a. Salvaging and Recycling, subject to: Sec. 3.5.5.6.A and .C (Ord. No. 9915, §4, 11/24/03)

(Ord. No. 8653, §1, 2/26/96)

G. The following is permitted as a Secondary Land Use to all uses in the Commercial Services and Retail Trade Use Groups.

1. Industrial Use Group, Sec. 6.3.6

a. Salvaging and Recycling, subject to: Sec. 3.5.5.6.A and .C (Ord. No. 9915, §4, 11/24/03)

(Ord. No. 8653, §1, 2/26/96)

2.5.4.5 Accessory Land Uses. Land uses accessory to the Permitted or Secondary Land Uses are allowed, subject to compliance with Sec. 3.2.5.

2.5.4.6 General Restrictions. The following restrictions apply to all uses and development in this zone.

A. Outdoor display of finished products for rent or sale at retail or wholesale is permitted, unless prohibited by specific performance criteria.

B. Unless modified by specific performance criteria or Sec. 2.5.4.6.A, land uses in the Commercial Services, Industrial, Restricted Adult Activities, and Wholesaling Use Groups shall be conducted entirely within an enclosed building.

2.6.3.6 Application.

- A. PAD District documents shall include the elements described in Sections 2.6.3.6.B, C, and D in the form of either a map(s), text, or both, as applicable with the following exception:
1. For projects initiated by the Mayor and Council or located in the Downtown Area Infill Incentive District as defined in Sec. 2.8.12.9 or the Rio Nuevo and Downtown (RND) Zone as defined in Sec. 6.2.18, an applicant may request an exception to components of Sec. 2.6.3.C (Site Analysis) subject to the following:
 - a. The request must be made prior to submittal of the PAD application.
 - b. The applicant must identify which submittal requirement(s) is requested for an exception and provide a rationale for the change.
 - c. The Planning and Development Services Department Director shall make the final determination on whether to accept the request. The director shall consider the purpose statements of the PAD and the Downtown Area Infill Incentive District and applicable General Plan policies when rendering a decision. Approval of the request does not represent the department's endorsement or approval of the rezoning request or project design.
 - d. The rationale for the approved exceptions shall be included with the submittal.
 - e. The Zoning Examiner and the Mayor and Council may request additional information concerning omitted or modified sections during the review of the rezoning request.
- B. Introduction and Policy. A description of the purpose, scope, main concepts, and goals of the PAD District, indicating the following.
1. Substantial conformance with the *General Plan* and City land use plans which encompass all or part of the proposed PAD District. (Ord. No. 9517, §2, 2/12/01)
 2. The rationale for the use of a PAD zone rather than the use of other zones.
 3. The benefits to the community and the applicant by the use of a PAD District.
 4. The suitability of the PAD District to significant environmental factors if applicable.
 5. The compatibility of the PAD District with adjoining land uses.
 6. The physical and economic suitability and feasibility of the PAD District with existing infrastructure and services.
- C. Site Analysis.
1. Significant natural and built constraints of the site and surroundings.
 2. Major transportation and circulation elements intended to serve the PAD District.
 3. Existing zoning of the PAD District site and parcels within one hundred fifty (150) feet.
 4. Adjacent parcels and structures within one hundred fifty (150) feet of the PAD District boundary.

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ARTICLE II. ZONES
DIVISION 6. MIXED USE ZONES
PLANNED AREA DEVELOPMENT (PAD) ZONE

5. Off-site open space, recreational facilities, parks, and trails within one (1) mile of the PAD District site.
 6. Public, educational, community, and cultural facilities on site and within one (1) mile off site.
 7. Existing drainage.
 8. PAD District site affected by any overlay zone ordinances and the Major Streets and Routes (MS&R) Ordinance.
 9. Inventory of existing structures, roads, and other development.
 10. Location and extent of existing provisions for sewage disposal, effluent use, stormwater drainage, and utilities.
 11. Inventory of existing infrastructure and public services.
 12. Hydrology and water resources.
 13. Topography and slope.
 14. Vegetation and wildlife.
 15. Geology and soils.
 16. Viewsheds and visual analysis.
 17. Paleontological and cultural (archaeological and historical) sites, structures, and districts.
- D. PAD District Proposal.
1. Illustrative site plan.
 2. The general allocation and identification of major proposed land uses, including residential (by density range), nonresidential, open space, and recreational land uses.
 3. Name, location, and extent of existing or proposed major streets located within the PAD District or needed for servicing the PAD District.
 4. Typical street cross-sections.
 5. A detailed listing of the permitted land uses in the PAD District.
 6. A detailed listing of the regulations governing permitted uses, including, performance standards and standards for development, regulations for development densities, heights, floor area and floor area ratios (FARs), open space, lot area and coverage, parking, landscaping, and other site improvements.
 7. Standards for the conservation, development, or utilization of natural resources, including surface water, soils, vegetation, and wildlife.
 8. Where applicable, the methods of conservation for scenic natural and built features and viewsheds.

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PLANNED AREA DEVELOPMENT (PAD) ZONE

9. Standards and responsibilities for maintenance of infrastructure and whether the infrastructure is public or private.
 10. Standards for the phasing and construction of streets proposed for the PAD District or needed for servicing the project as identified in the required study(ies) submitted with the PAD District proposal.
 11. Standards for the phasing and construction of sewage disposal, effluent use, stormwater drainage, solid waste disposal, and public utilities as identified in the required study(ies) submitted with the PAD District proposal.
 12. A phasing schedule for the following, as applicable.
 - a. The preservation of site features established by the PAD District.
 - b. The development of the PAD District.
 - c. The construction, dedication, and provision of public services.
 13. A draft form of financial assurances to be recorded prior to ordinance adoption.
 14. Specifications as to how and to what extent the PAD District is to supplement or supersede adopted City zoning regulations.
 15. Standards for the interpretation of the PAD District regulations and requirements.
 16. Development design guidelines.
 17. General landscape program.
 18. Drainage plan.
 19. A traffic and transportation study which includes trip generation factors for various modes, estimated trips per day by land use, proposed vehicular access and circulation plan, and traffic impacts by mode on adjacent development.
 20. Impacts on existing structures, roads, and other development.
 21. Impacts on existing infrastructure and public services.
 22. Location and extent of proposed provisions for sewage disposal, effluent use, stormwater drainage, and utilities.
- E. Other information as may be determined necessary by the Planning and Development Services Director.

(Ord. No. 10711, §1, 09/09/09)

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2.6.3.7 PAD District Implementation and Assurances.

- A. *PAD District Implementation.* The implementation of PAD Districts shall be in accordance with the procedures of the *LUC*. PAD Districts may establish additional implementation procedures, provided such methods are not in conflict with required procedures and are fully described by the PAD District document
- B. *Assurances.* The City may require financial or other assurances in accordance with Development Standard 1-04.0 for any PAD District and any individual phase of a PAD District to assure the installation of required street, sewer, electric and water utilities, drainage, flood control, and other improvements.

2.6.3.8 Development Plan Approval. No development shall occur within a PAD District unless and until a development plan is approved by the City in accordance with Sec. 5.3.8. The Development Services Director is granted the authority to approve PAD District development plans. (Ord. No. 9967, §2, 7/1/04)

2.6.3.9 Enforcement. Regulations adopted for each District are enforced in the same manner as provided in Article V, Administration, Division 5, of the *LUC*.

2.6.3.10 Interpretation. The Zoning Administrator shall interpret a PAD District per Sec. 1.2.1 and Sec. 23A-31. Interpretations of *LUC* provisions may be applied to similar PAD zone provisions. (Ord. No. 9967, §2, 7/1/04)

2.6.3.11 Amendment Procedures.

- A. PAD District amendments shall be in substantial conformance with the objectives of the PAD District and in conformance with Sec. 5.4.3.10. (Ord. No. 9967, §2, 7/1/04).
- B. Amendment Application.
1. An amendment to a PAD District may be initiated by the property owner, the owner's agent, or the Mayor and Council upon submittal of a written application to amend one (1) or more of the PAD District regulations.
 2. The application shall be accompanied by a statement documenting the need for the amendment.
 3. The Development Services Department Director shall determine if the amendment would result in a substantial change in the PAD District. A substantial change is one which: (Ord. No. 9967, §2, 7/1/04)
 - a. Allows uses not otherwise permitted in the PAD District or a section of the PAD District; or
 - b. Varies or changes a PAD District policy; or
 - c. Increases the number of proposed residences per acre by more than ten (10) percent or exceeds the maximum number of dwelling units permitted within the adopted PAD District; or
 - d. Changes designated buffers or perimeter landscaping, as delineated in the PAD District, which was established to adapt the PAD District to specific site characteristics or mitigate development impacts on the site and surrounding area; or
 - e. Varies the building height, FARs, lot coverage, or building setbacks by more than ten (10) percent of that delineated in the adopted PAD District; or

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- f. As a consequence of more than one (1) nonsubstantial change submitted concurrently, cumulatively results in a significant change in the objectives or goals of the PAD District; or
 - g. Results in a significant change in pedestrian or traffic circulation within the PAD District or in the surrounding area.
4. If the request is determined to be a substantial change, the Development Services Department Director shall refer the request to the Zoning Examiner (Examiner) for public hearing and recommendation to the Mayor and Council. The procedure for considering the change shall be a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9138, §1, 10/5/98; Ord. No. 9967, §2, 7/1/04)
- a. A substantial change may require, as determined by the Development Services Department Director, submittal of amended items, such as a site analysis. (Ord. No. 9967, §2, 7/1/04)
5. The Development Services Department Director may administratively approve nonsubstantial changes. (Ord. No. 9967, §2, 7/1/04)
6. When requested in writing by the applicant, the Development Services Department Director may authorize a delay in the plan amendment process. (Ord. No. 9967, §2, 7/1/04)

(Ord. No. 9374, §1, 4/10/00)

2.8.2 SCENIC CORRIDOR ZONE (SCZ).

2.8.2.1 Introduction. Tucson is located on a magnificent city site, with mountain ranges in all directions and attractive foothills leading up to the mountains. This setting is a scenic resource of great value for the city, for its inhabitants, and for its economy. Specifically, beautiful surroundings help to attract tourists to the city, and nationwide experience indicates that the most desirable new sources of employment have been locating in areas with the most attractive environments. Preservation of scenic resources is, therefore, important for both aesthetic and economic reasons. These valuable scenic resources include views up to and into the mountains, including the mountain profiles and their foothills, and views from the mountains across the valley. They also include significant natural vegetation and geological formations along designated Scenic Routes.

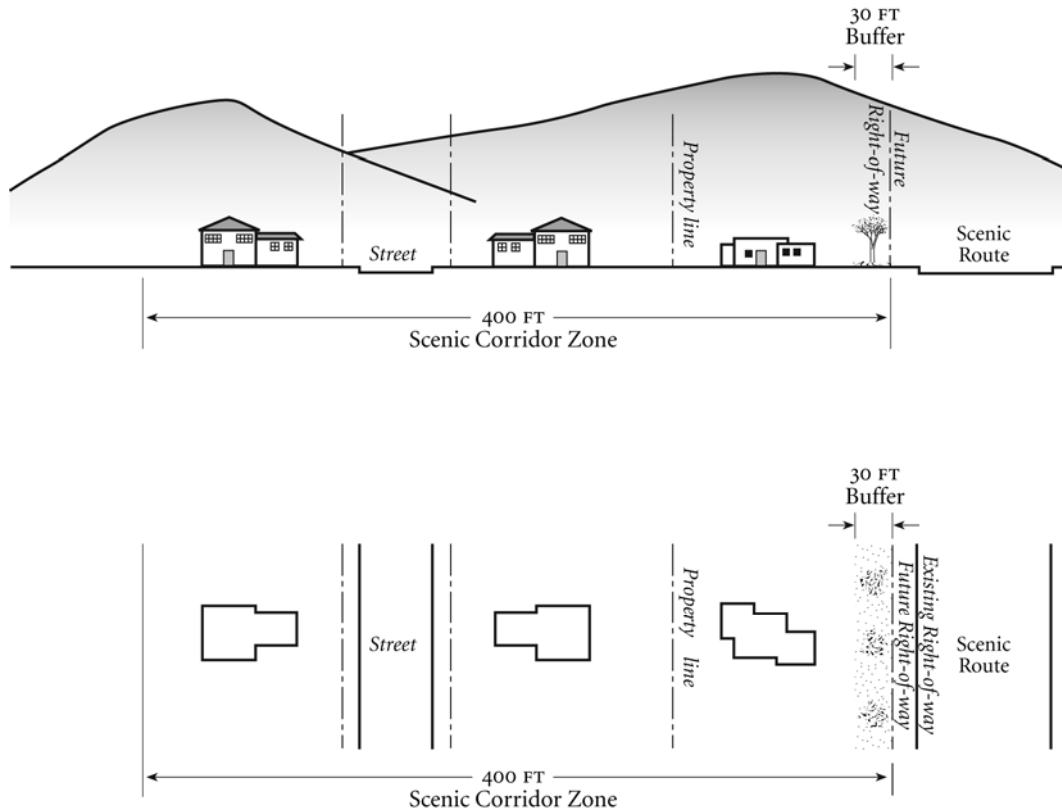
2.8.2.2 Purpose. To protect the city's unique visual setting and promote its economic well-being, performance regulations are required to assure design sensitivity to the natural scenic quality. These regulations are established to provide for the preservation of:

- A. Views of prominent mountain ridge lines that form the limits of scenic viewsheds and provide a natural backdrop for sensitively designed development.
- B. Viewsheds which provide the observer with a visual perspective of the area in terms of foreground, middle ground, and background.
- C. The scenic quality of the desert and mountain environment through the retention of native vegetation and natural topography.
- D. View windows through an aesthetic screening or siting of developmental elements that are incompatible with the natural qualities of the surrounding area.

2.8.2.3 Applicability. The provisions of the Scenic Corridor Zone (SCZ) apply to any portion of all real properties or parcels which are within four hundred (400) feet of the future right-of-way line of any Scenic Route designated on the Major Streets and Routes (MS&R) Plan. (*See Illustration 2.8.2.3.*)

- A. Utility facilities constructed or installed pursuant to a certificate of environmental compatibility issued prior to the adoption of this Section, under the authority of Arizona Revised Statutes (ARS), Title 40, Chapter 2, Article 6.2, are exempt from the provisions of this Section.
- B. On street intersections where both the SCZ and the Gateway Route overlap, the applicability of the SCZ starts seven hundred (700) feet from the Gateway Route future right-of-way line. The requirements of the Gateway Route are applicable within the described seven hundred (700) feet.
- C. Designation, amendment, or change of boundaries for a Scenic Corridor Zone are established through the amendment to the designation on the MS&R Map in accordance with Sec. 2.8.3.3. (Ord. No. 9967, §2, 7/1/04)

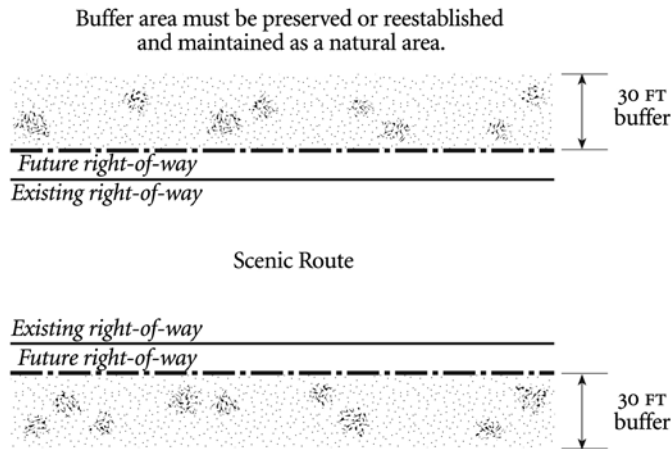
CITY OF TUCSON LAND USE CODE
 ARTICLE II. ZONES
 DIVISION 8. OVERLAY ZONES
 SCENIC CORRIDOR ZONE (SCZ)



2.8.2.3 Scenic Corridor Zone

2.8.2.4 Preservation and Reestablishment of Vegetation.

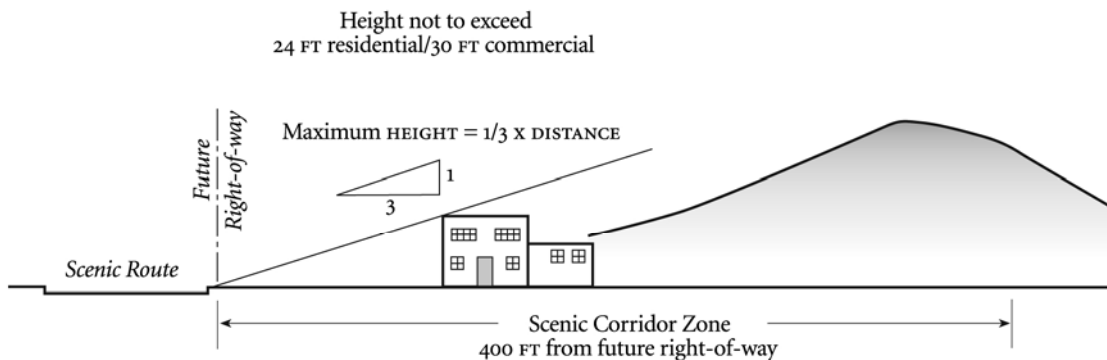
- A. A buffer area thirty (30) feet wide, adjacent to the MS&R right-of-way line, is to be preserved and maintained in its natural state. The buffer area shall be in lieu of the landscape border required along street frontages under Sec. 3.7.0, Landscaping and Screening Regulations. (See Illustration 2.8.2.4.A.)
- B. All landscaping, including preservation and reestablishment of native vegetation, shall comply with Sec. 3.7.5.2, Scenic Routes.



2.8.2.4.A Preservation and Reestablishment of Vegetation Adjacent to Scenic Route

2.8.2.5 Structure Height.

- A. The maximum height of a structure will be one-third (1/3) the distance of the structure from the future right-of-way line, with the following exceptions. (See Illustration 2.8.2.5.)
1. Principal structures, with a maximum height of twelve (12) feet zero (0) inches, may be constructed anywhere within the buildable area of the parcel.
 2. Nonresidential structures may not exceed thirty (30) feet in height.
 3. Residential structures will not exceed twenty-four (24) feet in height.
- B. Where there is a conflict between these structure height regulations and those of the existing underlying zone or Hillside Development Zone (HDZ), if applicable, whichever is most restrictive will apply.



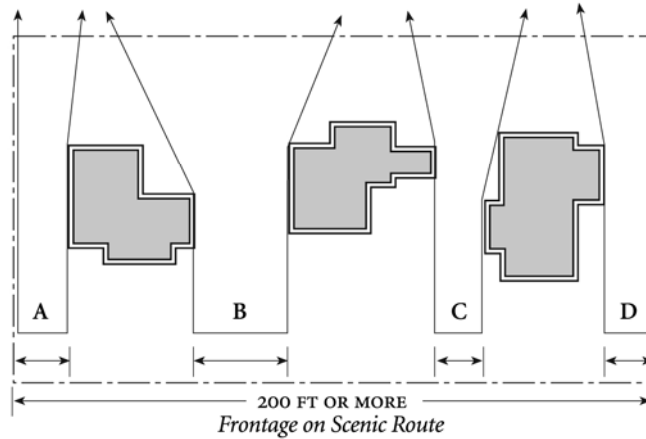
2.8.2.5 Maximum Structure Height in Scenic Corridor Zone

2.8.2.6 Siting.

- A. Siting of structures will be such that existing natural topography and vegetation is minimally disturbed. No grading beyond that necessary for siting of buildings, parking, private yards, and structural improvements will be allowed. All existing vegetation with a caliper of four (4) inches or greater and all saguaro cacti must be preserved or relocated on the site.
- B. Any development site which has at least two hundred (200) feet of frontage along a Scenic Route will have view corridors, with a combined width of at least twenty (20) percent of that frontage, which allow vision from at least one (1) point into and through that portion of the project that lies within the SCZ, from the Scenic Route. (See Illustration 2.8.2.6.B.)

View corridors must have a combined width of at least 20 percent of the width of the frontage.

$$\frac{A+B+C+D}{\text{WIDTH OF FRONTAGE}} = 20 \text{ PERCENT OR MORE}$$



2.8.2.6.B View Corridors in Scenic Corridor

- C. Drainageways are to be maintained in their natural states where possible, and the discretionary authority shall be exercised only under unusual circumstances. In situations where the discretionary authority is exercised by the City Engineer or designee, modifications will be in accordance with the "Floodplain and Erosion Hazard Area Regulations." (Ord. No. 9392, §1, 5/22/00)

2.8.2.7 Parking Areas. Landscaping and screening of parking areas shall comply with Sec. 3.7.2.3, Vehicular Use Areas.

2.8.2.8 Screening. Screening shall comply with Sec. 3.7.3, Screening Requirements.

2.8.2.9 Utilities.

- A. All new utilities for development on private property and on public right-of-way along Scenic Routes will be underground.

Where possible, existing poles will be used to provide the required transition to underground service to new developments adjacent to scenic corridors. However, a new pole set in line with the existing overhead system, when necessary to serve approved new developments, shall not be deemed to be a new utility. Upgrades and reinforcements of existing overhead facilities are allowed to the extent that the total number of electrical circuits or communication cables is not increased. Relocation of overhead utility facilities required by public improvement districts along scenic corridors will conform with existing franchise requirements.

- B. Where an existing development is expanded by fifty (50) percent or more in floor area or land area, new and existing utilities to all portions of the development will be located underground. Incremental expansion will be cumulative. Additions to single-family dwellings are exempt.

2.8.2.10 Additional Design Considerations.

- A. Building or structure surfaces, which are visible from the Scenic Route, will have colors which are predominant within the surrounding landscape, such as desert and earth tones. Single-family dwellings, except in subdivisions recorded after May 28, 1985, are exempt.
- B. Fencing and freestanding walls facing the Scenic Route will meet the material restrictions in Sec. 3.7.3, Screening Requirements.
- C. Regulations for signs are stipulated in Section 3-32, Scenic Route District, of Chapter 3, Advertising and Outdoor Signs, of the *Tucson Code*, and are further supplemented by the following.
 - 1. On any conflict in requirements between this Section and Section 3-32, the more strict of the two prevails.
 - 2. Signs are to use those colors which are predominant within the surrounding landscape, such as desert and earth tones.
 - 3. No commercial advertising sign, except a sign pertaining to a use conducted on the premises or a sign advertising the sale or lease of the property upon which the sign is located, and no billboard shall be erected within four hundred (400) feet of the right-of-way line on any street or route designated as "scenic" on the major thoroughfare system approved and adopted by the Mayor and Council.

2.8.2.11 Site Design Review. Applications for projects within the Scenic Corridor Zone (SCZ) shall be reviewed in accordance with the DSD Full Notice Procedure, Sec. 23A-50 and 23A-51. (Ord. No. 9392, §1, 5/22/00; Ord. No. 9967, §2, 7/1/04)

- A. At the request of the Development Services Department (DSD) Director or applicant, the Design Review Board (DRB) shall review building elevations, landscaping, parking areas, and other contributing design features to substantiate compliance with the criteria required in making a decision. (Ord. No. 9392, §1, 5/22/00; Ord. No. 9967, §2, 7/1/04)
- B. The decision to approve or deny the project will be based on the purpose, intent, and specific regulations of this Section, on the objectives specified in the *Major Streets and Routes (MS&R) Plan* for scenic corridor development, and on the following criteria which provide for the preservation of: (Ord. No. 9392, §1, 5/22/00)
 - 1. Views of prominent mountain ridge lines that form the limits of scenic viewsheds and provide a natural backdrop for sensitively designed development.

-
2. Viewsheds which provide the observer with a visual perspective of the area in terms of foreground, middle ground, and background.
 3. The scenic quality of the desert and mountain environment through the retention of native vegetation and natural topography.
 4. View windows through an aesthetic screening or siting of developmental elements that are incompatible with the natural qualities of the surrounding area.

2.8.2.12 Submittals. Submittals shall be in compliance with requirements established in Development Standard 9-02.2.1. (Ord. No. 9392, §1, 5/22/00; Ord. No. 9967, §2, 7/1/04)

2.8.2.13 Grading. No grading can occur until thirty (30) days prior to construction. Construction plans must be in the review process for permits, or construction permits must have already been issued. Grading permits are to cover only those areas for which building permits are granted.

2.8.2.14 Variiances. The Design Review Board (DRB) shall review all requests for variances from Scenic Corridor Zone (SCZ) regulations as provided in Sec. 5.1.8.3.B and shall forward its recommendations in accordance with Sec. 5.1.8.2.F. (Ord. No. 9179, §1, 12/14/98; Ord. No. 9392, §1, 5/22/00; Ord. No. 9967, §2, 7/1/04)

(Ord. No. 9392, §1, 5/22/00)

CITY OF TUCSON *LAND USE CODE*
 ARTICLE III. DEVELOPMENT REGULATIONS
 DIVISION 2. DEVELOPMENT CRITERIA

- B. *Located in Nonresidential Zones.* The development criteria included in this matrix are primarily for application on nonresidential uses when permitted in nonresidential zones.

Development Designator	Site Area¹	FAR²	Building Height³	Perimeter Yard⁴
26	10,000	0.25	16'	BB
27	0	0.50	26'	BB
28	0	0.35	30'	DD
29	0	0.50	30'	DD
30	0	0.75	40'	DD
31	0	0.90	40'	DD
32	1,500	0.00	30' ⁵	DD
33	0	1.50	50'	DD
34	0	2.00	75'	DD
35	0	6.00	140'	EE
36	0	10.50	300'	EE
37 (Reserved)				
38	0	0.75	16'	BB
39 (Reserved)				
40	5,000	0.90	16'	AA
41	5,000	0.50	25'	BB

¹Minimum site area in square feet unless otherwise stated.

²Maximum floor area ratio (FAR). Refer to Sec. 3.2.11.

³Maximum. For measurement and exceptions, refer to Sec. 3.2.7.

⁴For applicability, refer to Sec. 3.2.6.

⁵Unless a greater height is permitted by the Sign Code.
 (Ord. No. 8610, §1, 11/27/95)

3.2.4 SECONDARY LAND USE. Land use activities that are allowed as Secondary Land Uses to a principal use are subject to the provisions described below.

3.2.4.1 Development Criteria. Any land use permitted as a secondary use shall be developed within the requirements of the Development Designator of the Principal Land Use, but all other development requirements of Article III are based on the specific Secondary Land Use.

3.2.4.2 Review. All proposed applications for Secondary Land Uses shall be submitted for zoning compliance review and approval. Compliance with requirements for a Secondary Land Use and with requirements of the zone are required for approval. (Ord. No. 9392, §1, 5/22/00)

3.2.5 ACCESSORY USES AND STRUCTURES. Those land uses and structures associated with, and incidental to, a principal structure are accessory and subject to the provisions described below.

3.2.5.1 Accessory Uses. An accessory use must comply with the following.

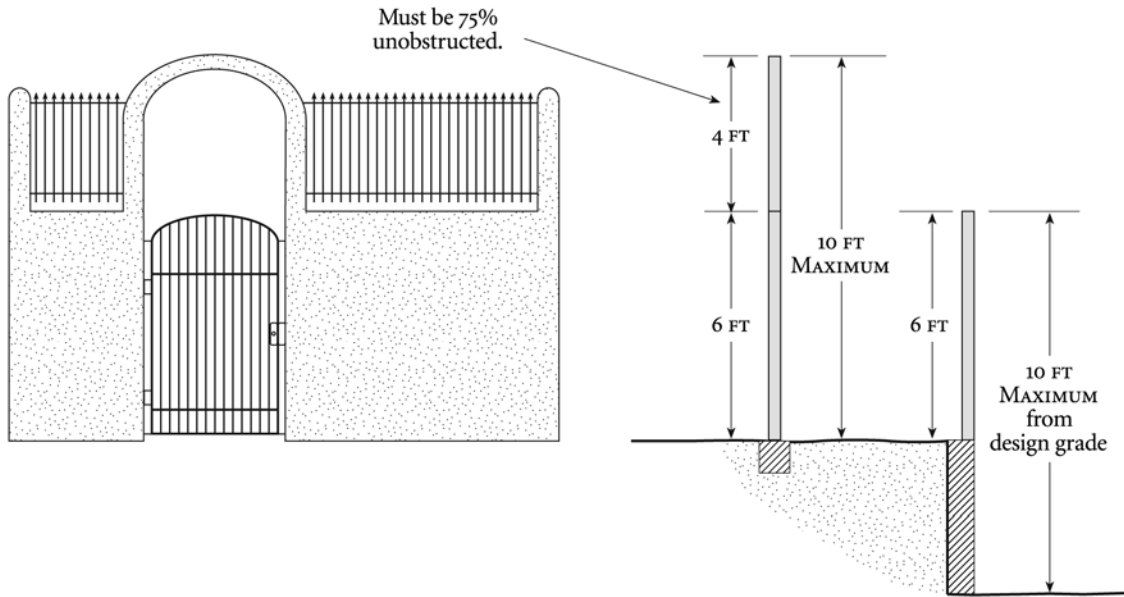
- A. The use is incidental to the principal use and is located on the same parcel as the principal use;
- B. The use is intended for the occupants, residents, customers, employees, or guests of the principal use; and

- C. The use does not substantially alter the exterior appearance or character of the principal use or structure to which it is incidental.
- D. Animals may be kept for personal use in all zones subject to Tucson Code, Chapter 4, and any applicable health regulations. (Ord. No. 8808, §1, 1/27/97)

3.2.5.2 Accessory Structures. In all zones, the structures used for accessory uses shall comply with the following.

- A. An accessory structure can be built only on a lot occupied by a principal structure or use.
- B. An accessory building shall be developed in conformance with the requirements of the Development Designator of the Principal Land Use, but all other development requirements of Article III are based on the specific Accessory Land Use. (Ord. No. 8582, §1, 9/25/95)
- C. An accessory structure, which exceeds the allowable height of a wall within a perimeter yard and is detached from a principal structure, shall comply with the perimeter yard width requirements of the principal structure, except that the accessory structure may be built to a parcel line with the consent of the adjoining or, when separated by an alley, adjacent property owner(s). Accessory structures, such as light poles, flagpoles, and other tall and narrow structures that are similar, are exempt from the setback requirement. (Ord. No. 9374, §1, 4/10/00)
- D. An accessory structure, except for a stable or enclosure for animals, may be attached to a principal structure, provided that its construction complies with the development requirements of the principal structure.
- E. The use of solar energy collectors for the purpose of providing energy for heating or cooling is permitted in all zones, whether as part of a principal structure or as an accessory structure. Such solar collection devices shall not be included in computing lot coverage. (Ord. No. 9179, §1, 12/14/98)
- F. This Section is not intended to apply to buildings of five (5) feet or less in height and ten (10) square feet or less in area, such as doghouses or refuse container enclosures, nor to play equipment.
- G. All structures for animals must be set back at least fifty (50) feet from all property lines, except corrals which must be set back ten (10) feet from all property lines.
- H. The maximum height of a wall or fence within a perimeter yard is six (6) feet; however, the wall or fence may be higher than six (6) feet, but no higher than ten (10) feet, if: (*See Illustration 3.2.5.2.H.*)
 1. At least seventy-five (75) percent of the area above six (6) feet in height is left unobstructed and open through the use of architectural elements, such as arches, columns, or wrought iron, or
 2. Part of, or located on top of, a retaining wall no higher than ten (10) feet measured from design grade and no higher than six (6) feet measured from the top of the retaining portion of the wall, or
 3. A greater height is required through the rezoning process or the Special Exception Land Use process, or
 4. A greater height is required by a specific regulation in the *LUC*.

(Ord. No. 8582, §1, 9/25/95; Ord. No. 9293, §1, 9/27/99)



3.2.5.2.H Height of Wall or Fence within a Perimeter Yard

- I. In nonresidential zones, walls or fences, as permitted in H. above, may exceed the height requirements, provided the wall or fence complies with perimeter yard requirements applicable to buildings on the site. (Ord. No. 8582, §1, 9/25/95)

3.2.5.3 Specifically Within Residential Zones. The structures used for an accessory use within a residential zone shall comply with the following.

- A. An accessory structure shall not be a dwelling unit but may be a building that is used as sleeping quarters by the residents of the dwelling unit in accordance with Sec. 3.2.5.1.A and .B. The sleeping quarters may include bedrooms, bathrooms, and a sitting room, provided the structure complies with Sec. 3.2.5.1.C and is not the dominant use of the property. (Ord. No. 8808, §1, 1/27/97)
- B. Accessory structures shall not exceed twelve (12) feet in height, unless attached to a principal structure. If attached to the principal structure, maximum height permitted is the same as for the principal structure.
- C. Detached accessory structures are not allowed in the buildable area extending the full width of the lot between the principal structure and the front street lot line, except for terraces and steps not over three (3) feet high above the natural grade, paved areas, and fences or walls.

(Ord. No. 8582, §1, 9/25/95)

3.2.5.4 Specifically Within Nonresidential Zones. The structure used for an accessory use within a nonresidential zone shall comply with the following.

- A. An accessory structure shall not be occupied as a dwelling, except as a caretaker's facility.

- B. Accessory structures shall not exceed the height limitation of the principal structure.
- C. The area of a site occupied by an accessory use or structure shall be included as part of the lot coverage calculation.

3.2.6 PERIMETER YARDS.

- 3.2.6.1 Purpose. This Section establishes use separation criteria based on the need for open space, solar access, and privacy and on minimizing negative visual impacts between developments.
- 3.2.6.2 Application. A perimeter yard shall be provided along all lot lines. The minimum width of the perimeter yard required for each development is based on the zoning classification of the adjacent parcel(s) along each individual lot line and is listed in Sec. 3.2.6.4.
- 3.2.6.3 Measurement. The width of the perimeter yard is the distance measured horizontally from a specified point to the face of each exterior building wall at the wall's highest point. The specified point is the property line when it is an interior property line. Along a street property line, the specified point is described in Sec. 3.2.6.5. (*See Illustration 3.2.6.3.*)

A vertical structural member(s) (i.e., post, column, dormer wall) supporting a roof extension from the principal structure is considered a wall for applying perimeter yard requirements.

The perimeter yard may have different widths at various points along the same property line, because the perimeter yard width is measured to the face of each vertical exterior surface of the building.

On cul-de-sac and eyebrow front lots, the minimum street perimeter yard depth may be measured from a straight line drawn between the front lot corners, rather than measured directly from the curved front property line, except as provided in Sec. 3.2.6.5.B.2. In no case, however, shall the minimum street perimeter yard be reduced in excess of fifty (50) percent by this alternative measurement.

Where an unbroken section of a wall or a building is not parallel with the lot line, the required perimeter yard may be applied to the average width; however, such perimeter yard shall not be narrower at any point than half the required width, nor narrower at any point than three (3) feet.

DIVISION 5. PERFORMANCE CRITERIA

SECTIONS:

3.5.1	GENERAL
3.5.2	AGRICULTURAL USE GROUP
3.5.3	CIVIC USE GROUP
3.5.4	COMMERCIAL SERVICES USE GROUP
3.5.5	INDUSTRIAL USE GROUP
3.5.6	RECREATION USE GROUP
3.5.7	RESIDENTIAL USE GROUP
3.5.8	RESTRICTED ADULT ACTIVITIES USE GROUP
3.5.9	RETAIL TRADE USE GROUP
3.5.10	STORAGE USE GROUP
3.5.11	UTILITIES USE GROUP
3.5.12	WHOLESALE USE GROUP
3.5.13	GENERALLY APPLIED CRITERIA

3.5.1 GENERAL.

3.5.1.1 Purpose. To provide additional performance criteria for certain land uses in order to mitigate any adverse impacts on adjacent land uses, on the immediate neighborhood, and on the community.

3.5.1.2 Applicability. These requirements are in addition to those required of principal structures in Sec. 3.2.3.1 and Sec. 3.2.3.2 of the *Land Use Code (LUC)* and are applied only when required in a zone for a particular land use. Where the regulations in Sec. 3.2.3.1 or Sec. 3.2.3.2 and the performance criteria result in differing requirements for the same criteria (e.g., lot coverage), the specific performance criteria shall apply. (Ord. No. 9138, §1, 10/5/98)

3.5.2 AGRICULTURAL USE GROUP.

3.5.2.1 Animal Production.

A. Provisions Relating to Animals in General.

1. All structures for animals must be set back at least fifty (50) feet from all property lines, except corrals which must be set back ten (10) feet from all property lines.
2. All stables, barns, and animal sheds or shelters must be set back at least one hundred (100) feet from any property line.

B. Provisions Relating to Livestock.

1. No more than two (2) horses or two (2) head of cattle are allowed per each thirty-six thousand (36,000) square feet of lot area.
2. A stock-tight fence and necessary cattle guards shall be erected and maintained along the boundaries of any area where livestock is kept or grazed. This provision shall not apply to interior lot lines where the adjacent property is zoned IR or to open range as determined under Arizona Revised Statutes (ARS).

3. All horses, cattle, sheep, goats, or similar animals must be confined within a stock-tight fence in an area of no less than four hundred (400) square feet per animal. Such fenced-in area must be set back ten (10) feet from the rear property line where it abuts an IR, RH, SR, SH, RX-1, or RX-2 zone; forty (40) feet from the rear where it abuts any other zone; and forty (40) feet from a side property line. A setback of ten (10) feet shall be permitted on the side yard where the adjacent property owners have a written recorded agreement to this effect, but in no event shall a corral be closer than fifty (50) feet to any residence or living quarters on an abutting property.

C. Provisions Relating Specifically to Hogs.

1. No hogs are allowed.
2. No more than one (1) hog weighing more than fifty (50) pounds is allowed per each thirty-six thousand (36,000) square feet of lot area.
3. Hog-raising projects, which exceed the permitted number of hogs in Sec. 3.5.2.1.C.2, are allowed if sponsored by the 4-H Club, Future Farmers of America, or other similar nonprofit organization, provided that a letter of authorization from the sponsoring organization is submitted confirming that the project is sponsored by the organization, describing the project and stating its length of time. (Ord. No. 9392, §1, 5/22/00)
4. Hogs must be penned at least five hundred (500) feet from any property line.

D. Riding Stables or Riding Schools (other than those as a Secondary Land Use to Travelers' Accommodation, Lodging).

1. All stables, barns, and animal sheds or shelters must be set back at least two hundred (200) feet from any interior property line with residential zoning, except that the distance may be measured to the boundary of the site or subdivision to be served as a common use facility.
2. Outside audio amplification is prohibited.

3.5.2.2 Crop Production. Any greenhouse heating plant or cooling fan shall be located a minimum of two hundred (200) feet distant from every lot line.

3.5.2.3 Stockyard Operation.

- A. A commercial feedlot use must be set back at least five hundred (500) feet from any property line.
- B. Livestock auction yard.
 1. All structures, holding pens and areas, and show areas must be set back at least three hundred (300) feet from any property line.
 2. Generation of dust must be minimized.
 3. Outdoor audio amplification which would create a nuisance to adjacent properties is prohibited.

3.5.3 CIVIC USE GROUP.

3.5.3.1 Cemetery.

- A. The use must be adjacent to, or an extension of, an existing cemetery.

- B. The minimum site area is one (1) acre for a pet cemetery and five (5) acres for a human cemetery.
- C. All buildings must be set back at least one hundred (100) feet from any property line.
- D. The use is limited to the storage of cremated remains in a columbarium.

3.5.3.2 Governmental Uses. The use must be governmentally owned and operated.

3.5.3.3 Postsecondary Institutions. Teaching of only those operations or occupations which are allowed in the zoning classification of the property as permitted uses is allowed.

3.5.3.4 Correctional Use.

- A. *Intent.* The intent of these regulations is to:
 - 1. Provide for the uniform regulation of Correctional Uses.
 - 2. Limit the concentration of Correctional Uses through the imposition of dispersal requirements, except where the concentration of certain Correctional Uses is determined to be in the public interest. (Ord. No. 9239, §2, 6/14/99)
 - 3. Provide for community review of certain types of Correctional Uses through a Special Exception Land Use permit process when required by the regulations of the zoning district.
 - 4. Mitigate the negative impacts of Correctional Uses through the application of specified development criteria to Correctional Uses.
- B. *Requirements.* The requirements and restrictions set forth in this Section apply to all Correctional Uses, as determined in the regulations for the zoning districts.
 - 1. *Applicability.* The specific requirements of this Section which are applicable to a Correctional Use are listed in each zoning district which permits such use. Except as otherwise specified in this Section, the development standards and criteria for a Correctional Use are determined by the general regulations of the zoning district.
 - 2. Reserved.
 - 3. *Minimum Required Site Size.*
 - a. One (1) acre.
 - b. Five (5) acres.
 - c. Ten (10) acres.
 - d. Fifteen (15) acres.
 - e. Thirty (30) acres.
 - 4. *Maximum Number of Beds.*
 - a. The maximum number of beds allowed is forty (40).
 - b. The number of beds allowed is calculated by dividing the area of the site by twenty-two hundred (2,200) square feet, with a maximum allowed capacity of forty (40).

- c. The maximum number of beds allowed is sixty (60), with no more than forty (40) offenders in the Custodial Facility and no more than twenty (20) offenders in the Supervision Facility.
 - d. The maximum number of beds allowed is twelve hundred fifty (1,250).
5. *Separation.* A Correctional Use shall be separated from other public or private Correctional Uses, Rehabilitation Service Uses, and Shelter Care Uses, as determined by the zoning district in which the Correctional Use is located. The applicant for a Correctional Use shall provide documentation of compliance with the required separation distances. (Ord. No. 9392, §1, 5/22/00)
 - a. Twelve hundred (1,200) feet.
 - b. Twelve hundred (1,200) feet from a Supervision Facility, Rehabilitation Service, or Shelter Care and four (4) miles from a Custodial Facility or a Jail or Prison.
 - c. Twelve hundred (1,200) feet from a Supervision Facility, Rehabilitation Service, or Shelter Care; four (4) miles from a Custodial Facility; and five (5) miles from a Jail or Prison.
6. *Minimum Interior Yard Setbacks.* Minimum interior yard setbacks are required for any structure, including a fenced enclosure, and are measured to the property line.
 - a. Fifty (50) feet.
 - b. One hundred (100) feet.
 - c. Five hundred (500) feet.
7. *Building Height.* The maximum building height allowed is fifty (50) feet, except for guard towers which may be up to sixty (60) feet in height.
8. *Site Location.* The site must be located at least three hundred (300) feet from the property line to a zone boundary line of R-3 or more restrictive zoning, or for sites where Sec. 3.5.3.4.C is applicable, the three hundred (300) foot setback does not apply to residentially zoned property used for a prison or jail or to residentially zoned property used as a public right-of-way or railroad right-of-way. (Ord. No. 9239, §2, 6/14/99)
9. *Management Plan.* The applicant must submit to the Zoning Administrator and the Police Department a management plan describing the management and operation of the facility including, names and addresses of the entities that own the facility and manage the program; name and address of local responsible party; name and phone number of the responsible governmental contracting agency; names and locations of existing facilities owned or operated by the ownership or management entities; length of the contract period; types of offenders housed; number and qualifications of the staff of the facility; and an emergency plan which details how the facility will deal with emergencies and how and under what circumstances contact is made with local emergency and safety officials. Additionally, a plan for perimeter security shall be filed with the management plan. Any changes or amendments to the management plan and any change in ownership or management must be filed with the Zoning Administrator and the Police Department.
10. *Licensure.* If licensing is required for the use, proof of such licensure shall be provided prior to the issuance of a certificate of occupancy for the use. If licensure is not required, the applicant must provide documentation to that effect. (Ord. No. 9392, §1, 5/22/00)
11. *Loudspeakers.* The use of outdoor speakers is prohibited.

C. *Prison Clustering Provisions.*

1. The site area is a minimum of one hundred fifty (150) acres.
2. The site is located within one-half (1/2) mile of at least one (1) jail or prison facility owned and operated by the federal or state government, and the jail or prison has a minimum design capacity of five hundred (500) beds.
3. The project does not adversely affect adjacent land uses or surrounding neighborhoods, or such adverse effects can be substantially mitigated through the application of additional conditions.

(Ord. No. 9239, §2, 6/14/99)

3.5.3.5 Cultural Use. Cultural Uses are subject to the following performance criteria, which are not subject to variance; however, if one (1) or more of the criteria cannot be met, the Mayor and Council can modify the criteria for a specific site where there is substantial conformance with the intent of the performance criteria.

- A. The use must be set back at least one hundred (100) feet from any property line.
- B. The use must provide a visual buffer where the site is adjacent to a residential use or zone. This can be accomplished by providing, for example, a landscape buffer, setbacks of buildings or uses, or masonry screen walls.
- C. Storage of fertilizer, manure, or other odorous material located in an enclosed building shall be set back a minimum of twenty (20) feet or if located outdoors shall be set back a minimum of forty (40) feet from any property line that is adjacent to a residential use or zone.
- D. Public access to the site must be from a Major Streets and Routes (MS&R) street or from a local street that is not an internal residential neighborhood street.
- E. The impacts of noise on adjacent residential uses should be mitigated to comply with the noise regulations in Chapter 11 of the Tucson Code.
- F. Hours of operation for the cultural use, as well as any secondary use, should be detailed in the application and should be limited, in order to assure compatibility with adjacent residential uses.
- G. Outdoor lighting shall be limited in height and shielded from adjacent residential uses.
- H. The trip generation and traffic impacts on the surrounding streets will be analyzed, and mitigation measures will be provided.

(Ord. No. 9336, §1, 12/13/99)

3.5.3.6 Religious Use. The use must be set back at least eighty (80) feet from any property line.

3.5.3.7 Educational Uses. Educational Uses are subject to the following performance criteria. No variances are permitted; however, if the criteria cannot be met, the applicant can request approval through a Special Exception Land Use if permitted within the zone.

- A. *Licensing.* If licensing, certification, or similar type of approval is required by the State of Arizona for the use, proof of such licensure, certification, or approval shall be provided. Such information shall include the number of students for which the school is approved. (Ord. No. 9392, §1, 5/22/00)

Zoning compliance shall not be granted for an Educational Use which has approval from the authorizing agency for more students than can be accommodated on the site in accordance with zoning requirements.

B. *Site Area.*

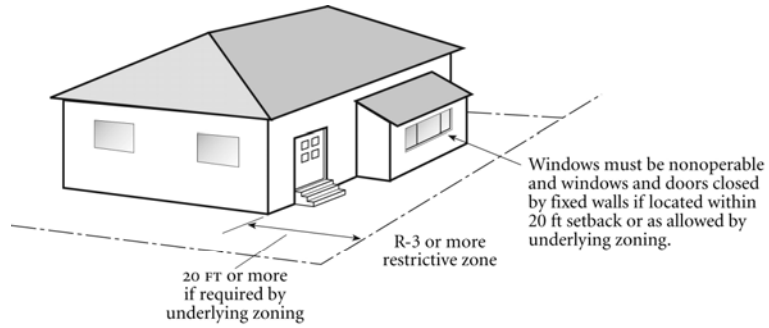
1. Except as provided below for charter schools, the minimum required site area for educational uses in residential zones is five (5) acres, unless a greater site area is required under the applicable Development Designator, or the ratio of one thousand four hundred fifty-two (1,452) square feet of site area for each student proposed for the school, whichever is greater, up to a maximum of ten (10) acres for elementary schools (Grades K-6), twenty (20) acres for middle schools (Grades 7 and 8), and forty (40) acres for high schools (Grades 9-12). For the purposes of this requirement, the number of students applied in this calculation is the number for which the school has been approved by the authorizing agency. If a maximum number of students is not stipulated as part of the approval from the authorizing agency, then the number used in the calculation shall be the amount proposed by the applicant.
2. A single family residence on less than one acre shall not be occupied as or converted into a charter school.
3. In nonresidential zones, the minimum site area shall be in accordance with the applicable Development Designator for the use.

C. *Hours and Days of Operation.* Educational Uses within Neighborhood Commercial (NC) or more restrictive zoning are limited in hours of operation to 6:00 a.m. to 7:00 p.m., Monday through Friday only.

D. *Outdoor Activity.* All outdoor activity shall be held more than fifty (50) feet away from the property line where adjacent to R-3 or more restrictive zoning. The use of loudspeakers, amplifiers, or similar type equipment outdoors is not permitted on the school site within one hundred (100) feet of the property line where adjacent to R-3 or more restrictive zoning.

E. *Vehicular and Pedestrian Access.* Vehicular and pedestrian access to the Educational Use site must be from a street designated as a major street by the Major Streets and Routes (MS&R) Plan or from a local street other than an internal residential neighborhood street for sites zoned C-1 or more restrictive zoning.

F. *Building Setback.* The minimum building setback from all property lines adjacent to R-3 or more restrictive zoning is twenty (20) feet, unless the setback requirements of the applicable Development Designator are greater. Building setbacks may be reduced from the twenty (20) feet to the setback required under the applicable Development Designator if there are no openings on the side of the building adjacent to R-3 or more restrictive zoning. If the building wall is parallel to the property line, only that side of the building facing the property line must have no openings. If the building is not parallel to the property line, there may be no openings within twenty (20) feet of the property line. For the purposes of this Section, "no openings" means all windows and doors are closed by fixed walls or nonoperable windows. Where openings are not allowed, an emergency exit door, which can only be opened from inside the building and has an alarm, is allowed. (*See Illustration 3.5.3.7.F.*)



3.5.3.7.F Building Setback for Educational Uses

- G. *Passenger Drop-Off Areas.* Passenger drop-off parking areas shall be provided at a ratio of one (1) motor vehicle parking space (parallel) for every twenty (20) students for which the school is authorized, up to a total of eight (8) spaces using two lanes with the parking on the inside lane. These spaces are in addition to the required off-street parking spaces.

(Ord. No. 9075, §1, 6/15/98)

3.5.4 COMMERCIAL SERVICES USE GROUP.

3.5.4.1 Animal Service.

- A. Overnight confinement for clinic treatment is permitted for a maximum of five (5) animals.
- B. No boarding of animals is permitted.
- C. The activity must be within a completely enclosed building.
- D. An outpatient clinic is permitted for small animals only.
- E. Structures, shelters, animal runs, and fenced areas must be set back at least one hundred (100) feet from any property line abutting residentially zoned property.
- F. Structures, shelters, animal runs, and fenced areas must be set back at least one hundred (100) feet from any property line.
- G. The use shall be set back at least two hundred (200) feet from any residential zone.

*Artisan Residence. See 3.5.4.28 (Ord. 10477, §5, 11/13/07)

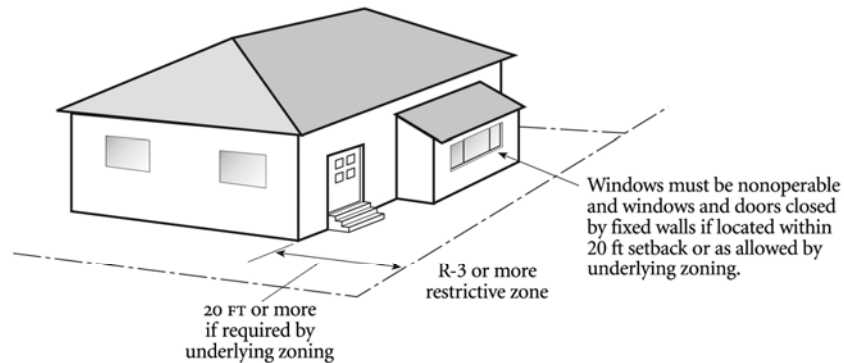
3.5.4.2 Automotive - Service and Repair.

- A. No auto washing.
- B. The service building shall be limited in design to accommodate no more than two (2) vehicles at any time. Vehicle space size shall be a maximum of ten (10) by twenty-five (25) feet.
- C. The use must occur within an enclosed building with one (1) access per bay, not on the side toward any residential zone.
- D. The building walls shall have no openings, other than nonopening windows, within thirty (30) feet of the adjacent residential zone boundary line.
- E. Auto washing, limited to a self-service, coin-operated car wash, shall be allowed on the premises. No more than six (6) bays using hand-operated, wand-type equipment or more than one (1) bay using nonconveyor, automatic equipment are permitted, and vacuum equipment shall be located at least one hundred (100) feet from any residential zone.
- F. The maximum floor area is two thousand (2,000) square feet.
- G. Limited to one (1) automatic in-bay car wash which shall not include conveyors or motorized air-drying. It shall be enclosed within a structure except at points of ingress and egress, have a maximum floor area of six hundred (600) square feet, and not exceed twelve (12) feet in height.

3.5.4.3 Child Care in Residential and Office Zones Criteria.

- A. *Dispersal.* A six hundred (600) foot separation between child care centers in residential zones is required. Child care centers that provide only before- and after-school programs at elementary and secondary school sites are not considered for the purposes of this separation. The separation distance is measured from property lines, except in the case of a child care center on a mixed use development site where the separation is measured from that portion of the site devoted to the child care use.
- B. *Licensing.* If licensing is required by the State of Arizona for the use, proof of such licensure shall be provided prior to issuance of a certificate of occupancy. (Ord. No. 9392, §1, 5/22/00)

- C. *Hours and Days of Operation.* Child care centers adjacent to R-3 or more restrictive zoning are limited in hours of operation to 6:00 a.m. to 7:00 p.m. and to operation Monday through Friday only, except as provided in Sec. 3.5.4.3.I.
- D. *Building Setback.* The minimum setback from all property lines adjacent to R-3 or more restrictive zoning is twenty (20) feet unless the setback requirements of the zone are greater. Buildings may be located closer than twenty (20) feet to such property lines if there are no openings on the side of the building adjacent to R-3 or more restrictive zoning, in which case the setbacks in the general provisions of the zone apply. If the building wall is parallel to the property line, only that side of the building facing the property line must have no openings; if the building is not parallel to the property line, there may be no openings within twenty (20) feet of the property line. For the purposes of this Section, "no openings" means all windows and doors are closed by fixed walls or nonoperable windows. Where openings are not allowed, an emergency exit door, which can only be opened from inside the building and has an alarm, is allowed. (See Illustration 3.5.4.3.D.)



3.5.4.3-D Building Setback for Child Care in Residential and Office

- E. *Recreational Areas.* Minimum distance of outdoor recreational areas, including, but not limited to, swimming and wading pools, ball fields, and playground equipment, to any adjacent property in R-3 or more restrictive zoning is twenty-five (25) feet. Where abutting a street or alley, the setback is measured to the centerline of a right-of-way. A wall is required between a recreation area provided on site and adjacent to R-3 or more restrictive zoning.
- F. *Number of Children.* The maximum number of children cared for is as follows.
 1. Thirty (30) children.
 2. One hundred (100) children.
 3. Unlimited number of children.
- G. *Site Size.* The minimum required site size is as follows. In no case will a site larger than ten (10) acres be required.
 1. Six and six-tenths (6.6) acres in RH and SR.
 2. Seventy-two thousand (72,000) square feet in SH and RX-1.
 3. Thirty-two thousand (32,000) square feet in RX-2.
 4. Fourteen thousand (14,000) square feet in R-1, R-2, and O-2.
 5. Ten thousand (10,000) square feet in R-3 and O-3.

6. The minimum required site size is equal to the minimum site size required for the zone in Sec. 3.5.4.3.G.1, .G.2, .G.3, or .G.4 for the zoning district, divided by thirty (30) and multiplied by the maximum enrollment for which the center is licensed.
 7. The minimum required site size is equal to two hundred (200) square feet per child, multiplied by the maximum enrollment for which the center is licensed, plus four thousand (4,000) square feet.
- H. *Street Frontage.* The center must front on a Major Streets and Routes (MS&R) street with no vehicular access to the site from a local street or on a local street within a nonresidential development. The street frontage requirements do not apply to a child care center located on an elementary school site if the child care center is in conformance with the dispersal, licensing, recreational area and building setbacks, hours and days of operation limitations, and site coverage criteria.
- I. *Extended Hours for Any Number of Children.* In addition to the requirements of Sec. 3.5.4.3.A, .B, .D, and .H, a child care use which operates before 6:00 a.m. or after 7:00 p.m. or on Saturday or Sunday where the site is adjacent to R-3 or more restrictive zoning shall comply with the following.
1. *Site Size.* The minimum site size for a child care center with extended hours of operation or weekend operation is two and one half (2.5) acres, except in RH and SR where the minimum site is ten (10) acres.
 2. *Building Setback.* The minimum building setback is seventy-five (75) feet from a property line adjacent to R-3 or more restrictive zoning.
 3. *Recreational Areas.* Outdoor recreational areas, including, but not limited to, swimming and wading pools, ball fields, and playground equipment, shall be screened and set back from any property line adjacent to R-3 or more restrictive zoning as follows.
 - a. A wall, as defined in screening materials, is required between a recreational area and the adjacent property line.
 - b. The minimum setback from the adjacent property in R-3 or more restrictive zoning is one hundred (100) feet. Where abutting a street, alley, drainageway, or other right-of-way, the setback is measured to the centerline of a right-of-way.
 - c. A reduction to the required recreational area setback may be requested in accordance with Sec. 5.3.3, Variances, if the reduction meets the requirements set forth for Special Exception Land Uses. (Ord. No. 9179, §1, 12/14/98)
 4. *Vehicular Use Areas.* Vehicular use areas must be designed so that no more than fifty (50) percent of the parking spaces provided are within fifty (50) feet of an interior property line adjacent to R-3 or more restrictive zoning.

3.5.4.4 Entertainment.

- A. A circus, carnival, or tent show is allowed for no longer than fifteen (15) days.
- B. Circuses, carnivals, and tent shows are subject to zoning compliance review and approval through Zoning Compliance Review, Sec. 23A-31. (Ord. No. 9967, §3, 7/1/04)

- C. A circus, carnival, or tent show shall be set back one hundred (100) feet from the activity to the lot line of any residential use or zone.
- D. Motor vehicle parking areas and bicycle facilities for a circus, carnival, or tent show shall be dustproofed, and access to the vehicular use areas shall be identified and controlled to minimize vehicular and pedestrian conflicts.
- E. The use shall be set back at least two hundred (200) feet from any property line.
- F. Concerts, dances, and other similar high-noise activities will be conducted entirely within an enclosed building, or the activity shall be set back six hundred (600) feet or more from adjacent residentially zoned property. When the activity occurs outdoors, the high-noise activity will be directed away from residential areas. Modification of this criterion may be permitted by the Mayor and Council through the Special Exception Land Use process provided:
 - 1. All speakers and similar sound projecting devices are oriented away from adjacent residentially zoned properties;
 - 2. The applicant will develop a noise mitigation plan for the use based on the specific activities proposed and the proximity of such activities to the residential property line;
 - 3. Noise levels are continuously monitored during the performance, and noise emission standards are enforced by a cultural use employee (or designee); and
 - 4. The performance ends no later than 10:00 p.m.

(Ord. No. 9336, §1, 12/13/99)

3.5.4.5 Financial Service.

- A. Limited to a maximum of three (3) drive-through service lanes, with one (1) restricted to drive-through automated teller machine (ATM) service only.
- B. The use shall be set back at least one hundred (100) feet from any property line.
- C. No non-chartered financial institution facilities, such as payday loan facilities, except where permitted as a special exception under Sec. 3.5.4.5.D (Ord. No. 10252, §2, 2/28/06)
- D. Non-Chartered financial institutions require approval as a special exception by the Zoning Examiner in accordance with procedures set forth in Sec. 5.3.9 and Zoning Examiner Full Notice Procedure, Sec. 23A-53 and provided that: (Ord. No. 10252, §2, 2/28/06)
 - 1. A non-chartered financial institution site shall be separated from other non-chartered financial institution sites by a distance of one-thousand, three hundred and twenty feet (1,320) (Ord. No. 10252, §2, 2/28/06)
 - 2. A non-chartered financial institution site shall be located at least five-hundred (500) feet, measured in a straight line, from the property line to a zone boundary line of R-3 or more restrictive zoning.(Ord. No. 10252, §2, 2/28/06)

3.5.4.6 Food Service.

- A. Activities may be conducted outdoors, except that, if the use is within six hundred (600) feet from the nearest residential zone, no loudspeakers or music, live or recorded, are permitted. (Ord. No. 8582, §1, 9/25/95)

- B. No dancing is allowed, and no drive-in or drive-through restaurants are allowed.
- C. Soup kitchens are not allowed.
- D. Soup kitchens shall comply with the following criteria.
 - 1. The use shall be conducted within a completely enclosed building.
 - 2. Seating is provided at one hundred (100) percent of the meal service capacity.
 - 3. A waiting area shall be provided within the building for a minimum of one-half (1/2) of the total number of persons to be served.
 - 4. Public rest rooms are provided.
 - 5. No other soup kitchen use is located within one (1) mile.

3.5.4.7 Sale of Spirituous Liquor in Conjunction with Food Service Use.

- A. The Food Service establishment provides regular meal service at regularly available tables during all hours of operation or until 10:00 PM to guests for compensation. The establishment must have kitchen facilities for keeping, cooking, and preparing foods for meals. (Ord. No. 10387 §2, 4/10/07)
- B. The Food Service establishment has seventy-five (75) seats or more for the serving of meals at regularly available tables for all hours of operation. Seating at counters, in private banquet rooms, and outdoor seating shall not count toward the minimum seventy-five (75) seat requirement.
- C. The Food Service establishment may serve alcoholic beverages with meals; however, an area separate from the Food Service use shall not be provided with tables, counter areas, and/or booths for persons to sit at primarily for service of alcoholic beverages operating as an Alcoholic Beverage Service establishment, unless:
 - 1. The Food Service establishment has seventy-five (75) seats or more for the serving of meals at tables (seating at counters, in banquet rooms, and outdoor seating shall not count toward the seventy-five [75] seat requirement) which are available at all hours of operation; and
 - 2. The Alcoholic Beverage Service area does not exceed, in size, twenty-five (25) percent of the Food Service floor area, including any Food Service outdoor area; and
 - 3. The Alcoholic Beverage Service area does not have an outside public entrance separate from the main entrance to the Food Service use.
- D. The Food Service establishment may serve, in addition to beer and wine, other alcoholic beverages.
- E. Reserved. (Ord. No. 10387, §2, 4/10/07)
- F. A Food Service use with more than seventy-five (75) seats for the serving of meals at tables which are available at all hours of operation may have a dance floor, provided such dance floor is not larger than two hundred (200) square feet. Seating at counters, in banquet rooms, and outdoor seating shall not count toward the seventy-five (75) seat requirement.
- G. Reserved. (Ord. No. 10387, §2, 4/10/07)
- H. Signs are not permitted in or on a window or on the exterior of any building or structure within the project that is visible from a public street or adjacent residentially zoned property identifying or advertising the Alcoholic Beverage Service use or the sale of spirituous liquors.

- I. Alcoholic beverages shall not be provided with drive-in or drive-through services.
- J. Alcoholic Beverage Service may be provided outdoors if the outdoor area is a minimum of one hundred (100) feet from residentially zoned property excluding public right-of-way, or is separated by a building from adjacent residentially zoned property. If the use is within six hundred (600) feet of a residential zone, no loudspeakers or music, live or recorded, is permitted. (Ord. No. 10387, §2, 4/10/07)
- K. A Food Service establishment that is located within 300 feet of a residential zone, excluding public right-of-way, measured in a straight line from the licensed premises to the zone boundary line of R-3 or more restrictive zoning may serve alcoholic beverages upon conformance with the following conditions:
 - 1. The applicant is required to submit a mitigation plan to the Development Services Director, which will be reviewed in accordance with T.C. Sec. 23A-50 and 23A-51. The mitigation plan shall specifically address noise from the use, including parking lot noise, screening of lighting from vehicle headlights and light standards on site, parking, and access to adjacent neighborhoods, but shall not address issues which are the purview of the Arizona Department of Liquor Licenses and Control, such as the number of liquor licenses in the area or the hours of liquor sales.
 - 2. If the use is operated in a manner that violates the mitigation plan or conditions for permitting the use or causes adverse land use impacts, the use may be suspended or terminated in accordance with T.C. Sec. 23A-54. (Ord. No. 8666, §1, 3/25/96; Ord. No. 10387, §2, 4/10/07)

3.5.4.8 Medical Service.

- A. The use will provide a minimum of one (1) off-street loading space or the number of spaces required per Article III, Division 4, whichever is greater.
- B. Blood donor centers are not allowed.
- C. Blood donor centers shall comply with the following criteria.
 - 1. The site is not located in the same block as a residential zone or any elementary or secondary school or Day Care use.
 - 2. The site is located at least three hundred (300) feet, measured in a straight line, from the property line to a residential zone boundary line or the property line of an elementary or secondary school.
 - 3. A waiting area equal to ten (10) percent of the gross floor area is provided.
 - 4. No other blood donor center is located within twelve hundred (1,200) feet.

3.5.4.9 Medical Service in Residential and Office Zones Criteria.

- A. The facility fronts on a street on the Major Streets and Routes (MS&R) Plan or on a residential street, provided:
 - 1. The residential street intersects a street on the MS&R Plan, and
 - 2. The property is within one hundred fifty (150) feet of a street on the MS&R Plan, measured along the residential street.
- B. Minimum Setbacks.
 - 1. A minimum building setback of twenty (20) feet from any interior lot line adjoining residential zoning is required.

2. A minimum building setback of one hundred (100) feet from any property line is required.
- C. Requests to vary the provisions of this Section, including setbacks for existing or new buildings, are processed in accordance with Sec. 5.3.3, Variances. (Ord. No. 9179, §1, 12/14/98)
- D. If licensing is required by the State of Arizona for the use, proof of such licensure shall be provided. (Ord. No. 9392, §1, 5/22/00)

3.5.4.10 Secondary Uses to Major Medical Service and Outpatient Medical Service.

- A. The use must be located within a principal building.
- B. Access to the use must be from within the principal building or from the interior of the development.
- C. No merchandise or supplies may be stored or displayed outside a completely enclosed building.
- D. There shall be no sign associated with the secondary use visible from any public street.
- E. The sale of items is restricted to those customarily associated with medical services.

3.5.4.11 Office Zone Compatibility Criteria.

- A. Chain link fencing may not be used to meet screening requirements.
- B. Refuse areas must be set back at least twenty (20) feet from street property lines and interior property lines abutting a residential use or zone, except when alley pickup is approved by the Solid Waste Management Department.
- C. Refuse areas must be screened from the street with materials similar to those of the principal structure.
- D. Noise-generating equipment must be located in an area away from adjacent residential uses or vacant residentially zoned property.
- E. Vehicular access must be from other than internal residential neighborhood streets. (Ord. No. 8808, §1, 1/27/97)
- F. Consolidation of parking areas and access points is required for sites with multiple buildings. Consolidation of parking areas and access points is encouraged for adjoining sites.
- G. New construction is reviewed by the Design Board (DRB) for architectural and site design compatibility with the surrounding residential area. The DRB review will include architectural style, building elevations, materials on exterior facades, color schemes, new mechanical equipment locations, lighting of outdoor areas, window locations and types, screening, landscaping, vehicular use areas, and other contributing design features. The DRB recommendation is made to the Development Services Department Director for determination of compatibility. The DRB must find that: (Ord. No. 9967, §3, 7/1/04)
 1. The building materials on the exterior facade are compatible with those used within the neighborhood block.
 2. Color schemes of the new structure must be compatible with those of the developments on the block face.
 3. The exterior facade of new construction is of a residential type architecturally if adjacent to a residential use or vacant residentially zoned property.

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4. The building scale of new construction complements, rather than is dominant in scale to, adjacent projects.
 5. Any new mechanical equipment located on the roof must be screened; the screen shall be integrally designed as part of the architectural style of the building. If this cannot be done, the equipment shall be located at ground level and screened from the street.
- 3.5.4.12 "P" Parking Zone Criteria. Parking is restricted to at or below grade. Structures to cover at-grade parking are allowed.
- 3.5.4.13 Personal Service.
- A. Laundry facilities will not exceed three thousand (3,000) square feet of floor area.
 - B. An attendant must be on the premises during all open hours.
 - C. No more than twenty-four (24) dry cleaning units are permitted.
 - D. The maximum floor area is two thousand (2,000) square feet.
- 3.5.4.14 Research and Product Development.
- A. All land use operations, including storage, must be housed within a completely enclosed building. Vehicular use areas do not have to be located within enclosed buildings.
 - B. The minimum lot size requirement is ten thousand (10,000) square feet.
 - C. Every building must be set back from property lines adjacent to residential uses or zones a distance equal to three (3) times the height of the building.
- 3.5.4.15 Trade Service and Repair, Major. If located within thirty (30) feet of a residential use or zone, the building walls shall have no openings, other than nonopening windows, within thirty (30) feet of the adjacent residential use or zone boundary line.
- 3.5.4.16 Technical Service.
- A. Gross floor area is limited to a maximum of fifteen hundred (1,500) square feet.
 - B. Gross floor area is limited to a maximum of thirty-five hundred (3,500) square feet.
- 3.5.4.17 Secondary Uses to Travelers' Accommodation, Lodging.
- A. The minimum distance to any public street is one hundred (100) feet.
 - B. Outside entrances must not face any public street.
 - C. The use is operated for the convenience of the guests.
 - D. When the Alcoholic Beverage Service use is provided in an area set aside from the Food Service area, such as a bar or cocktail lounge, that area of the Alcoholic Beverage Service use shall not have an outside public entrance separate from the entrance to the principal use.
 - E. The total area of retail and service establishments shall not exceed five (5) percent of the total floor area.
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- F. Animal-Related Uses.
1. No more than one (1) animal for each ten thousand (10,000) square feet of site area.
 2. No stable or corral shall be located within one hundred (100) feet of any property line or within three hundred (300) feet of any existing buildings on an adjacent property at the time of the improvement.
 3. No stable or corral shall be located or maintained closer than fifty (50) feet to any property line or closer than one hundred (100) feet to any school, park, public street (excepting an alley), or dwelling on adjoining properties.
- G. Travelers' Accommodation, Lodging, must have at least fifty (50) rooms for transient lodging.
- H. Alcoholic Beverage Service may be provided outdoors if the outdoor area is a minimum of one hundred (100) feet from residentially zoned property or is separated by a building from adjacent residentially zoned property. If the use is within six hundred (600) feet of a residential zone, no loudspeakers or music, live or recorded, is permitted.
- I. Alcoholic beverages shall not be provided with drive-in or drive-through services.
- J. No alcoholic beverages, except beer and wine, shall be served.
- K. Signs are not permitted in or on a window or on the exterior of any building or structure visible from a public street or from adjacent residentially zoned property identifying or advertising the Alcoholic Beverage Service use or the sale of spirituous liquors.

(Ord. No. 8666, §1, 3/25/96)

3.5.4.18 Administrative and Professional Office. Maximum floor area is two thousand (2,000) square feet.

3.5.4.19 Alcoholic Beverage Service and Entertainment.

- A. Maximum floor area is two thousand (2,000) square feet.
- B. Large bar or dance hall.
1. *Minimum Setbacks.* Setbacks for the following use areas are measured from the use area to a zone boundary line of R-3 or more restrictive zoning.
 - a. Outdoor Use Area: Five hundred (500) feet.
 - b. Parking Area: Two hundred (200) feet.
 - c. Loudspeakers: Five hundred (500) feet.
 - d. The Zoning Examiner may authorize a reduction to the required setbacks if special physical circumstances exist that will still mitigate any negative impacts.
 2. *Security Management Plan.* The applicant must submit to the Zoning Administrator and the Police Chief a security management plan describing the method and operation of security within and outside the building, including the parking area. Any changes or amendments to the plan must be filed with, and approved by, the Zoning Administrator and the Police Chief.

3. *Access.* Access shall be either from a street shown on the Major Streets and Routes (MS&R) Map with no vehicular access to the site from a local street or from a local street within a nonresidential development.

C. Large bars and dance halls are prohibited.

3.5.4.20 Communications.

- A. Limited to a radio or television station, provided the buildings do not occupy more than thirty (30) percent of the site and are set back at least fifty (50) feet from any adjoining C-1 or more restrictive zoned property.
- B. Provider's Communication Plan. Each wireless communication provider shall provide a plan of its facilities to the City prior to any application for the installation of a tower or antennae. The plan shall cover the entire city and within three (3) miles of the city limits. The plan shall include the following.
 1. All of the provider's existing towers and antennae, by size and type, and their coverage areas.
 2. All presently anticipated future service areas and the types of antennae and heights desired for each of the service areas.
 3. The various types of antennae and towers used by the provider to furnish service and when they are used. This includes drawings providing the sizes and shapes of the antennae and equipment and written materials describing their application.
 4. The provider's policy direction for the mitigation and/or reduction of existing and proposed towers and antennae to avoid the negative proliferation of such facilities.
 5. The provider's policy direction on the mitigation and/or the reduction of the negative visual impact created by existing or proposed towers and antennae, including any proposals to conceal or disguise such facilities designed to be architecturally and/or environmentally compatible with their surroundings. (Ord. No. 8899, §1, 7/7/97)
 6. The provider's policy direction on collocation of antennae on their own facilities or on ones from other providers or on other structures which provide the verticality required for the antennae. The policy shall also provide that the provider shall not enforce any requirement by an owner of property which would prohibit collocation.
 7. Designation of an agent of the provider who is authorized to receive communications and notices pursuant to this Section. (Ord. No. 8899, §1, 7/7/97)
- C. General. The following are applicable to all wireless communication requests.
 1. Noninterference with Public Safety. No wireless communication transmitter, receptor, or other facility shall interfere with police, fire, and emergency public safety communications. The Director of Operations for the City is authorized to determine whether any transmitter, receptor, or other facility has interfered with public safety communications or is reasonably believed to be an imminent threat to public safety communications. Upon making that determination, the Director of Operations shall notify the Zoning Administrator and the provider responsible for that facility. The Zoning Administrator may obtain a temporary restraining order from the City Court with or without notice to enforce this Section, provided a hearing is scheduled within five (5) days of the Court's order. (Ord. No. 8899, §1, 7/7/97)

2. All applications for towers/antennae will be reviewed by the Communications Division of the City of Tucson Operations Department and any other appropriate public safety department to ensure that the proposed installation of the towers/antennae will not interfere with any public safety communications or operations of the City. All applications shall include a certification by a registered or electrical engineer that each proposed antenna or tower will be in compliance with all standards established by the Federal Environmental Protection Agency and Federal Communications Commission (FCC) regarding potential health and safety hazards. Submittal of information and review of the application by the Department of Operations shall be in accordance with a Development Standard. (Ord. No. 8899, §1, 7/7/97)
3. Any antenna or tower for which the use is discontinued for six (6) months or more shall be removed, and the property shall be restored to its condition prior to the location of the antenna or tower, all at the expense of the provider. The City may require financial assurances to ensure compliance with this provision.
4. No new towers shall be permitted within four hundred (400) feet of a designated Scenic Route or Gateway Route; within a designated Historic Preservation Zone (HPZ) or Environmental Resource Zone (ERZ); or on a protected peak or ridge as identified in a Hillside Development Zone (HDZ) except as follows:
 - a. Communication towers and antennae are permitted on a protected peak or ridge that was used for such facilities prior to March 3, 1997, provided any new antennae and towers do not increase the area already disturbed and the placement of any new towers in such areas is approved as a special exception through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §3, 7/1/04)
 - b. New antennae may be permitted under Sec. 3.5.4.20.D and .E if they also comply with the purposes and review procedures of the overlay zone.
 - c. New communication towers may be permitted on Gateway Routes in exceptional circumstances, provided there is no alternative and the placement is approved through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. (Ord. No. 9967, §3, 7/1/04)

(Ord. No. 8899, §1, 7/7/97)

5. The provisions of the applicable Development Designator as applicable to towers and antennae are superseded by the provisions of Sec. 3.5.4.20.D and by the height and setback provisions of Sec. 3.5.4.20.E, .F, and .G. (Ord. No. 8899, §1, 7/7/97)
6. All proposed wireless communication towers and antennae shall be in compliance with all Federal Communications Commission (FCC) regulations, including those protecting the public health and those protecting historic districts.
7. Submittal Requirements. The following information is to be submitted with each application for the installation of a tower or antenna.
 - a. An updated Provider's Communication Plan, including any proposed changes in the service areas, antennae, towers, or policy direction.
 - b. The proposed antennae/tower location, the type of antennae/tower, and the proposed service area. (Ord. No. 8899, §1, 7/7/97)
 - c. A statement of compliance with FCC requirements and specifically the areas listed in Sec. 3.5.4.20.C.6.

- d. If the proposed installation involves a new tower, then the following information is required.
 - 1. The searched area for the proposed location.
 - 2. All existing structures, buildings, towers, etc., of greater than twenty (20) feet in height located within the searched area.
 - 3. A report on why collocation within the search area is not a viable alternative.
 - e. Any technological or engineering requirements which effect or limit the location, height, or construction of the proposed tower/antennae should be included in reports.
- D. The following requires approval through a Zoning Compliance Review, Sec. 23A-31. The Development Services Department Director may forward the request to the Design Review Board (DRB) for design review and recommendation. (Ord. No. 9967, §3, 7/1/04)
- 1. Wireless communication antennae, provided:
 - a. The antennae are mounted on the wall or roof of a building, or concealed within an architectural or structural element of the building, not exceeding the permitted height of the building.
 - b. The antennae and tower, or architectural or structural element, are architecturally and/or environmentally compatible with the building and general area.
 - c. Wall or roof mounted antennae are limited to six (6) feet above the building, or to fifteen (15) feet if the antennae are mounted on top of the roof, the building is forty (40) feet high or taller, and no more than six (6) feet of the antennae can be seen from any point on the street which is a distance from the building equal to the height of the building.
 - 2. Wireless communication antennae, provided:
 - a. The antennae are mounted on an existing structure within public right-of-way or public property.
 - b. The antennae are architecturally and/or environmentally compatible with the structure and general area.
 - c. The existing structure may be extended up to ten (10) feet in height to allow for the placement and architectural treatment of the new antennae.
 - d. The new antennae do not substantially increase the visual mass of the existing facility.

(Ord. No. 8899, §1, 7/7/97)

- E. The following requires approval through a Limited Notice Procedure, Sec. 23A-40. The Development Services Department Director shall forward the request to the Design Review Board (DRB) for design review and recommendation. (Ord. No. 9967, §3, 7/1/04)
- 1. Wireless communication antennae, provided:
 - a. The antennae are mounted on or within a new tower or structure in a manner which conceals or disguises the antennae or new tower. For purposes of this subsection, painting may be a method of concealing or disguising a tower.

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- b. The tower, antennae, and structure are architecturally and/or environmentally compatible with the surrounding structure(s) and general area.
 - c. A new tower is set back at least two (2) times the height of the tower structure from the boundary of any other property zoned residential or office.
 - d. The tower and antennae are fifty (50) feet or less in height.
2. Wireless communication antennae, provided:
 - a. The antennae are collocated on an existing wireless communication tower.
 - b. The antennae and tower are architecturally and/or environmentally compatible with the surrounding structure(s) and general area.
 - c. The existing tower is set back at least the height of the tower structure from the boundary of any other property zoned residential or office.
 - d. The existing tower may be replaced and/or extended up to six (6) feet in height to allow for the placement and architectural treatment of the new antennae.
 - e. The maximum extension of the new antennae and associated attachments shall not exceed thirty-six (36) inches as measured perpendicular to the tower at the point of attachment.
 3. Wireless communication antennae, provided:
 - a. The antennae are mounted on a new tower or an existing structure in a manner that is designed or painted so as to minimize their visual impact.
 - b. The tower and antenna are architecturally and/or environmentally compatible with the existing structures and general area.
 - c. The tower is set back a minimum of five hundred (500) feet from nonindustrially zoned property except where the nonindustrially zoned property is used as an interstate highway or railroad.
 - d. The tower and antennae are eighty (80) feet or less in height.

(Ord. No. 8899, §1, 7/7/97)

F. The following requires approval as a special exception through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. The Zoning Examiner may forward the request to the Design Review Board (DRB) for design review and recommendation. (Ord. No. 9967, §3, 7/1/04)

1. Wireless communication antennae, provided:
 - a. The antennae are mounted on a new tower and the tower and antennae are concealed or disguised, or the antennae are collocated on an existing structure.
 - b. The tower and antennae are architecturally and/or environmentally compatible with the surrounding structure(s) and general area.
 - c. A new tower is set back at least two (2) times the height of the structure from the boundary of any property zoned residential or office.
 - d. The tower and antennae are fifty (50) feet or less in height.

2. Wireless communication antennae, provided:
 - a. The antennae are mounted on a new tower and the tower and antennae are concealed or disguised, or the antennae are collocated on an existing structure.
 - b. The tower and antennae are architecturally and/or environmentally compatible with the surrounding structure(s) and general area.
 - c. A new tower is set back at least two (2) times the height of the structure from the boundary of any property zoned residential or office.
 - d. The tower and antennae are eighty (80) feet or less in height.

(Ord. No. 8899, §1, 7/7/97)

G. The following requires approval as a special exception through a Zoning Examiner Legislative Procedure, Sec. 5.4.1 and Sec. 5.4.3. The Mayor and Council may forward the request to the Design Review Board (DRB) for design review and recommendation. (Ord. No. 9967, §3, 7/1/04)

1. Wireless communication antennae, provided:
 - a. The tower or antennae are not permitted by other provisions of this Section. (Ord. No. 8899, §1, 7/7/97)
 - b. New towers require a minimum separation of one (1) mile from any existing tower, regardless of ownership, unless documentation establishes that no practical alternative exists. (Ord. No. 8899, §1, 7/7/97)
 - c. All appropriate measures shall be taken to conceal or disguise the tower and antenna from external view.
 - d. All appropriate measures shall be taken to reduce the negative proliferation of visible towers and antennae by the collocation of new antennae on existing towers or with the facilities of other providers which are located or planned for development within the proposed service area.
 - e. Notice shall be provided to all agents designated, pursuant to Sec. 3.5.4.20.B.7, at least fifteen (15) days prior to the date of the public hearing before the Zoning Examiner.

(Ord. No. 8813, §1, 3/3/97)

3.5.4.21 Construction Service.

- A. The use must be set back at least one hundred (100) feet from any property line.
- B. The yard is to be completely enclosed by screening a minimum of six (6) feet in height.

3.5.4.22 Funeral Service.

- A. A crematorium shall be set back a minimum of two hundred (200) feet from any property line.
- B. A crematorium shall be set back a minimum of five hundred (500) feet from any boundary of the site which adjoins property in a residential zone.

3.5.4.23 Transportation Service, Air Carrier.

- A. The minimum site area is as required by the Federal Aviation Agency (FAA) for the airport facility. The site area shall not be less than permitted by the underlying zoning.
- B. The application for this use must contain the following information.
 - 1. The type, weight, and noise impact in decibel levels of aircraft using the site.
 - 2. The proposed hours of operation.
 - 3. An estimate of flight frequency.
 - 4. An FAA airspace letter of determination stating no objection, with or without conditions, to the proposed facility.
 - 5. A statement describing the impact of the airport on the Regional Aviation System Plan.
- C. The site plan accompanying the application must show the following, in addition to the information required in Development Standard 2-02.0.
 - 1. Runway, including markings and identification.
 - 2. Aircraft parking, maintenance, and fueling areas and other peripheral areas.
 - 3. Fencing, screening, and safety barriers.
 - 4. Accessory structures and equipment, including fire-fighting equipment.
- D. The Mayor and Council may restrict the number of flights and hours of operation due to the proximity and intensity of noise-sensitive land uses.
- E. Length. The length required for safe operation as shown in the flight manual of the largest aircraft to use the site and an additional two hundred forty (240) feet at each end of the runway.
- F. Width. Two hundred forty (240) feet centered on the runway.

3.5.4.24 Travelers' Accommodation, Campsite.

- A. The use is in conjunction with, and within, a mobile home park.
- B. The overall number of mobile home spaces and campsites shall not exceed the overall density allowed for the mobile home park.
- C. The campsite area shall not be located adjacent to a non-mobile home residential zone.
- D. Access to the area shall be through the mobile home park.
- E. The area complies with the mobile home park development criteria.
- F. No more than twenty-five (25) percent of the total spaces in the mobile home park can be used for the campsite use.

3.5.4.25 Adult Day Care.

- A. The use is for a maximum of ten (10) persons, or if operated in conjunction with an Adult Care Service, the number of clients together with the number of residents cannot exceed the total allowed for the Adult Care Service.
- B. The use must comply with one (one) of the following.
 - 1. For a maximum of fifteen (15) persons.
 - 2. For an unlimited number of persons with a minimum lot size of twenty thousand (20,000) square feet.
 - 3. If operated in conjunction with an Adult Care Service, the number of clients together with the number of residents cannot exceed the total allowed for the Adult Care Service.

3.5.4.26 Billboards.

- A. *Pedestrian Access.* Pedestrian access shall not be located under, or within five (5) feet of, a vertical line intersecting the ground and any structural element extending from a billboard, including, but not limited to, overhangs, cantilevered beams, and elevated walkways. Refer to Sec. 3.2.8.4, Pedestrian Facilities.
- B. *Parking.* Parking area access lanes shall not be located under, or within five (5) feet of, a vertical line intersecting the ground and any structural element extending from a billboard, including, but not limited to, overhangs, cantilevered beams, and elevated walkways. Refer to Sec. 3.3.3.6 for locational requirements of parking spaces. (Ord. No. 10886, §6, 03/22/11)
- C. *Loading.* Refer to Sec. 3.4.5 for loading (servicing) space requirements and Sec. 3.4.4.1 for locational requirements for such loading spaces.
- D. *Landscaping and Screening.* Refer to Table 3.7.2-I for landscaping and screening requirements for billboards.

(Ord. No. 8610, §1, 11/27/95)

3.5.4.27 Trade Service and Repair, Minor.

- A. Excludes the repair and replacement of upholstery and the repair of burglar alarms and motor vehicle stereos.

(Ord. No. 8653, §1, 2/26/96)

3.5.4.28 Artisan Residence

- A. *Purpose.* To provide an artisan residence use in the NC, C-1, C-2 and C-3 commercial zones designed to be used as both a dwelling and work space by an artist, artisan, or craftsman, including persons engaged in the application, teaching, or performance of fine arts such as, but not limited to drawing, vocal or instrumental music, painting, sculpture, and writing; and the accessory sale of art objects produced on the premises. Buildings or spaces within buildings shall be used jointly for commercial and residential purposes. Nothing in this subsection shall limit principal uses as otherwise permitted by the applicable zoning.
- B. *Combined Uses.* A building or a tenant space in a commercial zone may be used as an artisan workshop with a residential dwelling. The workshop and workshop activities must be located indoors except to the extent that such activities could be conducted outdoors as a principal use under the applicable zoning.

- C. The on-site sale of the artist's products, including occasional shows of the artist's works, are permitted secondary uses.
- D. *Separation and Access.* Access to the residential use shall be only through the same access that is provided for the artisan use.
- E. *Operational Requirements.* The operation of the artisan residence shall not create noise, vibrations, smoke, fumes, dust, odors, vapors, other noxious emissions, or any other similar nuisances that are discernible beyond the boundaries of the structure enclosing the artisan residence.
- F. *Parking.* Each artisan residence unit shall provide two on-site motor vehicle parking spaces for each residential component and one on-site parking space for each 500 square feet of gross floor area (GFA) of the work space area. The GFA of the residential component shall not be included in the parking calculation.

(Ord. No. 10477, §5, 11/13/07)

3.5.5 INDUSTRIAL USE GROUP.

3.5.5.1 Manufacturing and Industrial.

- A. The manufacturing activity must be located on the same lot or site with the permitted use.
- B. Access shall be from a street. Access from an alley is also permitted, provided the alley is at least twenty (20) feet wide; it is paved for its entire block length; and zoning on both sides of the alley, for its entire length within the block, is not residential or office. (Ord. No. 8864, §1, 4/28/97)
- C. Reserved. (Ord. No. 9078, §1, 6/22/98)
- D. Manufacturing uses shall be conducted wholly within completely enclosed buildings. (Ord. No. 8864, §1, 4/28/97)
- E. All work and activity in connection with, and secondary to, a manufacturing use, such as loading and unloading areas, docks, and platforms, shall be located entirely within a building or an area on the lot which is enclosed on all sides by a solid wall or fence six (6) feet in height. Such loading and unloading areas, docks, and platforms shall be located as far from any surrounding residential uses or zones as is reasonably possible.
- F. The manufacturing and allied uses and activities shall be conducted in conformance with the following performance standards:
 - 1. *Noise.* The sound level of any individual operation shall not exceed the levels permitted in Chapter 11, Noise Ordinance, of the Tucson Code.
 - 2. *Smoke.* Smoke emission from any source is not permitted to exceed a density greater than that described as No. 1 on the Ringleman Chart. However, smoke may be emitted which is equal to, but not darker than, No. 2 on the Ringleman Chart for not more than four (4) minutes in any thirty (30) minute period. For the purpose of grading the density of smoke, the Ringleman Chart, as published by the U.S. Bureau of Mines, is the standard.
 - 3. *Glare or Heat.* Any activity producing intense glare or heat shall not be performed in such a manner as to create a nuisance or hazard beyond the property lines.
 - 4. *Odors.* Emission of odorous gases or other odorous matter is not permitted in such quantities as to be offensive to owners or occupants of adjoining property or in such a manner as to create a nuisance or hazard beyond the property lines.

5. *Vibration.* No vibration is permitted which is discernible beyond the property lines to the human sense of feeling for a duration of three (3) minutes or more in any one (1) hour of the day between the hours of 7:00 a.m. and 7:00 p.m. or of a duration of thirty (30) seconds or more in any one (1) hour between the hours of 7:00 p.m. and 7:00 a.m.
6. *Fly Ash, Dust, Fumes, Vapors, Gases, and Other Forms of Air Pollution.* No emission is permitted which can cause damage to health, animals, vegetation, or other forms of property or which can cause any excessive soiling of the air.
7. *Liquids and Solid Waste.* No waste shall be discharged into the streets, drainageways, or on property possibly creating a danger to the public health and safety, and no waste shall be discharged in the public sewage system which might endanger the normal operation of the public sewage system.
8. *Illumination.* Illumination of buildings and open areas shall be located and directed so as to eliminate glare toward streets and adjoining properties and shall comply with the requirements of the Outdoor Lighting Code in Chapter 6 of the Tucson Code.

- G. Soap manufacturing is limited to cold process only.
- H. Outdoor storage, when permitted, shall not be located in a street perimeter yard. Outdoor storage areas shall be screened in accordance with Article III, Division 7, Landscaping and Screening Regulations. No materials or products shall be stacked or stored to exceed the height of the screen within fifty (50) feet of an adjoining residential zone or street. Outdoor display of finished products is permitted within a street perimeter yard in an area limited to ten (10) percent of the site area or ten thousand (10,000) square feet, whichever is less. Such display area may not encroach into required landscape buffer areas. Outdoor storage in the P-I zone is limited to twenty-five (25) percent of the site area. (Ord. No. 8582, §1, 9/25/95)

3.5.5.2 Perishable Goods Manufacturing.

- A. The manufacturing of fish or meat products, sauerkraut, sugar beets, vinegar, and yeast and the rendering or refining of fats and oils are not allowed.
- B. Slaughterhouses, meat packing plants, fertilizer yards, and plants for the reduction of animal matter are not allowed.
- C. The building setback shall be at least three hundred (300) feet from any property line.
- D. The area devoted to the Secondary Land Use is limited to a maximum of thirty-three (33) percent of the gross floor area.
- E. The Secondary Land Use is limited to baked goods and confectionery products.
- F. The Secondary Land Use is limited to the manufacturing of beer, "microbrewery."
- G. The area devoted to the Secondary Land Use does not exceed twenty-five (25) percent of the gross floor area or one thousand (1,000) square feet, whichever is less.
- H. The products manufactured on site are sold at retail on the premises.

(Ord. No. 8653, §1, 2/26/96)

3.5.5.3 Extraction.

- A. The use shall be set back at least three hundred (300) feet from any property line, except that the use may be closer than three hundred (300) feet to an abutting I-2 zoned parcel with the written consent of the owner of the abutting property. (Ord. No. 8932, §1, 9/2/97)

B. The generation of dust shall be minimized.

3.5.5.4 Motion Picture Industry. Buildings and structures must be set back at least one hundred (100) feet from the boundary of the site.

3.5.5.5 Radioactive Materials Restrictions.

- A. Manufacturing activities involving the use, storage, or disposal of radioactive material are expressly prohibited, except as allowed below.
- B. Radioactive material, which does not become an integral part of the manufactured product or is exempt from the licensing requirements of, or is permitted under, a general license issued by the Arizona Atomic Energy Commission or its legally established successor, may be used, stored, or disposed of as part of a manufacturing activity.
- C. Radioactive material may be used in medical diagnosis and therapy or in medical, educational, or industrial research and development.

3.5.5.6 Salvaging and Recycling.

- A. Salvaging and Recycling is limited to recycling collection bins only. (Ord. No. 9915, §9, 11/24/03)
- B. All salvaging and recycling activities and storage are to occur within an enclosed building. (Ord. No. 9915, §9, 11/24/03)
- C. Salvaging and Recycling is limited to empty household product containers, such as, but not limited to, aluminum cans, glass and plastic bottles, and newspaper. (Ord. No. 9915, §9, 11/24/03)
- D. Junkyards; salvaging of motorized vehicles, such as cars, trucks, airplanes, and similar vehicles; salvaging of hazardous materials; and landfills are not permitted.
- E. Salvaging and Recycling is restricted to collection of recycling materials. (Ord. No. 9915, §9, 11/24/03)
- F. In addition to the requirements of Sec. 3.7.3, Landscaping and Screening Regulations, there must be a screen wall at least six (6) feet in height between this use and any residential zone.
- G. The household goods donation center must be located in a permanent building staffed by an attendant who remains on the premises during the center's hours of operation.
- H. Security procedures or physical barriers must be provided to prevent after-hours drop-off of donated items and to prohibit nighttime access to these items.
- I. The applicant must submit a security management plan, which describes the operation of the center, to the Zoning Administrator for review and approval. The plan must include: the days and hours of operation for the center; descriptions of the planned security procedures and/or physical barriers planned to prohibit both vehicular access when the center is closed and outside storage when the center is closed; the outdoor lighting schematic; and the operational procedures planned to implement the security management plan. Any changes or amendments to the security management plan must be filed with and approved by the Zoning Administrator. If the use is operated in a manner that violates the security plan or conditions for permitting the use, the use may be suspended in accordance with Sec. 23A-54. (Ord. No. 9967, §3, 7/1/04)
- J. Signs must be posted on the site providing the days and hours of operation and stating that donations are not to be left after the center has closed.

- K. One (1) drive-through service lane may be provided for customer drop-off of donated items.
- L. The household goods donation center must be located on, and have access from, either a street designated as an arterial street in the *Major Streets and Routes Plan (MS&RP)* or a local street in a commercial or industrial park which has direct access to an arterial street.

(Ord. No. 8653, §1, 2/26/96; Ord. No. 9915, §9, 11/24/03)

3.5.5.7 Craftwork Manufacturing.

- A. The area devoted to the Secondary Land Use does not exceed twenty-five (25) percent of the gross floor area or one thousand (1,000) square feet, whichever is less.
- B. The products manufactured on site are sold at retail on the premises.
- C. The products manufactured on site are limited to leathercraft, jewelry, and clothing.

(Ord. No. 8653, §1, 2/26/96)

3.5.6 RECREATION USE GROUP.

3.5.6.1 Secondary Uses to Golf Course.

A. Alcoholic Beverage Service.

1. Allowed only as part of, and in conjunction with, a Food Service use, provided all requirements for dispensing alcoholic beverages listed for Food Service, Sec. 3.5.6.1.B, are complied with.
2. The Alcoholic Beverage Service area may not have a separate outside entrance. Access must be through the Food Service use area.

B. Food Service.

1. The Food Service establishment must have kitchen facilities for keeping, cooking, and preparing foods for meals.
2. Food Service establishments with at least seventy-five (75) seats for dining at regularly available tables may operate a cocktail lounge or bar to sell all spirituous liquors for on-premises consumption.

C. Personal Service and General Merchandise Sales.

1. Personal Service and General Merchandise Sales must be integrated into the main building associated with the principal use, such as a clubhouse or registration office. Access shall be from within such main building.
2. No sign associated with the Personal Service or General Merchandise Sales shall be visible from the exterior of the building.
3. General Merchandise Sales is limited to the sale of items related to the principal use only.

D. In addition to Sec. 3.5.6.1.A, .B, and .C, the following requirements apply.

1. The minimum distance to any public street is one hundred (100) feet.
2. Outside entrances must not face any public street.
3. The use is operated for the convenience of the users of the Golf Course.

3.5.6.2 Reserved.

3.5.6.3 Golf Course Requirements.

- A. Minimum number of holes: Nine (9).
- B. Minimum distance between a tee and its hole: Seventy-five (75) feet.
- C. Minimum distance of tees and cups to any property line: One hundred (100) feet.
- D. Driving range shall be placed so that flying balls are directed toward the interior of the site.
- E. Also subject to Sec. 3.5.13.3 and Sec. 3.5.13.5.

3.5.6.4 Recreation. The minimum setback is one hundred (100) feet.

3.5.7 RESIDENTIAL USE GROUP.

3.5.7.1 Family Dwelling.

- A. Both dwellings must be under the same ownership and on the same parcel.
- B. Both dwellings must comply with the development criteria listed for the assigned Development Designator.
- C. One (1) dwelling must be at least twenty-five (25) percent smaller than the other dwelling.
- D. The dwellings may be attached or detached.
- E. A manufactured housing unit shall not be considered a dwelling for the purposes of this Section, unless it is located in a subdivision recorded after January 1, 1982, and not located in a resubdivision of any subdivision recorded prior to January 1, 1982. (Ord. No. 8582, §1, 9/25/95; Ord. No. 9443, §2, 11/27/00)
- F. A manufactured housing unit shall not be considered a dwelling for the purposes of this Section, unless the following criteria are met or a subdivision plat that has been clearly identified for manufactured housing has been approved and permits for manufactured homes have been issued for twenty-five (25) percent or more of the lots prior to November 27, 2000.
 - 1. It is placed on an excavated and backfilled foundation (ground set). If the home is located in a floodplain, the bottom of the lowest floor joist will be a minimum of one (1) foot above the one hundred (100) year/base flood elevation, and the foundation of the home shall be placed on the fill.
 - 2. No more than eight (8) inches of perimeter skirting wall shall be visible from the street frontage of the property. The perimeter skirting wall shall match the exterior color of the home.
 - 3. The exterior siding materials shall be either hardboard, vinyl, or stucco.
 - 4. Concrete or masonry steps shall be provided for the entry on the street side of the dwelling.
 - 5. All entry doors on the street side of the dwelling shall be inward-swinging doors.
 - 6. The roofing style and materials shall be either flat roof (Pueblo), steel rib roof, or shingle or tile roof with a 3:12 roof pitch or greater. All pitched roofs, except those that are disguised by a parapet, shall have a minimum six (6) inch eave on all sides of the dwelling.
- G. For any new single family dwelling in the R-1 zone with five (5) bedrooms, three (3) parking spaces are required. For every bedroom over five (5), one additional space is required for each bedroom.
- H. For all single family dwellings in the R-1 zone with five (5) or more bedrooms, and for all lots containing two (2) or more single family dwellings, with the second dwelling having more than one bedroom, all parking and maneuvering must be located on-site, either in a side or rear perimeter yard. The vehicular use area must be improved, which includes surfacing, striping, and provision of barriers, in conformance with Sec. 3.3.6 (Motor Vehicle Use Area Design Criteria). Parking spaces may not be located in a vehicular use area in any front street perimeter yard. (Ord. No. 10886, §7, 03/22/11)

(Ord. No. 9443, §2, 11/27/00; Ord. No. 9906, §3, 10/13/03)

3.5.7.2 Home Occupation: General Application. (Definition, Sec. 6.2.8) Home occupations require approval through a Zoning Compliance Review, Sec. 23A-31, and are subject to the following. (Ord. No. 9967, §3, 7/1/04)

- A. A home occupation shall be clearly secondary to the residential use of the dwelling.

- B. A home occupation shall be conducted in such a manner that it is compatible with the residential character of the neighborhood in which it is located.
- C. No more than twenty-five (25) percent of all buildings on the lot may be devoted to the home occupation. A detached accessory building of not more than two hundred (200) square feet in area may be used for such home occupation.
- D. Persons other than those residing in the dwelling shall not be employed in the home occupation, except that one (1) nonresident of the premises may be employed in the IR, RH, SR, SH, O-2, O-3, NC, C-1, C-2, C-3, OCR-1, and OCR-2 zones.
- E. Goods related to the home occupation shall not be visible from the street.
- F. Goods shall not be sold on the premises.
- G. Outdoor storage of materials or equipment related to the home occupation activity is not permitted on the premises.
- H. Except for permitted signage, the home occupation use shall not substantially alter the exterior appearance or character of the residence in which it is conducted, either by exterior construction, lighting, graphics, or other means.
- I. No more than one (1) sign may be visible from the exterior of the property used as a home occupation. The sign shall not exceed one (1) square foot in size. Signs must also conform to Chapter 3 of the Tucson Code.
- J. A home occupation shall not create any nuisance, hazard, or other offensive condition, such as that resulting from noise, smoke, fumes, dust, odors, or other noxious emissions. Electrical or mechanical equipment that causes fluctuations in line voltage, creates any interference in either audio or video reception, or causes any perceivable vibration on adjacent properties is not permitted.
- K. No more than five (5) clients per day, and only one (1) client at a time, are allowed on site.
- L. Motor vehicle and bicycle parking is not required for home occupation - general application. The home occupation may involve the use of no more than one (1) commercial vehicle for the transportation of goods or materials to and from the premises. The commercial vehicle is limited to a passenger car, van, or pickup truck. This vehicle may not be more than twenty (20) feet in overall length and not more than seven (7) feet in overall height and must be parked on private property in a carport or garage or shielded from view from adjoining properties by landscaping, fencing, or screening material. Motor vehicle and bicycle parking necessitated by the conduct of such home occupation shall be provided on site.
- M. Automotive - Service and Repair, hair salon, and Medical Service uses are prohibited as home occupations.

3.5.7.3 Home Occupation: Day Care.

- A. The conditions specified for home occupation, Sec. 3.5.7.2, apply, except Sec. 3.5.7.2.C, Sec. 3.5.7.2.D, and Sec. 3.5.7.2.G.
- B. Not less than five (5), but not more than ten (10), persons are cared for in the home.
- C. No more than one (1) full-time equivalent person not residing on the premises may be employed in the day care use.

- D. The day care use is conducted in a manner that does not create adverse impacts on the residential character of the neighborhood.
- E. During the hours of activity of the day care use, there is no limit on the amount of floor area devoted to this secondary use.
- F. Outdoor activities and equipment associated with the use are permitted and must be screened by a five (5) foot fence, wall, or hedge where adjoining R-3 or more restrictive zoning.
- G. Hours of operation must be noted on the application, and those hours of operation shall not create an adverse impact on adjoining residences.
- H. Any vehicle used in conjunction with the day care use is limited to a passenger car, van, or pickup truck.
- I. The day care use must be approved and licensed by the Arizona Department of Health Services prior to final approval. (Ord. No. 9392, §1, 5/22/00)

3.5.7.4 Home Occupation: Travelers' Accommodation, Lodging.

- A. Accommodations permitted for up to four (4) guests for a maximum stay of fourteen (14) days. No more than two (2) sleeping rooms may be used to accommodate guests.
- B. Accommodations permitted for up to eight (8) guests for a maximum of fourteen (14) days. No more than four (4) sleeping rooms may be used to accommodate guests.
- C. Accommodations permitted for up to twelve (12) guests for a maximum stay of fourteen (14) days. No more than six (6) sleeping rooms may be used to accommodate guests.
- D. Accommodations permitted for up to twenty (20) guests for a maximum stay of fourteen (14) days. No more than ten (10) sleeping rooms may be used to accommodate guests.
- E. Meals may be served only to guests staying in the facility. Separate cooking facilities in guest rooms shall be prohibited.
- F. The Development Services Department Director must determine that the building and site improvements are compatible with the surrounding residential area. The Design Review Board (DRB) shall review all applications, except those involving properties within the Historic Preservation Zone (HPZ), for compatibility and make recommendations to the Development Services Department Director. The DRB reviews architectural style, building elevations, materials on exterior facades, color schemes, new mechanical equipment locations, lighting of outdoor areas, window locations and types, screening, landscaping, vehicular use areas, and other contributing design features. If the application is within the HPZ, see Sec. 2.8.8.5 for the review procedure for compatibility. (Ord. No. 9967, §3, 7/1/04)
- G. No more than one (1) full-time equivalent person not residing on the premises may be employed in the home occupation use.
- H. No more than one (1) sign may be visible from the exterior of the property used as a home occupation. The sign shall not exceed one (1) square foot in size. Signs must also conform to Chapter 3 of the Tucson Code.
- I. Outdoor activities and equipment associated with the use are permitted and must be screened by a five (5) foot fence, wall, or hedge where adjoining R-3 or more restrictive zoning.

- J. A home occupation shall not create any nuisance, hazard, or other offensive condition, such as that resulting from noise, smoke, fumes, dust, odors, or other noxious emissions. Electrical or mechanical equipment that causes fluctuations in line voltage, creates any interference in either audio or video reception, or causes any perceivable vibration on adjacent properties is not permitted.
- K. This use may involve the use of no more than one (1) commercial vehicle for the transportation of persons or materials to and from the premises. The commercial vehicle is limited to a passenger car, van, or pickup truck. This vehicle must be parked on private property in a carport or garage or shielded from view from adjoining properties by landscaping, fencing, or screening material. Motor vehicle and bicycle parking as required for Travelers' Accommodation, Lodging, is in addition to that required for the residential use.
- L. If Home Occupation: Group Dwelling and Home Occupation: Travelers' Accommodation, Lodging, occur on the same site, the total number of guests, roomers, and boarders shall not exceed the number of guests allowed for that zone.
- M. The minimum lot size is ten thousand (10,000) square feet.
- N. Motor vehicle and bicycle parking shall be provided per Sec. 3.3.0, Motor Vehicle and Bicycle Parking Requirements, for Travelers' Accommodation, Lodging. Variances may not be granted from the number of required parking spaces. (Ord. No. 9179, §1, 12/14/98)

3.5.7.5 Mobile Home Dwelling Secondary Uses.

- A. The listed secondary uses, except for mobile home unit sales and Travelers' Accommodation, Campsite, are permitted only if all of the following apply.
 - 1. The use is located in the social or recreation center of the park.
 - 2. The social or recreation center is located fifty (50) feet or more from any interior lot line of the mobile home park and one hundred (100) feet or more from any street lot line bounding the mobile home park.
 - 3. The use does not occupy more than twenty-five (25) percent of the floor area of the center.
- B. The listed secondary uses, if permitted, are subject to the following requirements.
 - 1. No merchandise or supplies shall be stored or displayed outside the building.
 - 2. No exterior or public advertising or signs are allowed, except as permitted for secondary uses.
 - 3. The uses are restricted to delicatessen, snack bar, food store, coin-operated laundry, and pickup station for dry cleaning.

3.5.7.6 Mobile Home Dwelling Secondary Uses.

- A. Vehicle rental and sales are restricted to the sale of mobile home model units in mobile home parks.
- B. Each model home shall have the same setback and spacing requirements as other units.
- C. The number of spaces allotted for model homes shall be no more than five (5) percent of the total spaces in the mobile home park.
- D. There shall be no exterior display or advertising other than one (1) unilluminated sign not to exceed six (6) square feet at each model. The sign may not be over six (6) feet in height.

3.5.7.7 Family Dwelling or Mobile Home Dwelling as Secondary Use in Industrial Zones.

- A. The dwelling is permitted as a secondary use to an Industrial, Wholesaling, or Storage Use in the P-I, I-1, or I-2 zones.
- B. Restricted to one (1) single-family or mobile home dwelling for a caretaker of the principal use.
- C. The dwelling shall conform to the development criteria for the principal use.

3.5.7.8 Residential Care Services.

- A. A Rehabilitation Service or Shelter Care use shall not be located within twelve hundred (1,200) feet, in any direction, from another Rehabilitation Service or Shelter Care use. The applicant for such use must provide an inventory of such uses within twelve hundred (1,200) feet of the site prior to the establishment of the use. (Ord. No. 9392, §1, 5/22/00)
- B. Other Services.
 - 1. Accessory treatment, including counseling or other types of meetings, is not allowed for nonresidents of the facility.
 - 2. Accessory treatment, including counseling or other types of meetings, is allowed for nonresidents of the facility, if limited to twenty-five (25) percent of the gross floor area of the facility.
- C. Maximum Number of Residents.
 - 1. Care is permitted for a maximum of ten (10) residents.
 - 2. Care is permitted for a maximum of fifteen (15) residents.
 - 3. Care is permitted for a maximum of twenty (20) residents.
 - 4. Care is permitted for an unlimited number of residents.
- D. If licensing is required by the State of Arizona for the use, proof of such licensure shall be provided. (Ord. No. 9392, §1, 5/22/00)
- E. Prior to establishment of a Rehabilitation Service or Shelter Care in an industrial zone, applicants for the use shall provide to the Development Services Department a report and site environs analysis for the facility indicating that adequate measures are provided to assure the health, safety, and welfare of the residents of the facility in respect to any industrial process, use, or storage carried out on the site or on adjacent properties. (Ord. No. 9967, §3, 7/1/04)
- F. The site is located at least five hundred (500) feet, measured in a straight line, from the property line to a zone boundary line of R-3 or more restrictive zoning.
- G. Minimum lot size is three (3) acres. Lot coverage is limited to fifty (50) percent. Minimum setback from all interior lot lines adjoining residential zoning is twenty-five (25) feet.
- H. Minimum lot size is one and one-half (1.5) acres. Lot coverage is limited to sixty (60) percent. Minimum setback from all interior lot lines adjoining residential zoning is twenty (20) feet.
- I. Minimum lot size is twenty thousand (20,000) square feet.

3.5.7.9 Home Occupation: Group Dwelling.

- A. Room and board may be provided to not more than two (2) persons in the Family Dwelling who are not members of the family or household.
- B. Room and board may be provided to not more than four (4) persons in the Family Dwelling who are not members of the family or household.
- C. Meals may be served only to roomers or boarders residing in the Family Dwelling. Separate cooking facilities in guest rooms shall be prohibited.
- D. Parking requirements shall be as required for Group Dwellings, Sec. 3.3.4.

3.5.7.10 Artist Studio/Residence in I-1.

- A. The use is limited to structures in existence on February 25, 1991, within the designated artist studio/residence area as defined in Sec. 6.2.1.
- B. The use will not displace existing industrial uses.
- C. The appearance and structural integrity of the structure are preserved or enhanced.
- D. Residential use of the property is incidental and secondary to the artist studio use, with no greater than fifty (50) percent of the floor area devoted to the secondary residential use.
- E. The secondary residential use is occupied by an artist who is also the occupant of the primary artist studio use.
- F. Adequate measures are provided to assure the health, safety, and welfare of the occupants in relation to any industrial process, use, or storage carried out in the artist studio/residence or on adjacent properties.
- G. The use will not impair or interfere with the continued industrial use of adjacent properties or with the purposes of the industrial zone.

3.5.7.11 Mobile Home Dwelling Secondary Uses. In mobile home parks in MH-2 and mobile home parks existing as of July 1, 1995, in MH-1(MH), a maximum of twenty-five (25) percent of the existing spaces designed for mobile homes may be utilized for recreational vehicles provided each time the space is rented it is for at least one (1) month in duration.

3.5.8 RESTRICTED ADULT ACTIVITIES USE GROUP.

3.5.8.1 Restricted Adult Activities.

- A. The adult establishment shall not be less than one thousand (1,000) feet from any church, school, public playground, park, or neighborhood recreation property line.
- B. The adult establishment shall not be less than one thousand (1,000) feet from any residential use property line or residential zone boundary line.
- C. The adult establishment shall not be less than one thousand (1,000) feet from the premises of any other adult entertainment enterprise.
- D. The adult establishment requires approval through Zoning Compliance Review, Sec. 23A-31. (Ord. No. 9392, §1, 5/22/00; Ord. No. 9967, §3, 7/1/04))

- E. The land use activity must occur within an enclosed building.

3.5.9 RETAIL TRADE USE GROUP.

3.5.9.1 Food and Beverage Sales.

- A. One (1) building is allowed.
- B. Maximum area of stand.
 - 1. Three thousand (3,000) square feet.
 - 2. Seven hundred fifty (750) square feet.
 - 3. Two hundred (200) square feet.
- C. Only the sale of farm products grown or produced on the premises is permitted.
- D. The building shall not be located closer than twenty (20) feet to any property line.
- E. The minimum setback from any street intersection is one hundred fifty (150) feet.
- F. The parking area is set back a minimum of forty-five (45) feet from the property line.
- G. The minimum parking area is eight hundred (800) square feet.
- H. The maximum width of the entry to the parking area is thirty (30) feet.
- I. The vehicular use area is to be surfaced as is required in Sec. 3.3.6.9 if the stand is open more than six (6) months per calendar year. If open a shorter time, these areas must be maintained to minimize dust. (Ord. No. 10886, §8, 03/22/11)
- J. The maximum floor area is four thousand (4,000) square feet.
- K. A retail establishment (store) is limited to a maximum of one hundred thousand (100,000) square feet of floor area. The one hundred thousand (100,000) square feet of floor area includes gross floor area, outdoor storage areas, and any outside area which provides associated services to the public, such as, but not limited to, outdoor merchandise display, snack bars, etc. The floor area does not include motor vehicle parking or loading areas.

For the purposes of determining the applicability of the one hundred thousand (100,000) square foot floor area maximum, the aggregate square footage of all adjacent stores, which share checkstands, management, a controlling ownership interest, and storage areas, shall be considered one establishment, e.g., a plant nursery associated with a general merchandise store, such as a home improvement store.

Establishments greater than one hundred thousand (100,000) square feet of floor area (Large Retail Establishments) are considered through a Special Exception Land Use process as provided in the applicable zone.

(Ord. No. 9293, §1, 9/27/99)

3.5.9.2 General Merchandise Sales.

- A. Outdoor display or storage of fertilizer, manure, or other odorous material shall be located at least thirty (30) feet from any interior lot line.

- B. The maximum floor area is two thousand (2,000) square feet.
- C. Fuel dispensing locations are limited to a maximum of twelve (12).
- D. A retail establishment (store) is limited to a maximum of one hundred thousand (100,000) square feet of floor area. The one hundred thousand (100,000) square feet of floor area includes gross floor area, outdoor storage areas, and any outside area which provides associated services to the public, such as, but not limited to, outdoor merchandise display, snack bars, etc. The floor area does not include motor vehicle parking or loading areas.

For the purposes of determining the applicability of the one hundred thousand (100,000) square foot floor area maximum, the aggregate square footage of all adjacent stores, which share checkstands, management, a controlling ownership interest, and storage areas, shall be considered one establishment, e.g., a plant nursery associated with a general merchandise store, such as a home improvement store.

Establishments greater than one hundred thousand (100,000) square feet of floor area (Large Retail Establishments) are considered through a Special Exception Land Use process as provided in the applicable zone.

(Ord. No. 9293, §1, 9/27/99)

3.5.9.3 Heavy Equipment Sales.

- A. Any area used for the display or storage of heavy equipment must be surfaced with a hard, durable, dustproof material.
- B. Any lights used to illuminate outdoor activity shall be arranged so as to reflect the light away from adjacent residential uses or zones.

3.5.9.4 Swap Meets and Auctions.

- A. No large animals may be sold.
- B. Area lighting must be low-pressure sodium and shielded on top.
- C. The retail area shall be dustproofed.
- D. The following additional requirements apply if the use is located within four hundred (400) feet of a residential use or zone.
 - 1. The use may not operate later than 11:00 p.m.
 - 2. Any high noise activity, such as amplified auctioneering, entertainment, or woodworking, must occur within an enclosed building.

3.5.9.5 Vehicle Rental and Sales.

- A. Outdoor lights may not operate later than 10:00 p.m., except for security lighting which cannot exceed ten (10) percent of all outdoor lighting.
- B. Any lights used to illuminate outdoor activity shall be arranged so as to reflect the light away from adjacent property and comply with the Outdoor Lighting Code in Chapter 6 of the Tucson Code.
- C. Limited to rental only; no retail sales.

3.5.9.6 Secondary Uses in P-I Zone. Limited to retail trade of products that are wholesaled, manufactured, or stored on the premises and further limited to twenty-five (25) percent of the total floor area but not to exceed twenty-five hundred (2,500) square feet.

3.5.9.7 Large Retail Establishment Design Criteria. Large Retail Establishments are subject to the following performance criteria. Variances from the criteria are not permitted; however, if one or more of the criteria cannot be met, the applicant can request approval through the Special Exception Land Use process where there is substantial compliance with this Section.

A. *Site Design and Relationship to Surrounding Community.*

1. *Vehicular Access.* The project shall provide safety and protection to adjacent residential uses by having motor vehicle access from a major street as designated by the adopted Major Streets and Routes (MS&R) Plan. Access can also be provided from a street that is not designated by the MS&R Plan, provided it can be shown that any negative impacts on residential uses or residentially zoned properties can be mitigated.
2. *Buffers.* The project shall provide visual and noise buffers where the site is adjacent to a residential use or residentially zoned property. This can be accomplished by providing a minimum building setback of at least two hundred (200) feet from a residential use or residentially zoned property that is adjacent to the site. An eight (8) foot high, or higher, masonry screen wall and at least a twenty (20) foot wide landscape buffer shall be provided adjacent to the site property line where it adjoins a residential use or residentially zoned property. The landscape buffer shall be placed on the inside of the screen wall and shall include, in addition to shrubs and groundcover, canopy trees at twenty (20) to thirty (30) foot intervals depending on the separation needed for the tree canopies to touch at maturity to form a noise, light, and visual screen above the screen wall. No other uses, such as, but not limited to, parking or storage, are permitted within the landscape buffer area.
3. *Outdoor Storage Areas.* The project shall mitigate visual and noise impacts on residential uses, residentially zoned properties, and streets that may be adjacent to the site from outdoor storage areas (when permitted by the zone district requirements). The mitigation can be accomplished by locating these areas on-site and at least two hundred (200) feet from any residential use or residentially zoned property that is adjacent to the site. The areas should be screened or enclosed so that they are not visible from public streets, public sidewalks, internal pedestrian walkways, or adjacent residential properties. The screen shall be at least eight (8) feet high and of masonry construction to assure the highest level of noise abatement and to confine any loose papers, cartons, and other trash. Storage materials should not be visible above the screen wall. It would be preferred that these outdoor storage areas be placed between buildings in a manner which would allow the buildings to act as screens.
4. *Trash Collection Areas.* The project shall mitigate visual and noise impacts on adjoining residential neighborhoods and streets from trash collection areas by locating these areas on-site and at least two hundred (200) feet from any residential use, residentially zoned property, and street that is adjacent to the site. The areas should be screened or enclosed so that they are not visible from public streets, public sidewalks, internal pedestrian walkways, or adjacent residential properties. Screening and landscaping of these areas shall conform to the predominant materials used on the site. The screen shall be at least eight (8) feet high and of masonry construction to assure the highest level of noise abatement and to confine any loose papers, cartons, and other trash. It would be preferred that these trash collection areas be placed between buildings to allow the buildings to act as screens. No trash may be removed between 4:00 p.m. and 9:00 a.m. as part of scheduled trash collection.
5. *Pedestrian Flows.* The project shall provide pedestrian accessibility, safety, and convenience to reduce traffic impacts and enable the development to project a friendly, inviting image. Sidewalks shall be at least eight (8) feet wide and unobstructed and shall connect the public street sidewalks, the main entrances to the stores, transit stops on- or off-site, and other buildings on the site, in

addition to providing convenient access to adjacent residential neighborhoods. Sidewalks shall be provided along the full length of any building where it adjoins a parking lot. Sidewalks shall have an associated three (3) foot wide landscape strip for their entire length, except at intersections with parking area access lanes (PAALs). The landscaping shall include canopy trees or other shading devices to shade at least sixty-five (65) to seventy-five (75) percent of the sidewalks during the major part of the day (shadow pattern needs to be taken into consideration).

6. *Central Features and Community Spaces.* The project is to provide attractive and inviting pedestrian scale features, spaces, and amenities. Entrances and parking lot locations shall be functional and inviting with walkways conveniently tied to logical destinations. Bus stops should be considered integral parts of the configuration whether they are located on-site or along the street. Customer drop-off/pick-up points that may be provided should also be integrated into the design (should not conflict with traffic lanes or pedestrian paths). Pedestrian ways shall be anchored by special design features, such as towers, arcades, porticos, light fixtures, planter walls, seating areas, and other architectural features that define circulation paths and outdoor spaces. Examples are outdoor plazas, patios, courtyards, and window shopping areas. Each development should have at least two (2) of these.
7. *Delivery and Loading Spaces.* Delivery and loading operations shall be designed and located to mitigate visual and noise impacts to adjoining residential neighborhoods. If there is a residential use or residentially zoned property adjacent to the site, such operations shall not be permitted between 10:00 p.m. and 7:00 a.m. Delivery and loading spaces shall be set back at least two hundred (200) feet from a residential use or residentially zoned property that is adjacent to the site, unless such operations are located entirely within an enclosed building, provided it is no closer than the allowable building setback.

Delivery trucks shall not be parked in close proximity to or within a designated delivery or loading area during nondelivery hours with motors and/or refrigeration/generators running, unless the area where the trucks are parked is set back at least three hundred (300) feet from residential property to mitigate the truck noise. The setback does not apply if the main building is located between the truck parking and the residential use or residentially zoned property to act as the screen.

The delivery and loading areas shall be screened or enclosed so that they are not visible from public streets, public sidewalks, internal pedestrian walkways, or adjacent properties. The screen shall be of masonry construction and at least ten (10) feet high, measured from the loading dock floor elevation, to screen the noise and activity at the loading dock. The masonry screen assures the highest level of noise abatement. It would be preferred that the delivery and loading spaces be enclosed within a building or placed between buildings in a manner which would allow the buildings to act as screens.

8. *Traffic Impacts.* The applicant shall have a professional entity perform a Traffic Impact Analysis (TIA) report for the development using the Institute of Transportation Engineers' Trip Generation publication as the standard for trip generation calculation, as well as a parking generation report proposing the number of motor vehicle parking spaces required for the project, if different from shopping center calculations. The scope and criteria for the TIA report shall be approved by the Department of Transportation, prior to submittal of the TIA report. The parking generation report shall be accepted by the Department of Transportation and the Development Services Department, prior to the first public hearing. The TIA report shall identify traffic flow impacts on the public streets; recommend mitigation measures to address those conditions that fall below the standards established by the adopted regional Mobility Management Plan; and show how the applicant will provide the recommended improvements. The Mayor and Council may approve a parking requirement that supersedes the number required by Sec. 3.3.0, Motor Vehicle and Bicycle Parking Requirements, as part of their review process. The TIA and parking generation reports are applicable to a specific application. Any change to the specific proposed use of the site and buildings requires resubmittal, review, and approval of a revised TIA report and revised parking generation report. (Ord. No. 9666, §1, 1/29/02; Ord. No. 9967, §3, 7/1/04)

9. *Outdoor Lighting.* Provide a photometric plan and outdoor lighting report which provide information on how outdoor lighting is addressed to mitigate negative impacts on adjacent residential uses or residentially zoned properties. The report will also address the negative impacts of outdoor lighting between the hours of 10:00 p.m. and 7:00 a.m. on adjacent residential properties or zones and how they will be mitigated. Outdoor lighting between 10:00 p.m. and 7:00 a.m. shall be limited to low-pressure sodium lighting.
 10. *Outdoor Sales Display/Ancillary Uses.* Provide measures to mitigate any negative impacts to a residential use or residentially zoned property that is adjacent to the site from the location of any outdoor activity associated with services to the public, such as, but not limited to, outdoor merchandise display and sales, outdoor storage, and outdoor snack bar and eating areas. The outside activity will be set back at least two hundred fifty (250) feet and oriented to face away from any residential use or residentially zoned property that is adjacent to the site, unless a building is located between the activity and the residential property.
 11. *Hazardous Materials.* Provide a Hazardous Materials Management Plan and Hazardous Materials Inventory Statement as provided in the Fire Code to assure that the building site and design will protect public health and safety from accidental exposure to hazardous materials as provided in the Tucson Fire Code.
 12. *Noise Abatement.* Provide a noise mitigation plan indicating how the noise initiated by the land use will be mitigated to comply with noise regulations in Chapter 11 of the Tucson Code. Trucks shall not be left idling between the hours of 6:00 p.m. and 7:00 a.m.
 13. *Combination of Retail with Food and Beverage Sales.* General Merchandise Sales and retail sales shall not be combined with Food and Beverage Sales except where one of the Land Use Classes consists of less than ten (10) percent of the gross floor area.
- B. *Aesthetic Character of Buildings.*
1. *Facades and Exterior Walls Including Sides and Back.* The building shall be designed in a way which will reduce the massive scale and uniform and impersonal appearance and will provide visual interest consistent with the community's identity, character, and scale. Long building walls shall be broken up with projections or recessions with depths of at least three (3) percent of the façade length along all sides of the building. Along any public street frontage, the building design should include windows, arcades, or awnings along at least sixty (60) percent of the building length. Architectural treatment, similar to that provided to the front façade, shall be provided to the sides and rear of the building to mitigate any negative view from adjacent properties and/or streets.
 2. *Detail Features.* Provide architectural features that contribute to visual interest at the pedestrian scale and reduce the massive aesthetic effect by breaking up the building wall, front, side, or rear, with color, texture change, wall offsets, reveals, or projecting ribs.
 3. *Roofs.* The roof design shall provide variations in roof lines to add interest to, and reduce the massive scale of, large buildings. Roof features shall complement the architectural and visual character of adjoining neighborhoods. Roofs shall include two (2) or more roof planes. Parapet walls shall be architecturally treated to avoid a plain, monotonous look, unless it is in keeping with the architectural style of the building, e.g., Santa Fe style with smooth walls.
 4. *Materials and Color.* The buildings shall have exterior building materials and colors, which are aesthetically pleasing and compatible with materials and colors that are used in adjoining neighborhoods. This includes the use of high-quality materials and colors that are low reflective, subtle, neutral, or earth tone. Certain types of colors shall be avoided, e.g., fluorescent or metallic. Construction materials, such as tilt-up concrete, smooth-faced concrete block, prefabricated steel panels, and other similar material shall be avoided, unless the exterior surface is covered with an acceptable architectural treatment.

5. *Entryways.* The building design shall provide design elements which give customers orientation on accessibility and which add aesthetically pleasing character to buildings by providing clearly-defined, highly-visible customer entrances.
6. *Screening of Mechanical Equipment.* Roof- or ground-mounted mechanical equipment shall be screened to mitigate noise and views in all directions. If roof mounted, the screen shall be designed to conform architecturally with the design of the building, whether it is with varying roof planes or with parapet walls. A wood fence or similar treatment is not acceptable.

Ground-mounted mechanical equipment shall be screened. The screen shall be of masonry construction and be of sufficient height to block the view and noise of the equipment.

- C. *Design Review Board (DRB).* All proposed Large Retail Establishments shall be reviewed by the Design Review Board (DRB) for recommendation to the Development Services Department (DSD) director, who will make a recommendation on whether it complies with the performance criteria. The DRB will base its recommendation on whether or not the project complies with the performance criteria related to compatibility, architecture, and site design, as provided in Sec. 3.5.9.7 where specific requirements are not provided. The applicant is responsible for providing all documentation and information necessary to show compliance, such as, but not limited to, site plans, building elevations, landscaping plans, floor plans, and outdoor lighting photometry plan. (Ord. No. 9967, §3, 7/1/04)

(Ord. No. 9293, §1, 9/27/99)

3.5.9.8 Medical Marijuana

A. *Medical Marijuana Dispensary.*

1. The total maximum floor area of a medical marijuana dispensary shall not exceed 2,500 square feet.
2. The secure storage area for the medical marijuana stored at the medical marijuana dispensary shall not exceed 500 square feet of the total 2500 square foot maximum floor area of a medical marijuana dispensary.
3. A medical marijuana dispensary shall be located in a permanent building and shall not be located in a trailer, cargo container, mobile or modular unit, mobile home, recreational vehicle or other motor vehicle. "Building" shall have the same meaning provided in Article 6, Division 2, Section 6.2.2.
4. The permitted hours of operation of a medical marijuana dispensary shall be from 9:00 a.m. to 7:00 p.m.
5. A medical marijuana dispensary shall have an interior customer waiting area equal to a minimum of twenty-five (25) percent of the gross floor area.
6. A medical marijuana dispensary shall not have a drive-through service.
7. A medical marijuana dispensary shall not have outdoor seating areas.
8. A medical marijuana dispensary shall not offer a service that provides off-site delivery of the medical marijuana.
9. A medical marijuana dispensary shall be setback a minimum of 2,000 feet from any other medical marijuana dispensaries, measured in a straight and direct horizontal line between the two closest exterior walls of medical marijuana dispensaries.

10. A medical marijuana dispensary shall be setback a minimum of 1,000 feet from a public, private or charter school or a licensed childcare center, measured in a straight and direct horizontal line from the closest exterior wall of the medical marijuana dispensary to the closest property line of a school or childcare center.
11. A medical marijuana dispensary shall be setback a minimum of 1,000 feet from a church, library or public park and a minimum of 2,000 feet from a licensed residential substance abuse diagnostic and treatment facility or other licensed drug or alcohol rehabilitation facility, measured in a straight and direct horizontal line from the closest wall of the medical marijuana dispensary to the closest property line of a church, library, public park, licensed residential substance abuse diagnostic and treatment facility or other licensed drug or alcohol rehabilitation facility.

A “church” means a building which is erected or converted for use as a church, where services are regularly convened which is used primarily for religious worship and schooling and which a reasonable person would conclude is a church by reason of design, signs or other architectural features.

12. A medical marijuana dispensary shall comply with all lawful, applicable health regulations, including those promulgated by the Arizona Department of Health Services and any other authorized regulatory agency.

B. *Medical Marijuana Dispensary Off-site Cultivation Location*

1. The total maximum floor area of a medical marijuana dispensary off-site cultivation location shall not exceed 3,000 square feet.
2. The secure storage area for the medical marijuana stored at the medical marijuana dispensary off-site cultivation location shall not exceed 1,000 square feet of the 3,000 square foot total maximum floor area of a medical marijuana dispensary off-site cultivation location.
3. A medical marijuana dispensary off-site cultivation location must be located in a permanent building and shall not be located in a trailer, cargo container, mobile or modular unit, mobile home, recreational vehicle or other motor vehicle. “Building” shall have the meaning provided in Article 6, Division 2, Section 6.2.2.
4. A medical marijuana dispensary off-site cultivation location shall be setback a minimum of 2,000 feet from any other medical marijuana dispensaries or medical marijuana dispensary off-site cultivation locations measured in a straight and direct horizontal line between the two closest exterior walls of medical marijuana dispensaries’ cultivation locations.
5. A medical marijuana dispensary off-site cultivation location shall be setback a minimum of 1,000 feet from a public, private or charter school or a licensed childcare center measured in a straight and direct horizontal line from the closest exterior wall of the medical marijuana off-site cultivation location to the nearest property line of a school or childcare center.
6. A medical marijuana dispensary off-site cultivation location shall be setback a minimum of 1,000 feet from a church, library or public park and a minimum of 2,000 feet from a licensed residential substance abuse diagnostic and treatment facility or other licensed drug or alcohol rehabilitation facility measured in a straight and direct horizontal line from the closest wall of the medical marijuana dispensary off-site cultivation location to the closes property line of a church, library, public park, licensed residential substance abuse diagnostic and treatment facility or other licensed drug or alcohol rehabilitation facility.

A “church” means a building which is erected or converted for use as a church, where services are regularly convened which is used primarily for religious worship and schooling and which a reasonable person would conclude is a church by reason of design, signs or other architectural features.

7. A medical marijuana off-site cultivation location shall comply with all lawful, applicable health regulations, including those promulgated by the Arizona Department of Health Services and any other authorized regulatory agency.

C. *Medical Marijuana Designated Caregiver Cultivation Location.*

1. All conditions and restrictions for medical marijuana dispensary off-site cultivation locations apply except that the designated caregiver cultivation location cultivation area is limited to a total 250 square feet maximum, including any storage areas.
2. A designated caregiver may cultivate at their residence for a single qualifying patient subject to compliance with § A.R.S. 36-2806.01.
3. More than one designated caregiver may co-locate cultivation locations as long as the total cultivation area does not exceed 250 square feet maximum, including storage areas.
4. A designated caregiver shall comply with all lawful, applicable health regulations, including those promulgated by the Arizona Department of Health Services and any other authorized regulatory agency.

D. *Medical Marijuana Qualifying Patient Cultivation Location*

1. A qualifying patient may cultivate at their place of residence subject to compliance with A.R.S. § 36-2806.01.
2. A qualifying patient, cultivating marijuana, shall comply with all lawful, applicable health regulations, including those promulgated by the Arizona Department of Health Services and any other authorized regulatory agency. (Ord. No. 10850, § 4, 11/23/2010)

3.5.10 STORAGE USE GROUP.

3.5.10.1 Commercial Storage.

- A. Adjacent to a residential use or zone, outdoor storage shall comply with the following.
 1. Storage material shall not be visible from outside the screen.
 2. Outdoor lighting shall be directed away from adjacent residential uses and zones.
- B. Outdoor storage, when permitted, shall not be located in the street perimeter yard.

3.5.10.2 Hazardous Material Storage.

- A. Aboveground storage tanks for the storage of hazardous materials, such as, but not limited to, hydrogen, gasoline, diesel fuel, automotive fluids, oil, or waste-oil, are permitted as accessory uses in conjunction with and for the purpose of a principal Permitted Land Use. (Ord. No. 8864, §1, 4/28/97)
 1. Exceptions.

- a. A tank used for storing propane, water, or heating oil for consumptive use on the premises is not regulated by this Section.
 - b. Aboveground storage tanks that are not located within an enclosed building are not permitted within the Scenic Corridor Zone (SCZ).
2. No person shall install an accessory aboveground storage tank unless the tank meets the following requirements.
- a. The tank shall be used only for the purpose of servicing the vehicles used or serviced in connection with a permitted principal use. The tanks shall not be open for use by the public.
 - b. Except as specified in this Section, the setback regulations of the zoning district in which the tanks shall be located apply to all accessory storage tanks.
 1. If the Fire Chief approves the location of a tank within an enclosed building, the minimum setbacks shall be determined by the Fire Chief, provided that the setbacks are not less than those required by the zoning district.
 2. A tank that is not located within an enclosed building shall be set back as follows.
 - a. A minimum of fifty (50) feet from any property line adjacent to any area where, in the opinion of the Fire Chief, the tank could present a hazard or danger to person or property.
 - b. A minimum of two hundred (200) feet from any property line adjacent to R-3 or more restrictive zoning, or the tank location must be approved as a special exception through a Zoning Examiner Full Notice Procedure, Sec. 23A-50 and 23A-53. (Ord. No. 9967, §3, 7/1/04)
 - c. The tank must be screened by a wall equal to the height of the tank.
 - d. The maximum permitted diameter of a tank is ninety-five (95) inches, except that, on ten thousand (10,000) gallon storage tanks, the maximum diameter may be increased to ten (10) feet. (Ord. No. 8864, §1, 4/28/97)
 - e. The maximum permitted height of a tank, excepting venting, manways, and filler caps, is ten (10) feet above grade, except that, on ten thousand (10,000) gallon storage tanks, the maximum height may be increased to twelve (12) feet above grade. (Ord. No. 8864, §1, 4/28/97)
 - f. An aboveground storage tank must have a secondary containment tank.
 - g. A concrete pad must be provided under all tanks.
 - h. The construction, installation, and location of the aboveground storage tanks and the types of materials to be stored in the tanks must be approved by the Fire Chief.
3. These regulations do not supersede or replace any other applicable city, county, state, or federal regulations and requirements for aboveground storage tanks.
- B. The maximum capacity of each aboveground storage tank is as follows.
1. Capacity of one thousand (1,000) gallons is permitted.

2. Capacity of two thousand (2,000) gallons is permitted.
3. Capacity of four thousand (4,000) gallons is permitted.
4. Capacity of ten thousand (10,000) gallons is permitted.

3.5.10.3 Personal Storage.

- A. All storage shall be within enclosed buildings.
- B. Access shall be from a collector or arterial street.
- C. All walls or doors visible from adjacent streets and residential properties shall be surfaced with a nonreflective material. (Ord. No. 8653, §1, 2/26/96)
- D. Maximum individual unit size: Two hundred (200) square feet of floor area.
- E. Razor or barbed wire may not be used.
- F. The facility's exterior façade visible from adjoining residential properties or street frontage shall be earth tone in color and of masonry, stucco, or similar materials. (Ord. No. 9631, §2, 12/10/01)
- G. Maximum site area: Three (3) acres. (Ord. No. 9631, §2, 12/10/01)

3.5.11 UTILITIES USE GROUP.

3.5.11.1 Distribution System.

- A. The setback of the facility, including walls or equipment, is twenty (20) feet from any adjacent residential zone.
- B. Where a facility is not enclosed within a building, the surrounding screen shall be used as the building wall for the purposes of setbacks in Sec. 3.2.3.2.
- C. The setback of the facility, including walls or equipment, is two hundred (200) feet from any existing adjacent residential zone. This setback may be varied as provided in Sec. 5.3.3, Variances. (Ord. No. 9179, §1, 12/14/98)
- D. Where a water tower more than twenty (20) feet in height is used in conjunction with such facilities, its center shall be located a distance from any lot line equal to not less than one-half (1/2) its height.
- E. The use may not have any service or storage yards.
- F. Noise emission at the property line is to be equivalent to the residential requirements of the noise ordinance.
- G. No TVI (television interference) or RIV (radio interference) on a continuous basis is permitted.
- H. Any building housing such facility shall be in keeping with the character of the zone in which it is located. The Design Review Board (DRB) shall review all applications and make recommendations to the Zoning Examiner. The DRB reviews architectural style, building elevations, materials on exterior facades, color schemes, new mechanical equipment locations, lighting of outdoor areas, window locations and types, screening, landscaping, vehicular use areas, and other contributing design features. (Ord. No. 9967, §3, 7/1/04)

- I. The use must be located wholly within an enclosed building or within an area enclosed on all sides with a masonry wall or compact evergreen hedge, not less than six (6) feet, nor more than ten (10) feet, in height.
- J. The use must include a ten (10) foot high wall in an earth tone and vegetative landscaping where contiguous to a residential zone.
- K. Limited to water pumping and storage facilities, telephone exchanges, and power substations with an input voltage of no greater than one hundred thirty-eight (138) kilovolts.

3.5.11.2 Renewable Energy Generation.

- A. Requires approval through a Special Zoning Review – Limited Notice Procedure, Sec. 23A-40.
- B. The setback of the facility, including walls or equipment, is twenty (20) feet from any adjacent residential zone.
- C. All activities shall be conducted in conformance with the following performance standards:
 - 1. *Noise.* The sound level of any individual operation shall not exceed the levels permitted in Chapter 11, Noise Ordinance, of the Tucson Code.
 - 2. *Smoke.* Smoke emission from any source is not permitted to exceed a density greater than that described as No. 1 on the Ringleman Chart. However, smoke may be emitted which is equal to, but not darker than, No. 2 on the Ringleman Chart for not more than four (4) minutes in any thirty (30) minute period. For the purpose of grading the density of smoke, the Ringleman Chart, as published by the U.S. Bureau of Mines, is the standard.
 - 3. *Glare or Heat.* Any activity producing intense glare or heat shall not be performed in such a manner as to create a nuisance or hazard beyond the property lines of the project site.
 - 4. *Odors.* Emission of odorous gases or other odorous matter is not permitted in such quantities as to be offensive to owners or occupants of adjoining property or in such a manner as to create a nuisance or hazard beyond the property lines of the project site.
 - 5. *Vibration.* No vibration is permitted which is discernible beyond the property lines of the project site.
 - 6. *Fly Ash, Dust, Fumes, Vapors, Gases and Other Forms of Air Pollution.* No emission is permitted which can cause damage to health, animals, vegetation or other forms of property or which can cause any excessive soiling of the air per State or County guidelines.
 - 7. *Liquids and Solid Waste.* No waste shall be discharged into the streets, drainage ways, or on property possibly creating a danger to the public health and safety, and no waste shall be discharged in the public sewage system which might endanger the normal operation of the public sewage system.
 - 8. *Illumination.* Illumination of buildings and open areas shall be located and directed so as to eliminate glare toward streets and adjoining properties and shall comply with the requirements of the Outdoor Lighting Code in Chapter 6 of the Tucson Code.
 - 9. *Interference.* No TVI (television interference) or RIV (radio interference) is permitted to emanate from the project site.

- D. The use may not include a service or storage yard.
- E. In addition to the requirements of Sec. 3.7.3., Landscaping and Screening Regulations, there must be a decorative masonry wall at least six (6) feet in height between the project site and any residential zone. (Ord. No. 10818, §2, 7/7/10)

3.5.12 WHOLESALE USE GROUP.

Reserved.

3.5.13 GENERALLY APPLIED CRITERIA.

3.5.13.1 Access.

- A. The use must have primary vehicular access from an arterial street.
- B. The use must have access from a paved public street on the *Major Streets and Routes (MS&R) Plan*.

3.5.13.2 Hours. The principal use is restricted to hours of operation of 7:00 a.m. to 10:00 p.m.

3.5.13.3 Lighting. In addition to the requirements of Chapter 6, Section 6-101, Outdoor Lighting Code, of the Tucson Code, any outdoor lighting utilized in conjunction with the use shall be located and directed so as to eliminate glare toward streets and adjoining R-3 or more restrictive zoning.

3.5.13.4 Noise. In addition to the requirements of Chapter 11, Article II, Noise, of the Tucson Code, the use must be located within an enclosed building. There shall be no openings on the side of the building adjacent to R-3 or more restrictive zoning.

3.5.13.5 Outdoor Activity. Activity may occur outdoors.

3.5.13.6 Screening. In addition to the requirements of Sec. 3.7.3, there must be a screen wall at least five (5) feet in height between this use and any residential zone.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
LANDSCAPING AND SCREENING STANDARDS**

LANDSCAPING AND SCREENING STANDARDS

- 2-06.1.0 GENERAL**
 - 2-06.2.0 DESIGN METHODS**
 - 2-06.3.0 LANDSCAPE REQUIREMENTS**
 - 2-06.4.0 RESERVED**
 - 2-06.5.0 WATER CONSERVATION AND IRRIGATION STANDARDS**
 - 2-06.6.0 MAINTENANCE STANDARDS**
 - 2-06.7.0 SCENIC CORRIDOR ZONE (SCZ)**
 - 2-06.8.0 LIST OF FIGURES**
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2-06.0.0 LANDSCAPING AND SCREENING STANDARDS.

2-06.1.0 GENERAL.

- 1.1 Purpose. This Standard is established to assure that proper techniques and materials are used in developing landscape plans and proposals in compliance with the Tucson *Land Use Code (LUC)*, Sec. 3.7.0, Landscaping and Screening Regulations.
- 1.2 Definitions. Definitions used in this Standard are found in the Development Standards Glossary or Sec. 6.2.0 of the *LUC*.

2-06.2.0 DESIGN METHODS.

- 2.1 Site Layout. Contained in Sec. 3.7.0 of the *LUC*, Landscaping and Screening Regulations, are areas of required landscaping that may affect site layout and design. Site landscaping and screening can also support or deter criminal activity. To assist in the creation of landscapes which foster crime prevention, Crime Prevention Through Environmental Design (CPTED) concepts have been incorporated into this Standard. In order to organize the design process as efficiently as possible, it is best to consider the broad parameters which affect the site as a whole before proceeding to the detailed site design decisions.
- 2.2 Design. The designer should include the following elements in this order:
 - A. Determine the intended use(s) of the project site and landscaped areas.
 - B. Determine neighborhood or area plan applicability and design requirements, should the site fall within a plan area.
 - C. Determine whether the *LUC* or other sections of the Tucson Code have any special zones or regulations which apply to the site. If there are, determine what compliance measures are necessary. Special zones include the Environmental Resource Zone (ERZ), the Hillside Development Zone (HDZ), or the areas included within the Watercourse Amenities, Safety, and Habitat (WASH) ordinance.

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2.2 Design. (Cont'd)

- D. Determine Scenic Corridor Zone (SCZ) and Major Streets and Routes (MS&R) Zone design requirements, if applicable.
- E. Determine whether or not development of the property is subject to a rezoning. If the property is involved in a rezoning, check to see if there were conditions placed on the approval that may affect the design.
- F. Determine whether or not native vegetation is to be preserved in place. To avoid having the preservation area destroyed during construction, a highly visible fence or, at a minimum, a highly visible rope should be placed surrounding the area (refer to **Figure 1**).
- G. Determine landscape border and screening requirements in conjunction with the proposed location of the building, improvements, and circulation pattern.
- H. If an oasis area is proposed for the project, calculate the oasis allowance including the turf and water feature elements.
- I. Determine the number and placement of trees and/or accompanying square footage of paved areas for the vehicular use areas, based on the method chosen for tree requirements.
- J. Determine where the proposed/existing outdoor, overhead lighting will be/is located. Design the placement of trees in coordination with the lights, so that the trees, at maturity, do not diminish the purpose of the lights. Conflicts such as this could result in the elimination or the extensive trimming of trees.
- K. Develop a detailed planting and irrigation plan for plant material selection and placement, screening, water requirements, and other design elements as required by Sec. 3.7.0 of the *LUC* and this Development Standard which supports the intended use of the project site and landscaped areas. Guidelines for implementing CPTED concepts in landscape design are provided in Sec. 2-06.3.6.
- L. Develop an irrigation system complying with Sec. 3.7.0 of the *LUC* and this Development Standard. An irrigation plan is required with the landscape plan when applying for permits.
- M. Determine if any street right-of-way will be landscaped as part of the project. Landscaping within the right-of-way requires approval from the City Engineer's Office. There is no fee for landscaping City right-of-way.

However, if the landscaping design includes placement of screen wall, fencing, parking, or other similar improvements within the right-of-way, application for a Temporary Revocable Easement (TRE) with the City's Real Estate Division is required. If such use is approved, an annual fee is charged.

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2-06.3.0 LANDSCAPE REQUIREMENTS.

3.1 Plant Material (Vegetation).

- A. Plant selection for landscaping is from the Drought Tolerant Plant List in Development Standard 2-16.0. Exceptions: Oasis allowance area and Scenic Corridor Zone.
- B. Plant selection for landscaping within public right-of-way is from the Drought Tolerant Plant List in Development Standard 2-16.0, except along a Scenic Corridor Zone.
- C. Oasis areas may be landscaped with nondrought tolerant vegetation, including turf. Refer to Sec. 2-06.3.2.
- D. Scenic Corridor Zone plant selection is to include native plant material in addition to plants from the Drought Tolerant Plant List. For specifics, see Sec. 2-06.7.0.
- E. The types of seeds used for reseeding after grading and for revegetation are to be selected from the seed list in Development Standard 2-16.0. Seeding programs may be utilized in all areas except to comply with the canopy tree requirements or with the fifty (50) percent vegetative coverage in landscape borders.
- F. Turf is permitted only in the oasis area.
- G. Healthy trees and shrubs existing on a site are encouraged to be preserved in place, especially if drought tolerant. Vegetative ground covers are required to be drought tolerant and listed on the Drought Tolerant Plant List in Development Standard 2-16.0.
- H. Plant materials proposed for locations subject to maximum heights and/or minimum canopy heights shall be capable of being maintained as required without adversely affecting the health of the plant materials.

3.2 Oasis Allowance.

- A. An oasis area is not required but is permitted. The oasis allowance does not have to be calculated unless an oasis area is proposed. The amount of oasis area landscaping, as permitted by Sec. 3.7.2.2 of the *LUC*, is calculated by multiplying the net site area (the site area after dedication or public acquisitions of drainageways and rights-of-way) by a factor according to the use.
 - 1. *Multifamily Uses:* There are three methods by which the oasis area can be calculated; by an amount equal to either five (5) percent of the net site area, eight (8) percent of the required open space, or one hundred (100) square feet per dwelling unit. The greater amount calculated by any of these methods is the maximum permitted (see **Figure 2**).

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3.2 Oasis Allowance. (Cont'd)

Example using net site area:

Net site area	143,748	sq. ft.
(multiplier)	.05	% factor
OASIS AREA =	7,187.4	sq. ft.

Example using open space:

Open space per unit	500	sq. ft.
(multiplier)	120	no. of units
Open space required	60,000	sq. ft.
(multiplier)	.08	% oasis
OASIS AREA =	4,800	sq. ft.

Example using 100 sq. ft. per unit:

Oasis area per unit	100	sq. ft.
(multiplier)	120	no. of units
OASIS AREA =	12,000	sq. ft.

2. *All Other Uses:* In all other situations (other than multifamily development), the oasis area is calculated by multiplying the net site area by two and one-half (2½) percent (see **Figure 3**).

Example:

Site area	43,560	sq. ft.
(multiplier)	.025	%
OASIS AREA =	1,089	sq. ft.

- B. The following factors will be considered to determine the location of the oasis area.
1. The oasis is placed on the site near main buildings or assembly areas where pedestrian activities are designed to occur or in an active use area.
 2. The oasis is designed for optimum exposure to on-site users.
 3. The oasis is designed as part of an area of repose, such as a seating, assembly, rest, dining, or employee break area, or it is designed to enhance a main pedestrian entryway.
 4. The oasis is located in an area of relatively low evaporation potential from wind and heat.

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3.2 Oasis Allowance. (Cont'd)

5. The oasis is located in an area of common recreation and patio facilities in multifamily development.
6. The water harvesting system or storm water runoff design on the site is integrated with the oasis.
7. Sec. 3.7.2.2.C of the *LUC* allows a portion of the oasis area to be located within the street landscape border, provided:
 - a. The amount of oasis area does not exceed five (5) percent of the street landscape border area; and
 - b. The oasis area within the street landscape border is restricted to bedding plants; and
 - c. The bedding plants are not placed within the street right-of-way as per Sec. 2-06.3.1.

3.3 Vehicular Use Areas. Landscaping within vehicular use areas as required by Sec. 3.7.2.3 of the *LUC* will be designed and landscaped to the following standards.

- A. As per Sec. 3.7.2.3 of the *LUC*, canopy trees are required within the vehicular use area at a ratio of one (1) tree for every fifteen (15) parking spaces or fraction thereof. The trees must be evenly distributed throughout the vehicular use area.

Where a landscape border or other landscape area abuts the vehicular use area, canopy trees within those landscape areas may count toward the vehicular use area canopy tree requirement, provided:

1. The trees are planted within ten (10) feet of the vehicular use area; and
2. The number of canopy trees that are provided within the vehicular use area is not reduced by more than fifty (50) percent of the amount required; and
3. There is a minimum of one (1) canopy tree provided within the vehicular use area.

Example: A project with seventy-five (75) parking spaces is required to have five (5) canopy trees within the vehicular use area. In addition, there are two (2) trees being provided within the landscape border surrounding the vehicular use area. The two (2) trees in the landscape border also count toward the required five (5) in the vehicular use area. This means only three (3) trees need to be planted in the vehicular use area.

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3.3 Vehicular Use Areas. (Cont'd)

- B. As an option to the ratio of one (1) tree for every fifteen (15) parking spaces, canopy trees can be provided by one (1) of the following two (2) methods:

Option 1. Canopy trees can be provided so that no parking space is farther than thirty (30) feet from the trunk of a tree (see **Figure 4**). Trees adjacent to and within ten (10) feet of the vehicular use area can also be used from which to measure the thirty (30) feet.

Option 2. The project can be designed so that the shade pattern caused by trees and buildings covers at least fifty (50) percent of the vehicular use area. The amount of shade available on June 21 is calculated between the hours of 9:20 a.m. and 3:20 p.m., Mountain Standard Time. (This is the same as 9:00 a.m. to 3:00 p.m. using Solar Time.)

- C. For each tree required by the *LUC*, a planter area with a minimum unpaved area of thirty-four (34) square feet and a four (4) foot minimum width is required.
1. The measurement is always within the planter area and does not include any material which defines the outer edge of the unpaved area.
 2. The unpaved area may be covered with a permeable material or with grillwork, but air and moisture must be able to penetrate the soil.
 3. Inert or vegetative ground cover is used in planter areas not otherwise occupied by trees, shrubs, or grillwork.
- D. Canopy trees planted within and adjacent to vehicular use areas should be planted in a manner which will afford the greatest amount of shade to the paved areas.
- E. Parking spaces may be designed so that the front of a vehicle overhangs into planter areas that are within a vehicular use area but cannot overhang into the street landscape border. When planted within the vehicular use area, trees should be located at the edge and between vehicle spaces, such as the common corner of four (4) perpendicular spaces that face each other (see **Figure 5**).
1. The maximum amount of overhang is the same measurement as the parking space wheel stop location, as permitted in Development Standard 3-05.0.
 2. The planter area must have a raised border four (4) inches high to prohibit the tires of the vehicle from encroaching onto the planter. Standard wheel barriers are acceptable but not encouraged, as they can be easily moved and could allow damage to the tree.

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3.3 Vehicular Use Areas. (Cont'd)

3. Only trees with single trunks are to be planted within these planters. Trees with multiple trunks need wider areas of growth and interfere with the vehicle.
- F. In development where it is necessary to bring the existing vehicular use areas into conformance with these regulations, gaps are allowed in the tree coverage requirement of even distribution, provided that at least the minimum required number of trees is placed within or adjacent to the vehicular use area with coverage which is as uniform as possible. Canopy trees adjacent to the vehicular use area may count toward meeting this requirement, provided the trees meet the criteria listed in Sec. 2-06.3.3.A.

3.4 Landscape Borders. There are two (2) types of landscape borders, a street landscape border and an interior landscape border.

Street landscape borders are required on all projects except those fronting on a Scenic Route or unless specifically exempted. Interior landscape borders are required only when indicated in Table 3.7.2-I of the Landscaping and Screening Regulations, Sec. 3.7.2.4, of the *LUC*. For requirements along street frontages on Scenic Routes, refer to Sec. 2-06.7.0 of this Standard.

- A. Existing drought tolerant vegetation on adjacent sites should be considered in design to prevent abrupt changes in plant types and to maintain a visual continuity along street frontages.
- B. Covered parking canopies or other structural canopies, such as those used in service stations, may not overhang into street landscape borders. This is in order to avoid conflicts between the structures and crowns of trees.
- C. A street landscape border, Sec. 3.7.2.4 of the *LUC*, is a landscape area with a minimum width of ten (10) feet, running the full length of the street property line bounding the site except for points of ingress-egress.
 1. *Minimum Width.* The street landscape border minimum width is ten (10) feet. It is to be located on site and measured from the street property line. On streets designated as Major Streets and Routes (MS&R), the street landscape border is measured from the MS&R right-of-way line. For information on the location of the MS&R right-of-way line, refer to Sec. 2.8.3.4 of the *LUC*.

There are situations where the *LUC* allows up to five (5) feet of the required ten (10) feet of landscaping to be located within the right-of-way. The required landscaping may be located within the right-of-way only if there are no utilities within the same area, the required landscaping area is extended only to the back of sidewalk, and the City Engineer's Office approves such use in the right-of-way.

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3.4 Landscape Borders. (Cont'd)

On MS&R streets, the back of sidewalk is the standard sidewalk location based on the MS&R cross-section for the designated width. According to City Engineering standards, this would place the back of sidewalk seven and one-half (7½) feet from the face of roadway curb, unless there is a specific City Engineering plan indicating a different location. The MS&R cross-sections are listed in the *Major Streets and Routes (MS&R) Plan*.

2. *Maximum Width.* In situations where the street landscape border is wider than the minimum ten (10) foot requirement, the landscape border width needs to be determined for the purposes of calculating the fifty (50) percent vegetative coverage requirement, Sec. 3.7.2.4 of the *LUC*. The width is that area between the required screen and the property line, unless there is encroachment into the right-of-way as per Sec. 2-06.3.4.C.1.
- D. Within the street landscape border, the required landscape elements include the following.
1. Canopy trees are to be provided in number equal to or greater than an average of one (1) per thirty-three (33) feet, excluding the access points, of the site frontage length, with a minimum of one (1) tree per site.
 2. Fifty (50) percent or more of the street landscape border area must have shrubs and vegetative ground cover to comply with the coverage requirement of Sec. 3.7.2.4 of the *LUC* and Sec. 2-06.3.5 of this Standard.
 3. Inorganic ground cover is to comply with the dust control measures of Sec. 3.7.2.7 of the *LUC*.
- E. An interior landscape border is a buffer area located along common property lines between two (2) land uses and is required in specific situations per Table 3.7.2-1 of the Landscaping and Screening Regulations, Sec. 3.7.2.4 of the *LUC*. The only landscape elements required within the interior landscape border are canopy trees (Sec. 3.7.2.4 of the *LUC*) (see **Figure 6**).
1. The canopy trees are to be provided in number equal to or greater than an average of one (1) per thirty-three (33) feet of property line length.
 2. Trees are to be planted within ten (10) feet of the property line.
 3. Inorganic ground cover is to comply with the dust control measures of Sec. 3.7.2.7 of the *LUC*.
- F. Under certain circumstances (refer to Sec. 3.7.2.4 of the *LUC*), the interior landscape border may be eliminated if an equivalent number of canopy trees is installed elsewhere within the vehicular use area.

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3.5 Plant Size, Location, and Spacing. Required plant characteristics and planting standards for various landscape applications are as follows.

- A. When vegetation is used to satisfy a screen requirement, the size of the plant material specified will be five (5) gallon minimum and be of a type that will maintain an opaque screen year round.

Screen planting can be aligned, clustered, or unevenly spaced to provide interest as long as the plants provide a continuous screen, at maturity (see **Figure 7**).

Because screens are to be opaque, plant growth in width, at maturity, is essential for vegetation to be acceptable as a screen. Therefore, when vegetation is proposed for screening purposes, an appropriate width of planter area must be provided in addition to the width of the landscape border for the plants to work as intended. The width of the screen is based on the growth pattern of the plant material chosen. For example, if Nerium oleander is specified, the minimum width that will have to be available is six (6) feet, as that plant grows as wide as it does high. The thickness of the plant is necessary for the required opaqueness to be acceptable as a screen.

- B. For the calculation of plant growth coverage, two (2) years' growth will be used as a base for shrubs and ground covers. Ten (10) years' growth will be used for trees.

If the requirement is for a certain size area of landscaping or for a purpose such as dust control, the plant materials used must be installed with the appropriate spacing and must cover more than fifty (50) percent of the area with vegetation. Indicate "on center" (o.c.) planting requirements for all ground cover.

- C. Trees that are located in areas of required landscaping will be a minimum fifteen (15) gallon container size and meet the minimum plant size standards for the Arizona Nursery Association Grower's Committee. Palms will have a minimum trunk height of five (5) feet from soil line to the bottom of the crown.
- D. The spacing of trees in the landscape borders must be adjusted to allow solar access to existing solar collectors on adjoining property and to prevent conflict with utility wires and easements (see **Figure 8**).
- E. Trees planted near sidewalks or curbs will be planted at a sufficient distance from the structural improvement to prevent pavement upheaval or soil settling. Where the distance is not available or where the design places the trees closer to the improvement, suitable barriers to the root system to mitigate pavement upheaval or soil settling will be installed with the landscaping. If the trees are in the public right-of-way, the root barriers must be approved by the City Engineer or designee.

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3.5 Plant Size, Location, and Spacing. (Cont'd)

- F. Shrubs in areas of required landscaping other than for opaque screening will be a minimum one (1) gallon container size, with twenty (20) percent of the required number to be five (5) gallon container size or larger.
- G. Ground cover in areas of required landscaping may be one (1) gallon container size or in flats if the watering techniques allow.
- H. Trees are to be planted an appropriate distance from refuse dumpster locations and loading spaces so that the tree canopy, at maturity, does not obstruct service.
- I. Use of high pollen-producing plants will be kept to a minimum on the site. These plant materials, when used, should not be concentrated in any one location. Pima County health ordinances regulating the use, maintenance, and sale of specific plant species, such as bermuda grass, mulberry trees, and olive trees, also apply in the City of Tucson.
- J. Landscape designs for developments that are projected for construction and occupancy during the winter months are to avoid using frost-sensitive vegetative ground cover. If it cannot be avoided, planting schedules should be discussed with the Development Services Department (DSD) to establish conditions of occupancy. Landscaping regulations require final inspection of landscaping prior to occupancy.

3.6 Crime Prevention Landscaping Guidelines. The positioning, location, and type of plant material, screening, and other landscape elements should allow for natural surveillance of the outdoor spaces from within buildings, from outdoor locations on-site, and from adjacent buildings, sites, and rights-of-way. Landscaping and screening should complement efforts to define public, semipublic, and private spaces. Security is enhanced when entrances to and exits from buildings or open spaces around buildings, including pedestrian walkways, are open and in view of the surrounding neighboring or adjacent sites. The more open the view of a space is the less likely that space will be used for commission of a crime.

- A. Encourage the utilization of curbs, sidewalks, and landscaped trails to define public, semipublic, and private areas.
- B. Define property owner/occupant areas of influence through the use of design elements, such as walls, fences, changes in level or grade, lights, color, or change in paving texture.
- C. To allow maximum visibility and surveillance of the development, utilize screening which is no higher than required by this Standard unless high enough to create an effective barrier to entry.

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3.6 Crime Prevention Landscaping Guidelines. (Cont'd)

- D. In areas adjacent to doors and windows, select plant material of such height to retain visibility of building openings from the street or from other development (e.g., less than thirty [30] inches or with a greater than six [6] foot space between the ground and the canopy).
- E. Shrubs and ground cover located within four (4) feet of the edge of a walkway shall not exceed thirty (30) inches in height, except where other requirements call for a greater height. An effort should be made to avoid a design requiring a greater height. Trees located less than twelve (12) feet from the edge of a walkway shall be trimmed to a minimum six (6) foot canopy height. (See **Figure 9**.)

Use of barrier plants (see **Figure 10**) in areas adjacent to walkways is recommended with consideration for pedestrian safety in compliance with Sec. 2-06.3.8.
- F. River rock shall not be used in landscaping located adjacent to parking lots.
- G. Unless adjacent to a pedestrian path, barrier plants shall be planted below and extending at least twelve (12) inches beyond each side of windows. Plant materials in this area shall be no higher than the sill height of the window.

3.7 Screening Standards. The screening requirement is in addition to the landscape requirements. The use of vegetation to satisfy the screen requirement is allowed only to provide for alternative treatment and is not in any way meant to imply that the vegetative screen can also be used to meet the landscape requirement. In the following discussions, the word "screen" includes all types of screens (walls, fences, earth berms, hedges, etc.), unless a particular type of screen material is specifically identified. When applied to a vegetative screen, the height is based on growth, at maturity.

- A. Height of screens is measured in the following manner.
 - 1. The height of screening material adjacent to property lines is measured on the project side of the screen, at finish grade (see **Figure 11**).
 - 2. The height of screening material necessary for certain uses, such as mechanical installations, is measured from the highest point of the element being screened, up to a maximum of six (6) feet, if the screen is free standing or as allowed by the Uniform Building Code if attached to the primary building (see **Figure 11**).

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3.7 Screening Standards. (Cont'd)

B. Screen Location Along Street Frontages.

1. Screens with a height greater than thirty (30) inches cannot be located within the sight visibility triangle (SVT) required by Development Standard 3-01.0. This means that, if a screen is between thirty (30) inches and six (6) feet in height and encroaches into the SVT, the screen must be located outside the SVT area.
2. Screens, whether required or not, are to be located on the development side of the street landscape border so that the landscaping is visible from the street.
3. Screens may be located any distance from the property line as long as the street landscape border is between the screen and the street property line and the screen does not interfere with the SVT.
4. A building can serve as the required screen along a street if only landscaping is proposed between the building and the street property line.
5. Screens are allowed by Code to encroach into or be located within the minimum width required for the street landscape border under the following conditions.

This flexibility is available to provide design alternatives to the monotony of a linear treatment to a screen and is not intended as a method of reducing the amount of required landscaping.

- a. The minimum width provided for the street landscape border is ten (10) feet.
- b. Vegetative screens can encroach three (3) feet into the street landscape border. If the growing characteristics of selected plant material, at maturity, are of a width greater than three (3) feet, the plant location will be moved farther away from the street property line to allow for the growth.

For example, Nerium oleander grows as wide as it grows high. These plants grow anywhere from six (6) to twenty (20) feet in height. If oleanders were used for the screen, the plants would have to be planted a minimum two (2) feet outside the street landscape border so that the growth, in width, of the plant does not encroach more than the allowed three (3) feet. This example assumes the plant reaches eight (8) feet in width within the two (2) year growth period. With this type of plant, the street landscape border, including the screen, would be a minimum of fifteen (15) feet wide (see **Figure 7**).

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3.7 Screening Standards. (Cont'd)

- c. Screens of nonplant material may encroach up to three (3) feet into the street landscape border, depending on the architectural treatment in the placement of the screen (see **Figure 12**).

If the screen is constructed in a linear pattern, then the screen can encroach only the width of the material used. If the material is eight (8) inches wide, the screen encroachment is limited to that width.

If the screen is constructed with offsets, curving walls, or other similar treatment that would break up a linear pattern, then the screen can encroach up to three (3) feet into the street landscape border with the offsets. The following apply to encroachments:

- 1) That part of the offset or curve farthest away from the property line will be placed no closer to the property line than the rear (development side) of the landscape border, allowing for the width of the screening material; and
 - 2) Within the encroachment width of the offset or curve, there should be more than seventy-five (75) percent of that landscaped area on the street side of the screen; and
 - 3) Those portions of the required street landscape border lying on either side of the screen are landscaped as required (see **Figure 12**).
- d. When screening is accomplished with berms, the highest point of the berms must be on site and no closer than one (1) foot from the property line or the MS&R right-of-way line, whichever is more strict.

The one (1) foot distance from the property line on the location of the berm crest is a minimum. In most cases, it will be greater than one (1) foot unless there is excess right-of-way, and the City Engineer's Office allows the berm to occur within the right-of-way area.

The slope of the earth berm will not exceed one (1) foot of rise for every three (3) feet of distance. This is applicable on all slopes. At this ratio, a minimum of nine (9) feet in distance (the width of the border) is needed to achieve a height of three (3) feet for only one (1) side of the berm.

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3.7 Screening Standards. (Cont'd)

If berms are used in conjunction with vegetation or a retaining wall to achieve the screen, the vegetation or wall still has to occur at the area of the landscape border farthest away from the property line as per Sec. 2-06.3.7.B.5.b.

Bermed areas, front and back sides, must be landscaped to comply with minimum requirements when located within the street landscape border area. Vegetation also minimizes erosion.

If the toe of the berm slope abuts a sidewalk or pedestrian area, design precautions must be implemented to prevent water from washing debris, dirt, rocks, etc., onto the sidewalk or eroding the pedestrian path.

The ordinance requires the thirty (30) inch screen across the entire frontage, except at points of ingress-egress. When berms are used, design solutions are to be provided accomplishing screening requirements if the berm cannot satisfy the requirements (i.e., at the ends where the berm slopes or if the berm is cut to place a tree).

C. Screen Location Along Interior Property Lines.

The location of required screens along interior property lines is the property line. There is no specified location for screens if they are not required.

In situations where a utility or drainage easement runs along a property line and the width of easement lying within a site is not used as part of the site, then the required screen can be located at the easement line.

D. Screen heights shall be reduced in compliance with Sec. 2-06.3.6.E. (See **Figure 9.**)

3.8 Safety Standards.

A. Vegetation, such as those with spines, thorns, or needles, that may present hazards to pedestrians, bicycles, or vehicles are to be planted a safe distance from the outer branch tips to the edge of a walkway, bike lane or path, roadway, or parking area access lane (PAAL). The growing characteristics of the vegetation are to be taken into consideration when determining this distance (see **Figure 13**).

B. Shrubs or ground cover planted adjacent to a walkway, driveway, bicycle path, or street must be placed with the plant center at a distance equal to or greater than one-half ($\frac{1}{2}$) the normal width of the plant, at maturity.

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3.8 Safety Standards. (Cont'd)

- C. Shrubs or ground cover that spreads will be kept pruned to prevent encroachment upon walkways, bicycle paths, driveways, or streets.
- D. Trees with the potential for overhanging a walkway, driveway, bicycle path, parking space, or street must be of a type that, at maturity, provides a canopy with an understory height clearance of eight (8) feet for walkways and bicycle paths, twelve (12) feet for driveways and streets, and fifteen (15) feet for loading spaces. The height clearance will be maintained by pruning during the tree's active growth period or when necessary.
- E. Trees should be planted no closer than three (3) feet from a PAAL or street to avoid damage from vehicles.
- F. Shrubs located in planting areas within vehicular use areas at the intersections of drives will be of a type that grows to no more than thirty (30) inches in height. Any other planted area that may potentially obscure a driver's view of oncoming pedestrians, bicyclists, or vehicles is also subject to this requirement.
- G. Sight Visibility (see **Figure 14**). All landscaping and screening must comply with the sight visibility requirements of Development Standard 3-01.0. Plant materials located within sight visibility triangles should consist of ground cover or low-growing vegetation of a species that will not grow higher than thirty (30) inches. However, trees may be installed within those areas provided that:
 - 1. The trunk caliper, at maturity, will not exceed twelve (12) inches in diameter;
 - 2. The lowest branch of any tree is at least six (6) feet above the grade of the street or driveway, whichever is the determining factor in the sight visibility triangle; and
 - 3. Trees are not planted in a line that could result in a solid wall effect when viewed at an angle.
- H. Required screening over thirty (30) inches in height will be placed out of the sight visibility triangle.
- I. Trees are to be planted an appropriate distance from refuse dumpster locations so that the tree canopy, at maturity, does not obstruct collection.

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2-06.5.0 WATER CONSERVATION AND IRRIGATION STANDARDS.

- 5.1 Xeriscape Landscape Concepts. Landscaping as required by the *LUC* is to be low water use with emphasis on the utilization of water conserving irrigation systems and drought tolerant vegetation as listed in the Drought Tolerant Plant List in Development Standard 2-16.0. The *LUC* allows the use of nondrought tolerant plants within an oasis area only.

Xeriscape landscaping is a transitional planting zone concept which may consist of as many as three (3) zones, as follows:

Zone 1. The oasis zone is not required nor encouraged. If used, the oasis zone must be planned in areas of high use, such as active recreation areas or social gathering areas near buildings. Oasis areas have added benefits of decreasing interior energy use if planned in conjunction with energy-conserving building design. (See Sec. 2-06.3.2 to calculate oasis zone size.)

There are no restrictions on plant selection within this zone, and the use of turf is allowed; however, a lush green effect can also be achieved with plant selection from the Drought Tolerant Plant List. Irrigation systems for plants within this zone should be valved separately from plants in Zones 2 or 3, if plants in the other zones have different watering requirements.

Zone 2. This zone is the transition zone between Zone 1 (oasis zone) and Zone 3. Plant selection for this zone must be from the Drought Tolerant Plant List and should have a lower watering requirement than plants in the oasis zone. If plants selected have a different watering requirement from those in Zone 1 or 3, then the irrigation system should be valved separately.

Zone 3. This zone is usually on the periphery of the property adjacent to Zone 2. Plant selection is from the Drought Tolerant Plant List and generally includes those with the lowest irrigation requirements. Plants in this zone, if selected with care, can be of the type that could survive without irrigation once established. Use of native plants indigenous to the area is encouraged (see **Figure 15**).

5.2 Soil Preparation.

- A. The soil will be amended with natural material suitable for the particular requirements of the plants to allow the plants to grow and to use water more effectively.
- B. Caliche layers will be broken in planting areas to promote good drainage and root growth.

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5.2 Soil Preparation. (Cont'd)

- C. If vegetative ground cover is not intended, a minimum two (2) inch layer of organic or inorganic material (i.e., decomposed granite, rock mulch, or other material) will be used as ground cover under and around the vegetation in landscaped areas to help cool soil areas, reduce evaporation, and retard weed growth. Existing areas of undisturbed native vegetation retained on the site are not required to have the soil mulched or amended.

5.3 Reclaimed Water Use--Tucson Water Review.

- A. The Tucson Water Department will review all applications for building permits and development plans to determine the feasibility of using reclaimed water to irrigate landscaping.
- B. Tucson Water will provide the applicant with a sign-off sheet indicating whether potable water or reclaimed water will be used for irrigation.
- C. The applicant will turn in the sign-off sheet to the Development Services Department (DSD) prior to the issuance of a building permit or the approval of a development plan.

5.4 Irrigation Standards. Most plant material requires supplemental irrigation. In general, most newly planted vegetation, with the possible exception of native cacti, requires irrigation until established.

A. *System Specifications.*

- 1. The source of irrigation water, whether potable or reclaimed, will be indicated on the irrigation plan.
- 2. Rigid irrigation pipes and flexible drip system irrigation lines under paved surfaces will be contained in pipe sleeves.
- 3. Pipes or lines carrying water under constant pressure will be buried to a minimum depth of twenty-four (24) inches. Those that are under intermittent pressure will be buried to a minimum depth of eighteen (18) inches.
- 4. Nonpressure polyethylene lines will be buried to a minimum depth of eight (8) inches. Nonpressure PVC lines will be buried to a minimum depth of twelve (12) inches.
- 5. Turf, shrub, and bubbler heads closer than twelve (12) inches to any paved surface will be pop-up heads.

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5.4 Irrigation Standards. (Cont'd)

6. Turf, shrub, and bubbler heads located within twenty-four (24) inches of any paved surface will be installed with a system that allows the riser assembly to absorb impacts and return to normal position.
7. Spray irrigation systems are to be used only in the oasis area for turf. These areas will be served by low precipitation rates. Matched precipitation rate heads should be used.
8. Temporary spray irrigation systems may be used to establish hydroseeded areas. All other plant material, excluding turf, will be irrigated with drip irrigation or low-flow bubblers. Drip irrigation is encouraged. The systems will be reviewed on a case-by-case basis.
9. Trees and shrubs outside of areas of spray irrigation will be irrigated with low-flow bubblers or emitters.
10. The irrigation system will include an automatic timing controller. Digital controllers are encouraged, as they are more accurate than electromechanical controllers. Some digital controllers have added features, such as water budgeting, which improve the water conserving capabilities of the system.

B. *System Design and Layout.*

1. Irrigation systems will be designed with attention to prevailing winds, degree of slope, type of soil, soil percolation (infiltration), season, and type of vegetation to be watered. These design constraints, and any others that may be specific to the site, will be clearly indicated on all irrigation documents.
2. Spray irrigation systems will be designed to provide one hundred (100) percent head-to-head coverage of the area of irrigation to avoid dry spots and overspray onto any paved or unplanted surface.
3. Areas of different water requirements, such as the oasis, trees and shrubs, the vehicular use area, landscape borders, and native vegetation areas, will be controlled by separate remote control valves.
4. The design of irrigation systems and irrigation schedules should attempt to match application rates with infiltration rates in order to minimize runoff and reduce evaporation.
5. Sprinkler heads and nozzles within each control valve should have matching precipitation rates.

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5.4 Irrigation Standards. (Cont'd)

6. Spray irrigation systems are not to be installed in planting strips less than ten (10) feet wide. Strip spray heads are not allowed.
7. Irrigation timers are to be set for irrigation cycles between 8 p.m. and 8 a.m. between May and September to minimize water loss due to evaporation.
8. Rain-sensing and moisture-sensing devices are encouraged.

2-06.6.0 MAINTENANCE STANDARDS.

6.1 Plant Materials.

- A. Any plant material in areas of required landscaping that does not survive will be replaced with an equivalent size and species within thirty (30) days.
- B. Plant material will be pruned as necessary to control size but not to disrupt the natural growth pattern or characteristic form of the plant except as necessary to achieve height clearance for visibility and pedestrian passage or to achieve a continuous opaque hedge if required.
- C. Clipping and pruning of the plant material are required to allow maximum shading while preserving surveillance opportunities and preventing obstructive overhang into walks, curb areas, drives, and line of sight triangles.

For general guidelines on height clearance of tree canopies, refer to Sec. 2-06.3.6.D, Sec. 2-06.3.6.E, Sec. 2-06.3.6.F, and Sec. 2-06.3.7.D.

- D. All dead or removed plant material will be replaced with plant material acceptable under the requirements of the xeriscape landscaping regulations. Replacement material will be a minimum fifteen (15) gallon size for trees and five (5) gallon size for shrubs.
- E. Regular landscape maintenance should ensure water efficiency and include, but not be limited to, pruning, mulching, weeding, litter removal, aerating and dethatching turf areas, and fertilizing nonnative plant materials.

6.2 Inert Materials.

- A. Exterior improvements, such as benches, walls, or ramadas, will be of durable materials appropriate to the desert climate. Material with integral coloring or stucco is preferred for seating fixtures and other permanent improvements.
- B. Inert materials used in the landscaping areas will be of a nature to withstand the extremes of the desert climate and minimize heat gain or reflected heat.

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6.2 Inert Materials. (Cont'd)

- C. The inert materials will be replaced as needed due to displacement or erosion.

6.3 Planting Areas.

- A. Inert materials will be used in inaccessible, narrow, or hard to maintain sections of the planting areas.
- B. Landscaped areas will be kept free of trash, weeds, debris, and dead plant material and will in all respects be maintained in a clean and neat fashion.
- C. Use of river rock is discouraged adjacent to building windows.

6.4 Landscape Removal.

- A. Substantial modifications, as determined by the DSD Director, and/or removal of plant materials or other landscape elements will require review and approval of a revised landscape plan by DSD.
- B. The removal or destruction of landscape material which has been installed according to an approved landscape plan and not replaced constitutes a violation of the *LUC*.
- C. Minor modifications of the landscaping occurring as a result of routine maintenance, necessary replacement of elements because of damage or disease, or other causes are not subject to review by DSD.

6.5 Screening and Wall Maintenance.

- A. Paint and stucco will be renewed on the surfaces of fences and walls as needed.
- B. Wooden slats in chain link fences will be replaced as needed to retain the opacity of the screen.
- C. Any screening device which has deteriorated to the point where it does not serve as a screen will be replaced by the property owner. Vegetation used to meet the screening requirements cannot be replaced with new vegetation after two (2) years past the installation. Replacement must be with another option for screening, such as a fence or a wall, in order to achieve an immediate screen. This requirement does not apply to the occasional replacement of single plants within a vegetative screen.

6.6 Irrigation System Maintenance. Irrigation systems will be maintained and replaced as necessary to continue to conserve water. Detection and repair of leaky or broken pipes, valves, and fittings and malfunctioning and/or misaligned heads, emitters, and bubblers will be part of a regular maintenance program for the site.

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6.6 Irrigation System Maintenance. (Cont'd)

- A. Automatic Irrigation Controllers are recommended to be reset a minimum of four (4) times a year (spring, summer, fall, and winter) to adjust for plant water requirements which vary according to the season.
- B. Whenever possible, repair of irrigation equipment should be done with the originally specified materials or their equivalent.

2-06.7.0 SCENIC CORRIDOR ZONE (SCZ).

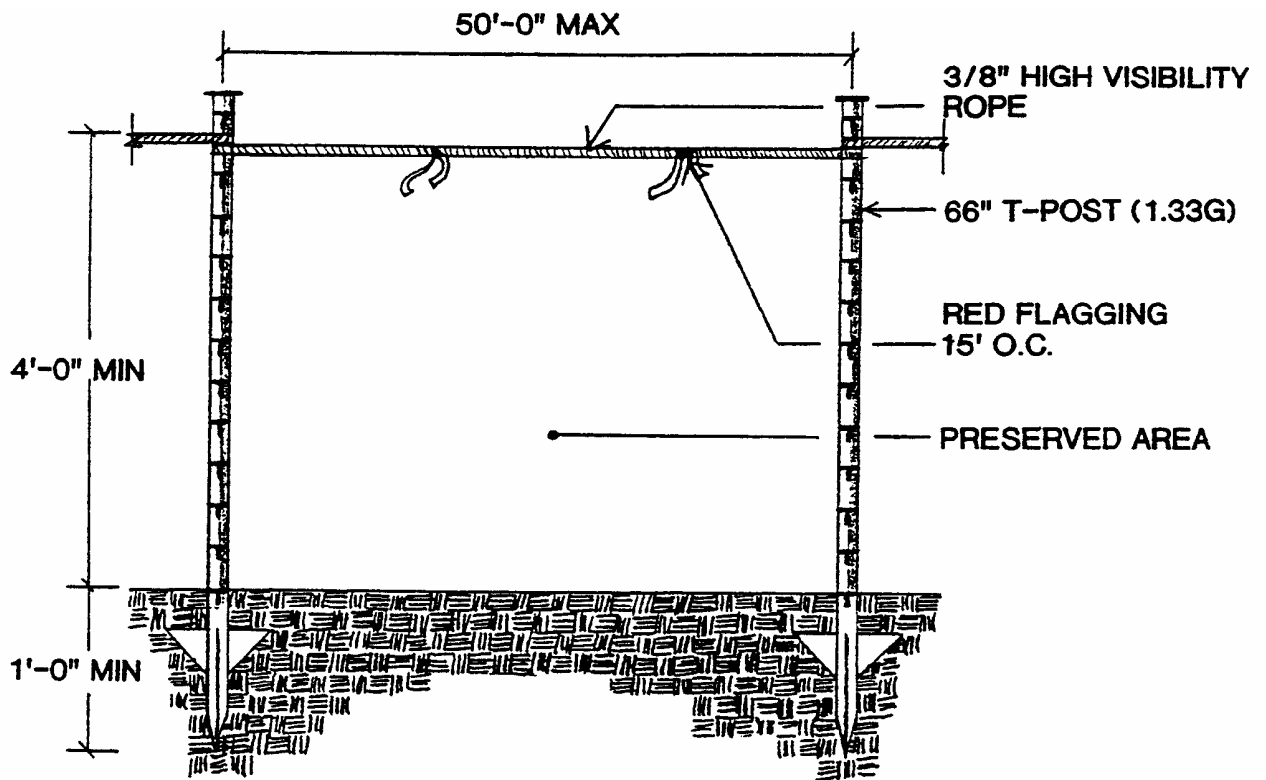
7.1 Type of Vegetation.

- A. Within street right-of-way, vegetation is to consist of native plant material. For guidelines on selection of native plants, refer to Development Standard 2-16.0.
- B. Within the required buffer area, indigenous plant material is to remain. If any disturbance occurs during construction or prior to permit application, the buffer area is to be revegetated with native plants indigenous to the site and the area reconstructed to look as natural as possible.
- C. Any landscape area visible from the Scenic Corridor Zone is to be landscaped using native plant material indigenous to the site or plants selected from the Drought Tolerant Plant List, Development Standard 2-16.0.
- D. In areas not visible from the Scenic Corridor Zone, vegetation may consist of native plants indigenous to the site or drought tolerant plant material. Oasis area landscaping material may also be planted within this area at the levels permitted by the landscaping ordinance.

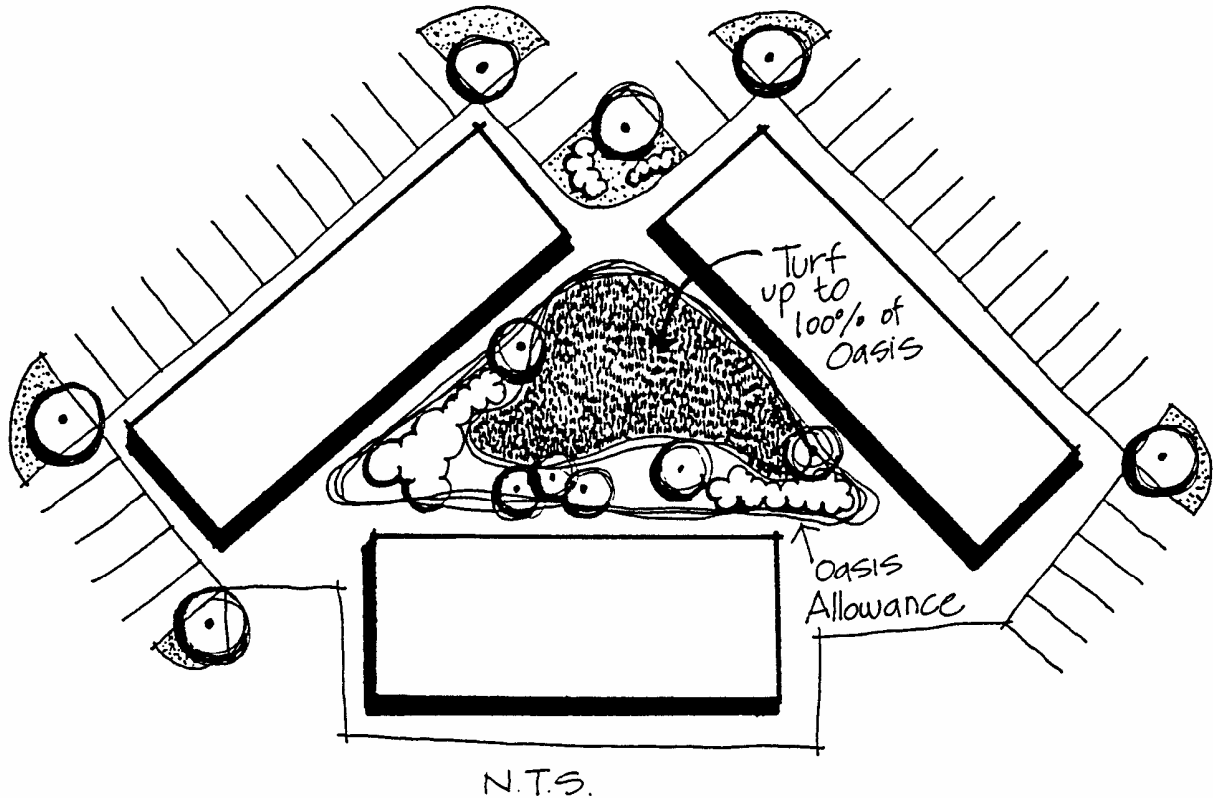
2-06.8.0 LIST OF FIGURES.

- Figure 1 - Site Preservation Fence Detail
- Figure 2 - Oasis Allowance for Multifamily Development
- Figure 3 - Oasis Allowance for Office Development
- Figure 4 - Vehicular Use Area
- Figure 5 - Vehicular Use Area
- Figure 6 - Interior Landscape Border
- Figure 7 - Plant Size, Location, and Spacing
- Figure 8 - Plant Size, Location, and Spacing
- Figure 9 - Pedestrian Safety Zone
- Figure 10 - Security Plant Materials
- Figure 11 - Screening Standards
- Figure 12 - Screening Standards
- Figure 13 - Safety Standards
- Figure 14 - Safety Standards
- Figure 15 - Zone Planting Concept

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DS. 2-06.3.2 Oasis Allowance
Multifamily Development

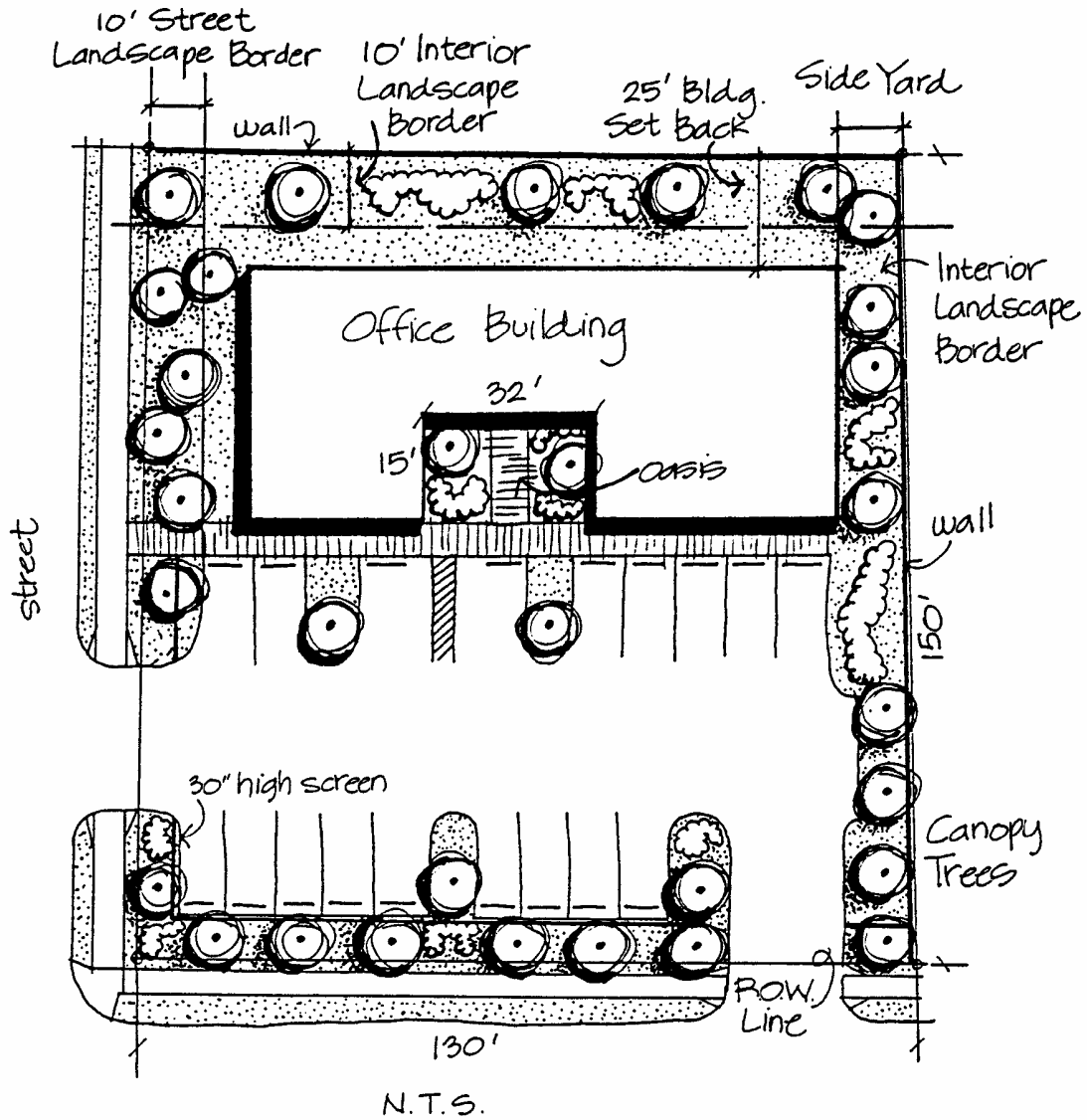
Oasis Allowance = 5% of site
Turf Allowance = Up to 100% of Oasis

Example using one of the three options:

Four Acre Multifamily Development = 172,240 sq.ft.
X.05

8712 sq.ft.
Oasis Allowance

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D.S. 2-06.3.2 Oasis Allowance
Oasis Allowance for office development
2.5% of Site area

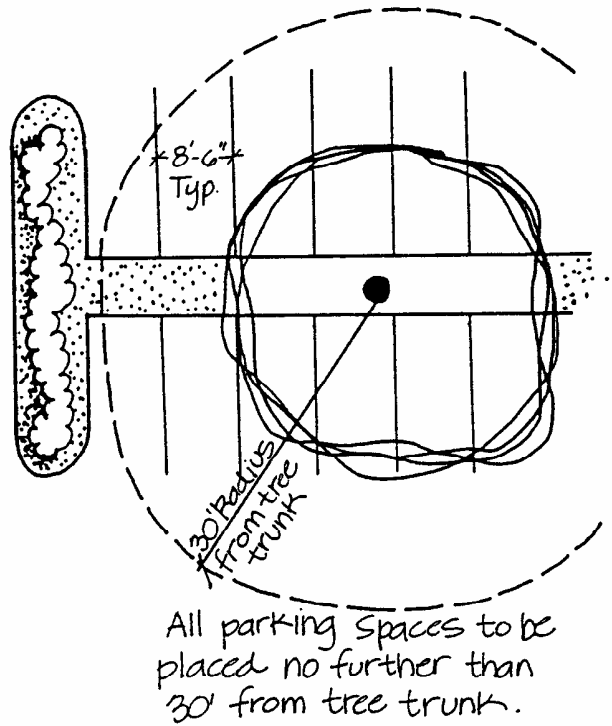
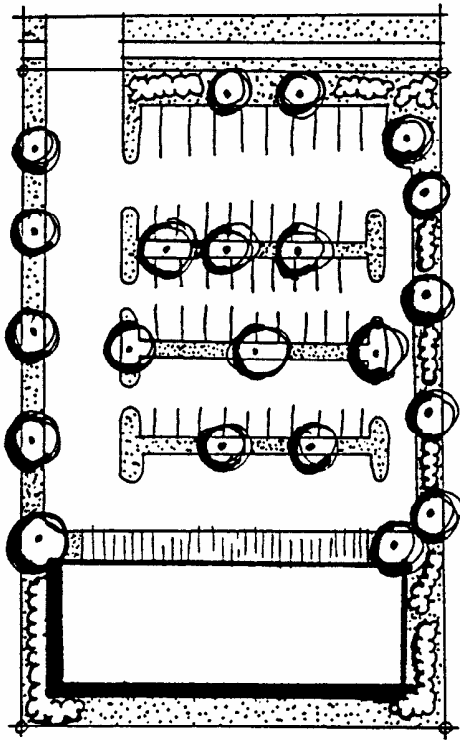
Calculation:

$$\begin{array}{r} \text{Site Area} = 150' \\ \quad \times 130' \\ \hline 19,500 \text{ sq. ft.} \\ \quad \times .025 \\ \hline \end{array}$$

487.5 sq. ft. = Max. Oasis Area

Max. Oasis Area = 15' x 32' = 480 sq. ft.

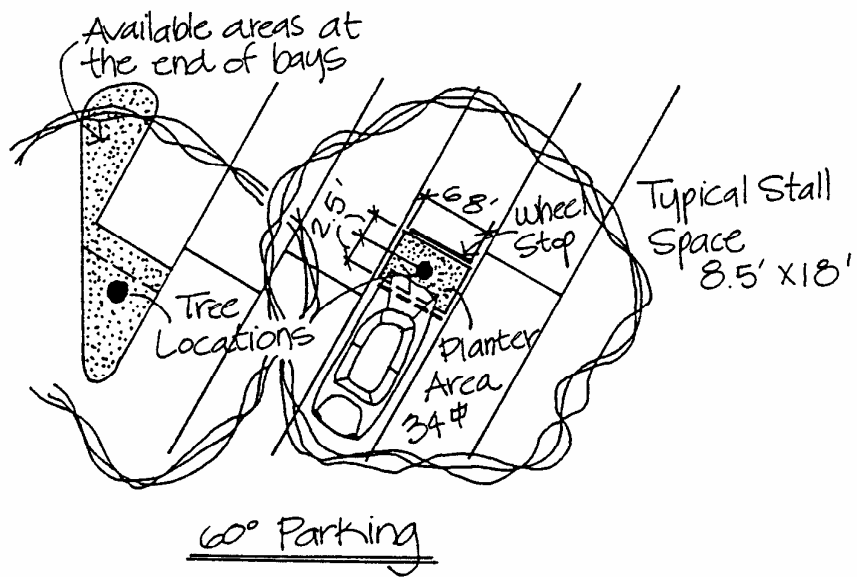
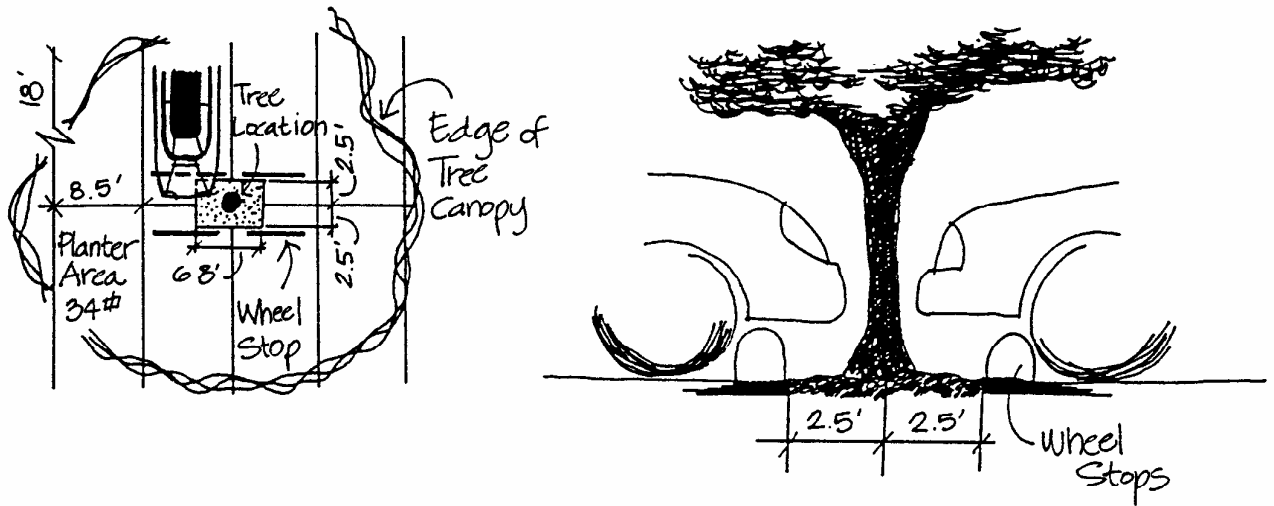
CITY OF TUCSON
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N.T.S.

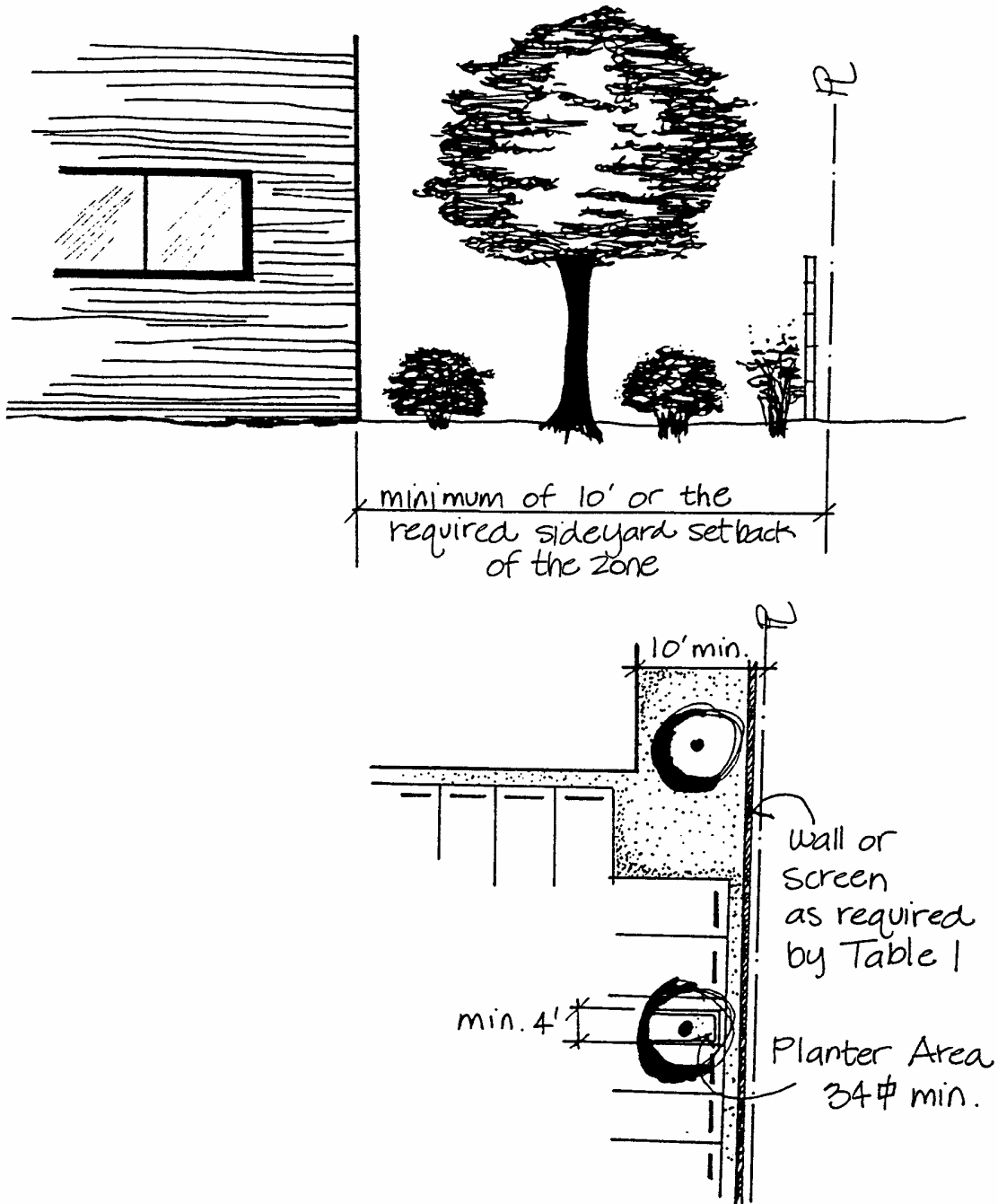
D.S. 2-06.3.3. Vehicular Use Area
Tree Planting Option for Parking Areas

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
LANDSCAPING AND SCREENING STANDARDS



D.S. 2-06.3.3.E.
Vehicular Use Areas

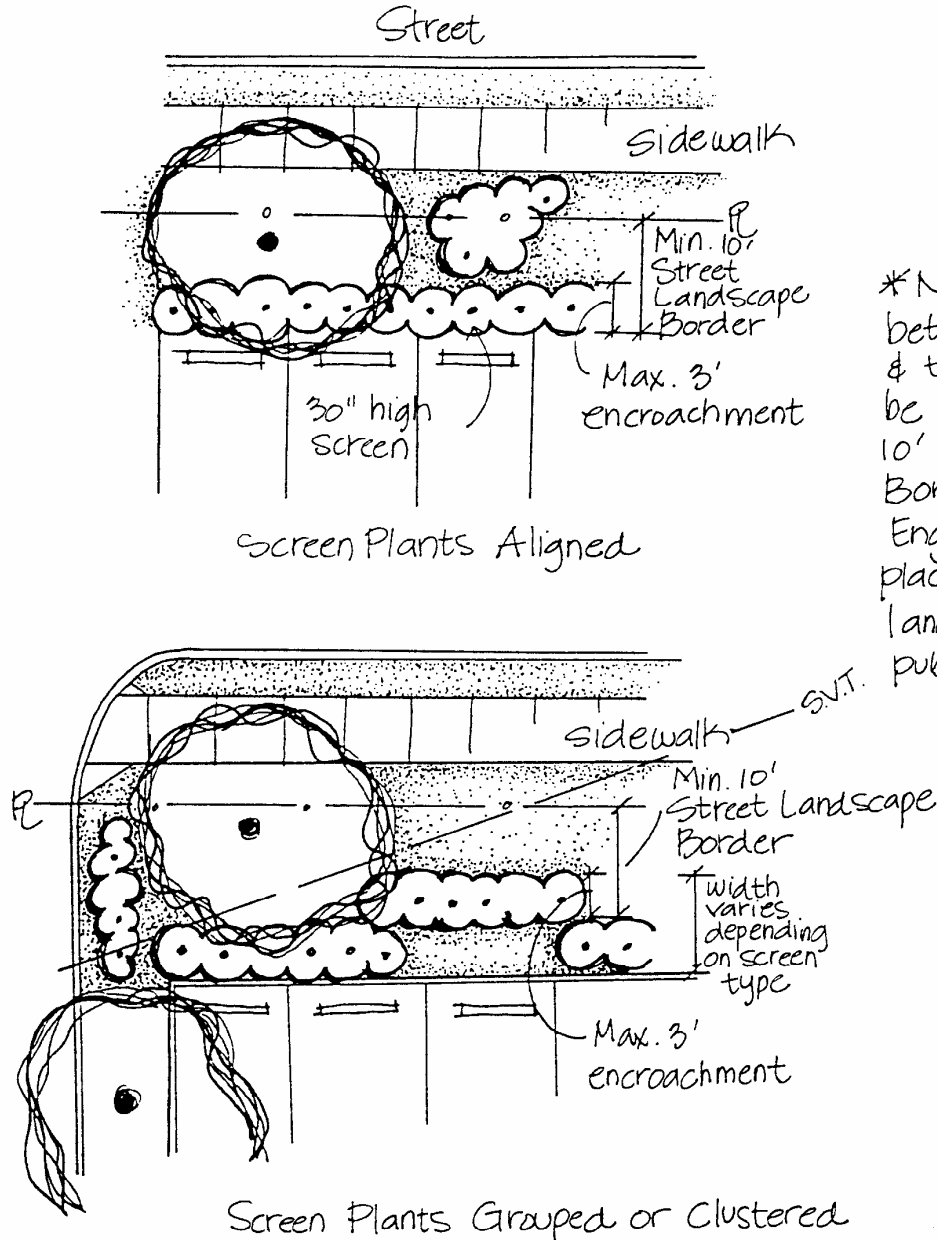
CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
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N.T.S.

D.S. 2-06.3.4. Interior Landscape Border

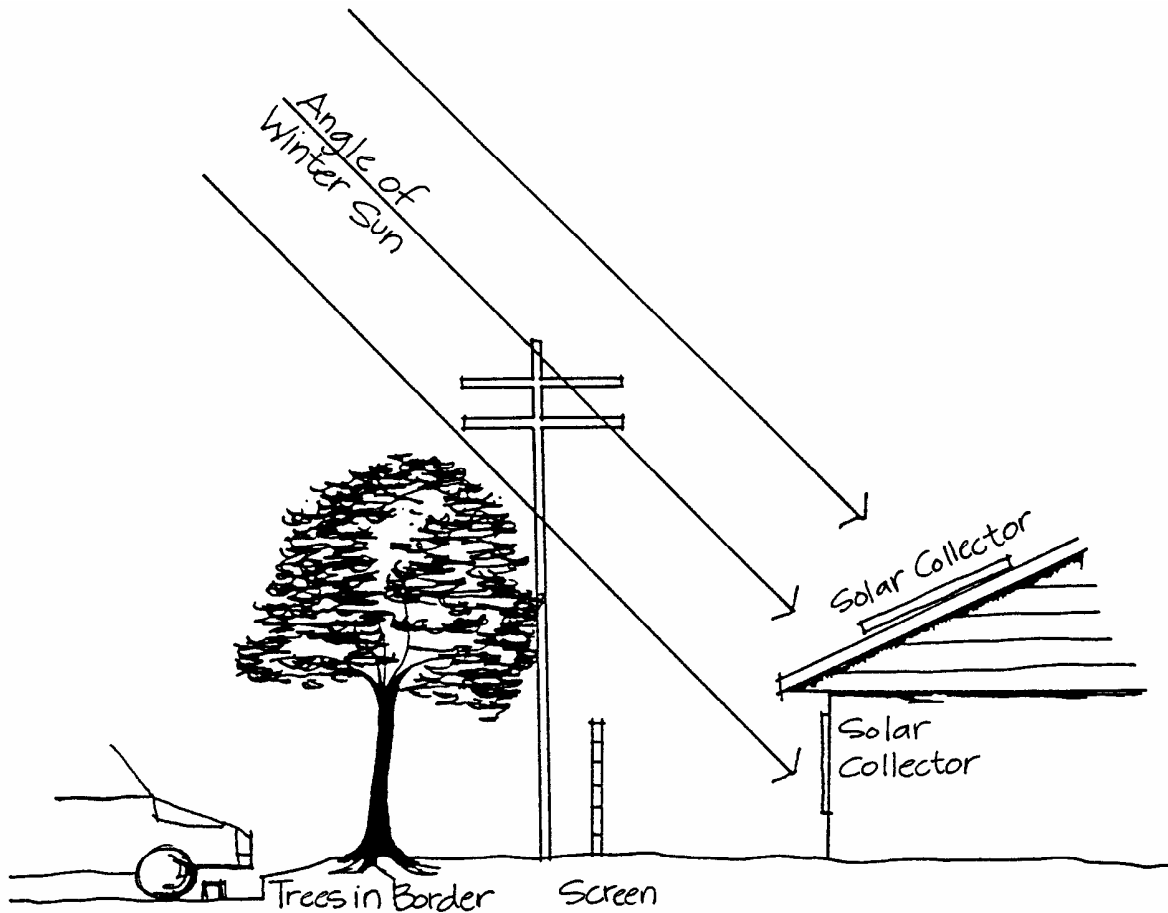
**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
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*Note: The area between the sidewalk & the property line may be included in the min. 10' Street Landscape Border if the City Engineer approves the placement of required landscaping in the public right of way.

D.S. 2-06.3.5.A. Plant Size Location & Spacing

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DEVELOPMENT STANDARD NO. 2-06.0
LANDSCAPING AND SCREENING STANDARDS

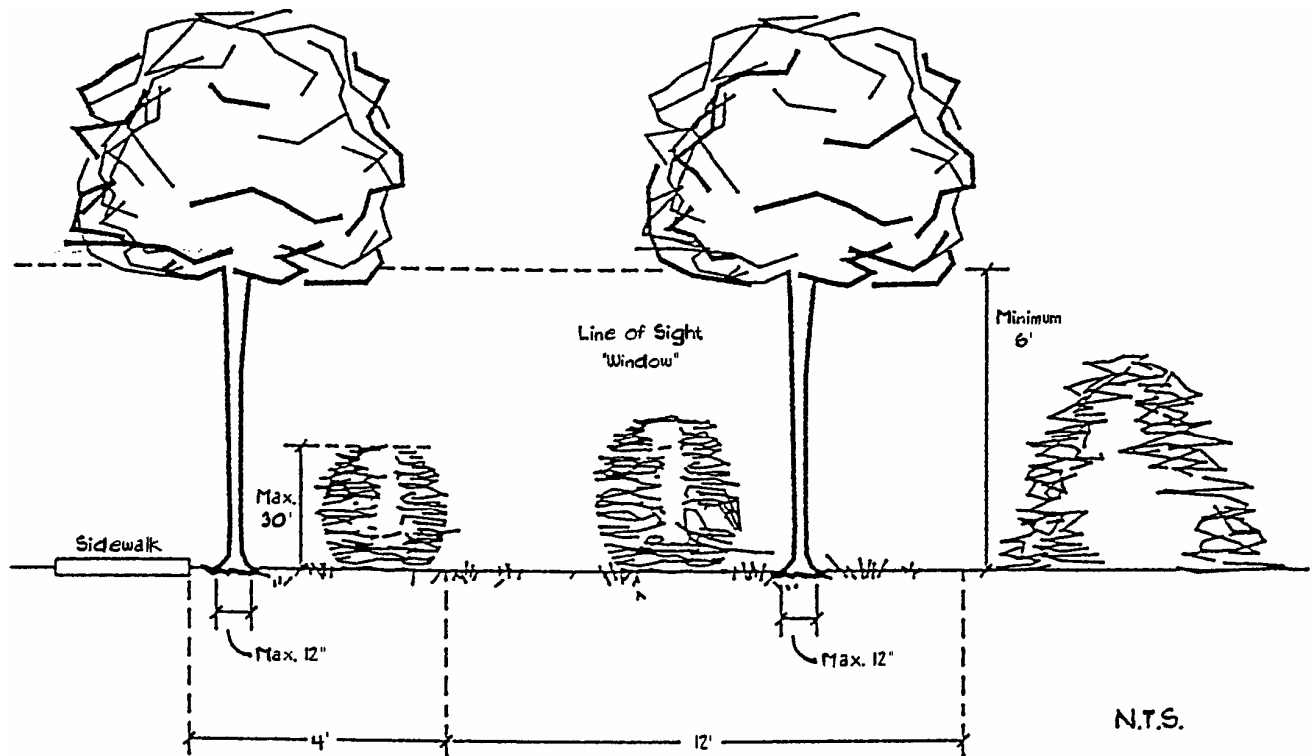


N.T.S.

D.S. 2-06.3.4.D. Plant Size, Location
and Spacing

Adjust the locations of trees in the
Border to allow access to existing solar
collectors & prevent conflicts with utility
wires or easements.

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DEVELOPMENT STANDARD 2-06.3.6.E. Pedestrian Safety Zone.

Within four (4) feet of a pedestrian path, vegetation must be trimmed to thirty (30) inches in height. Within twelve (12) feet of a pedestrian path, tree canopies must be pruned to a minimum height of six (6) feet.

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LANDSCAPING AND SCREENING STANDARDS**

SECURITY PLANT MATERIALS

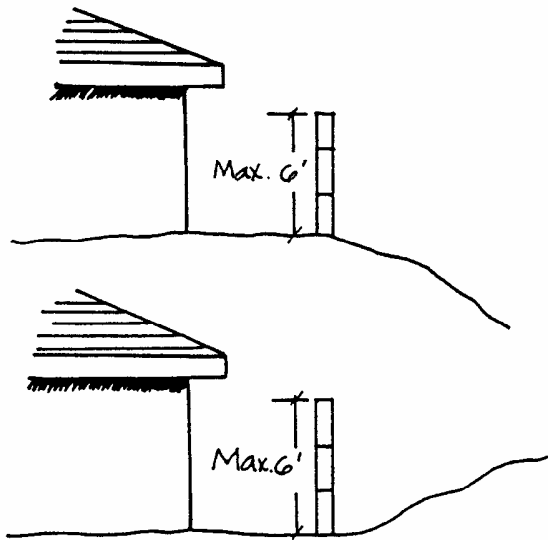
BOTANICAL NAME	COMMON NAME	Evergreen	Deciduous	Barrier	Hedge	Thorns	Stickers	Dense	Height at Maturity	Tree	Shrub	Ground Cover	Perennial
Acacia species			•	•		•	•		Varies	•	•		
Agave - many species		•		•		•			Varies				•
Aloe barbadensis	Aloe Vera	•		•			•		2'				•
Aloe saponaria	African Aloe	•		•			•		12"				•
Araucaria bidwillii	Bunya-Bunya Tree	•		•			•		80'	•			
Asparagus falcatus	Sickle Thorn Asparagus	•				•			12"			•	•
Atriplex lentiformis	Saltbush	•		•			•	•	8'		•		
Bambusa - many species	Bamboo	•			•			•	10'-15'				•
Bougainvillea 'Barbara Karst'			•	•					8'-10'		•		
Bougainvillea - Bush Var.	Bush Bougainvillea		•		•				3'-4'		•		
Caesalpinia pulcherrima	Red Bird of Paradise		•	•		•			6'	•	•		
Carissa grandiflora	Natal Plum - Many Var.	•		•		•		•	2'-6'		•		
Celtis pallida	Spiny Hackberry		•	•		•		•	8'-10'	•	•		
Chamaerops humilis	Med. Fan Palm	•		•	•			•	6'-10'				•
Cortaderia selloana	Pampas Grass	•		•				•	10'				•
Cotoneaster pannosus	Silverleaf Cotoneaster	•			•				6'-10'		•		
Dasyliirion wheeleri	Sotol	•		•			•		5'				•
Euphorbia mili	Crown of Thorns	•		•		•			7'-8'				•
Feijoa sellowiana	Pineapple Guava	•			•			•	6'-15'		•		
Ferocactus species	Barrel Cactus	•				•			2'				•
Fouquieria splendens	Ocotillo	•		•		•			12'				•
Ilex cornuta 'Burfordii'	Burford's Holly	•		•	•		•		6'		•		
Jasminum mesnyi	Primrose Jasmine	•			•			•	6'-8'		•		
Juniperus species	Juniper	•			•		•	•	Varies		•		
Leucophyllum frutescens	Texas Ranger	•			•			•	6'-8'		•		
Ligustrum lucidum	Privet	•			•			•	10'-30'	•	•		
Mahonia aquifolium	Oregon Grape	•			•		•	•	6'		•		
Nerium oleander	Oleander	•			•			•	10'-15'		•		
Opuntia species	Prickly Pear; Cholla	•		•			•		Varies				•
Photinia fraseri	Photinia	•			•				10'		•		
Pithecellobium flexicaule	Texas Ebony		•	•		•			20'	•	•		
Punica granatum	Pomegranate		•		•				12'-20'	•	•		

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
LANDSCAPING AND SCREENING STANDARDS**

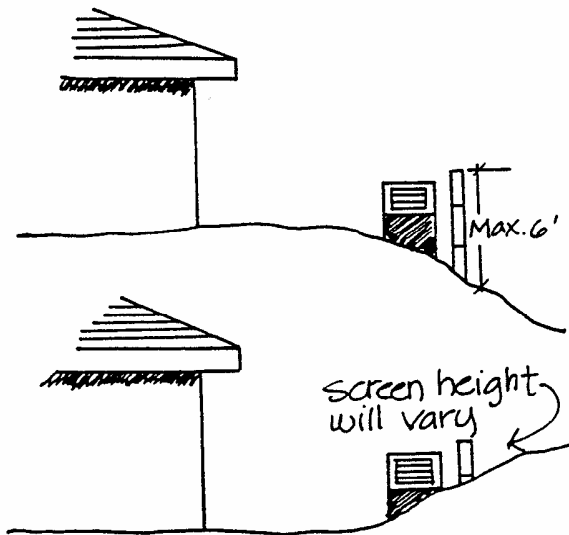
SECURITY PLANT MATERIALS (CONT'D)

BOTANICAL NAME	COMMON NAME	Evergreen	Deciduous	Barrier	Hedge	Thorns	Stickers	Dense	Height at Maturity	Tree	Shrub	Ground Cover	Perennial
Pyracantha 'Rosedale'	Firethorn	•		•		•			8'-10'		•		
Pyracantha 'Santa Cruz'	Firethorn	•		•		•			2'-3'		•		
Rosa	Rose		•	•		•			Varies		•		•
Rosa banksiae	Lady Bank's Rose	•		•		•		•	Varies		•		
Tamarix aphylla	Tamarisk	•			•			•	10'-30'	•	•		
Vauquelinia californica	Arizona Rosewood	•			•			•	8'		•		
Viburnum suspensum	Viburnum	•			•				6'-8'		•		
Xylosma congestum	Xylosma	•			•			•	8'-15'	•	•		
Yucca aloifolia	Spanish Bayonet	•		•			•		5'-7'				•
Yucca brevifolia	Joshua Tree	•		•			•		15'				•
Yucca whipplei	Our Lord's Candle	•		•			•		2'-4'				•

CITY OF TUCSON
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LANDSCAPING AND SCREENING STANDARDS



Measure the height of the screen from the interior of the project site. Maximum height for a free-standing screen is 6 feet.

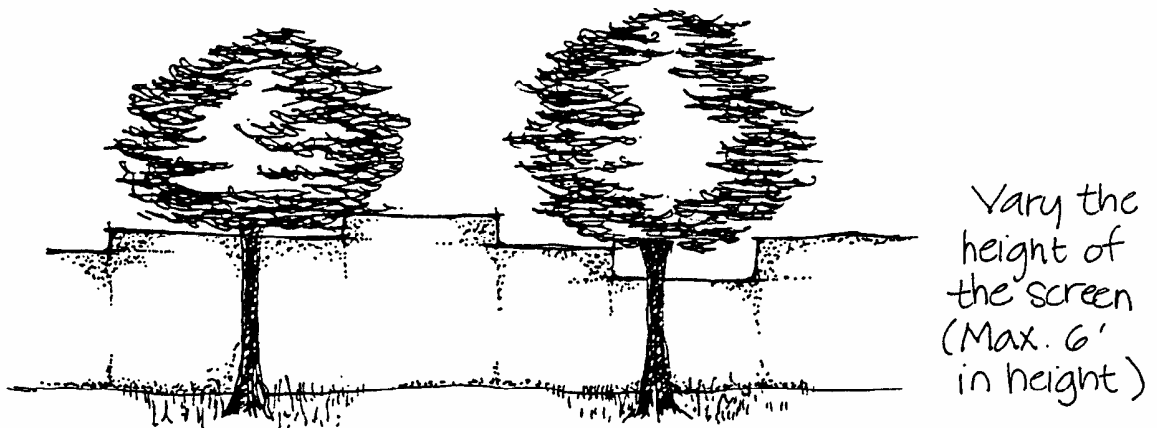
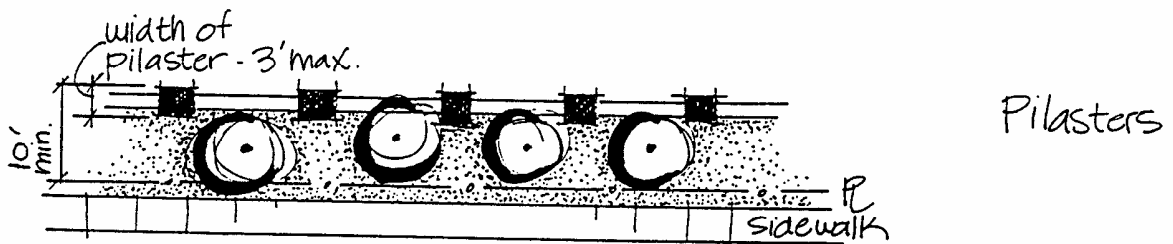
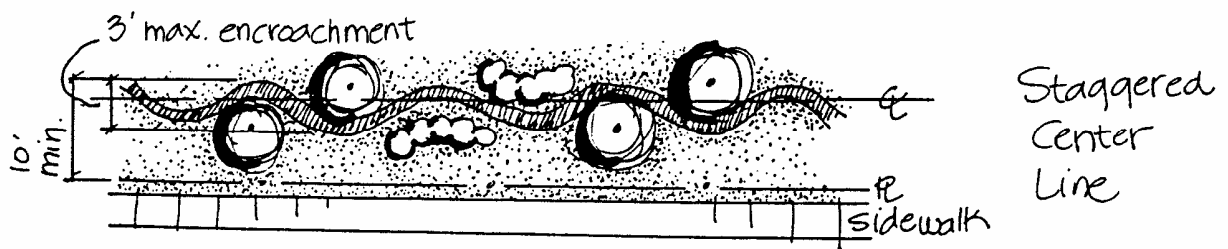
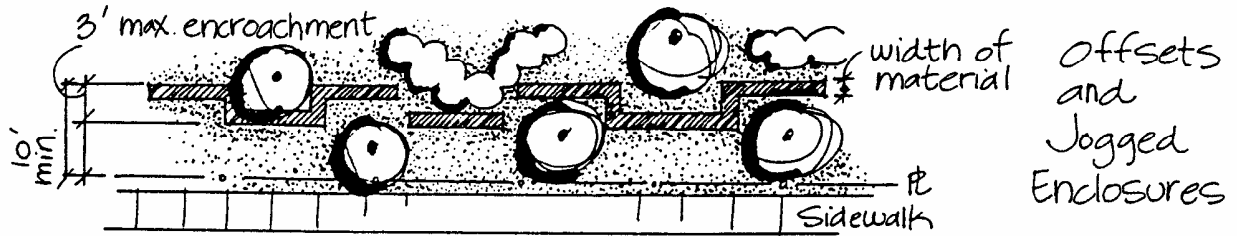


Measure the height of the screen for mechanical equipment to the highest point of the element. Maximum height for a free-standing screen is 6 feet.

N.T.S.

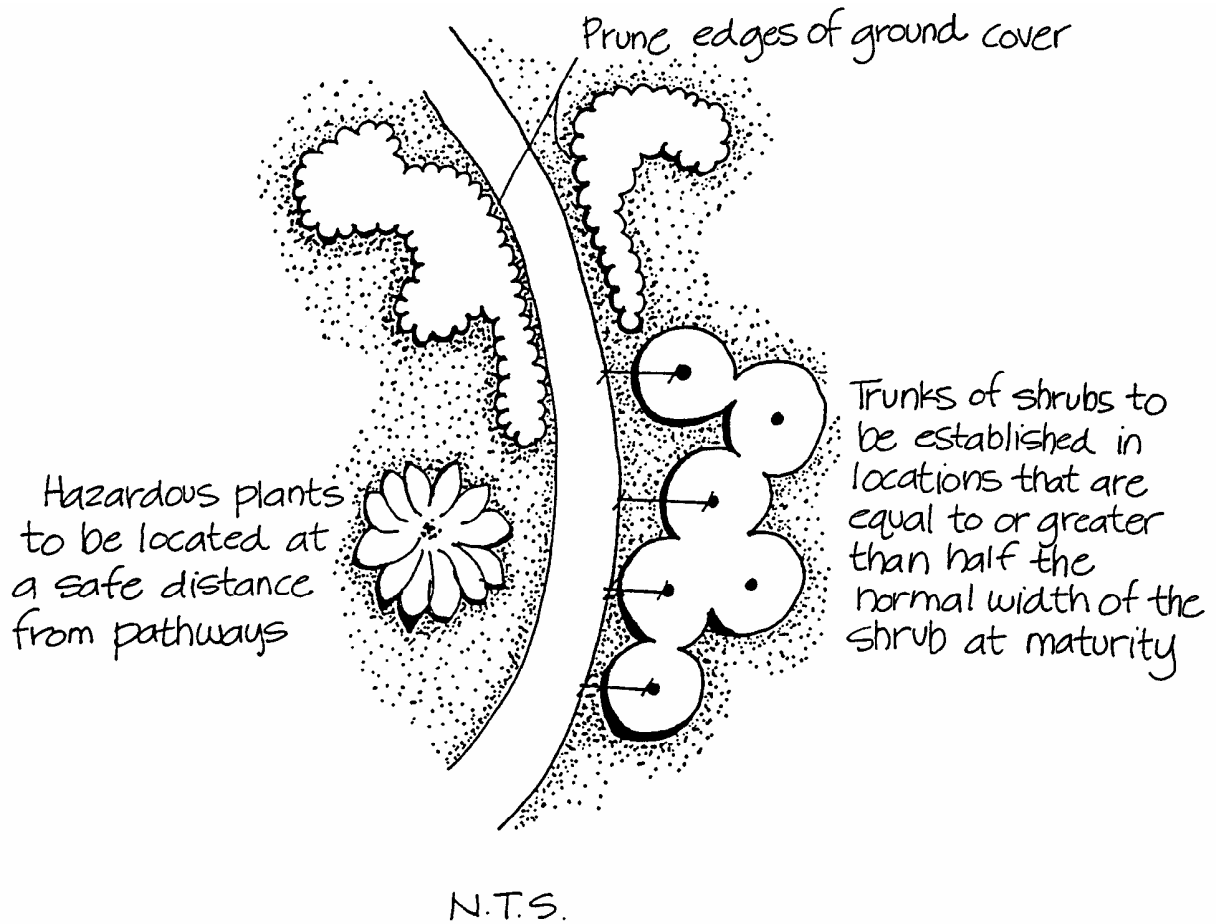
D.S. 2-06.3.5. Screening Standards

CITY OF TUCSON
 DEVELOPMENT STANDARD NO. 2-06.0
 LANDSCAPING AND SCREENING STANDARDS



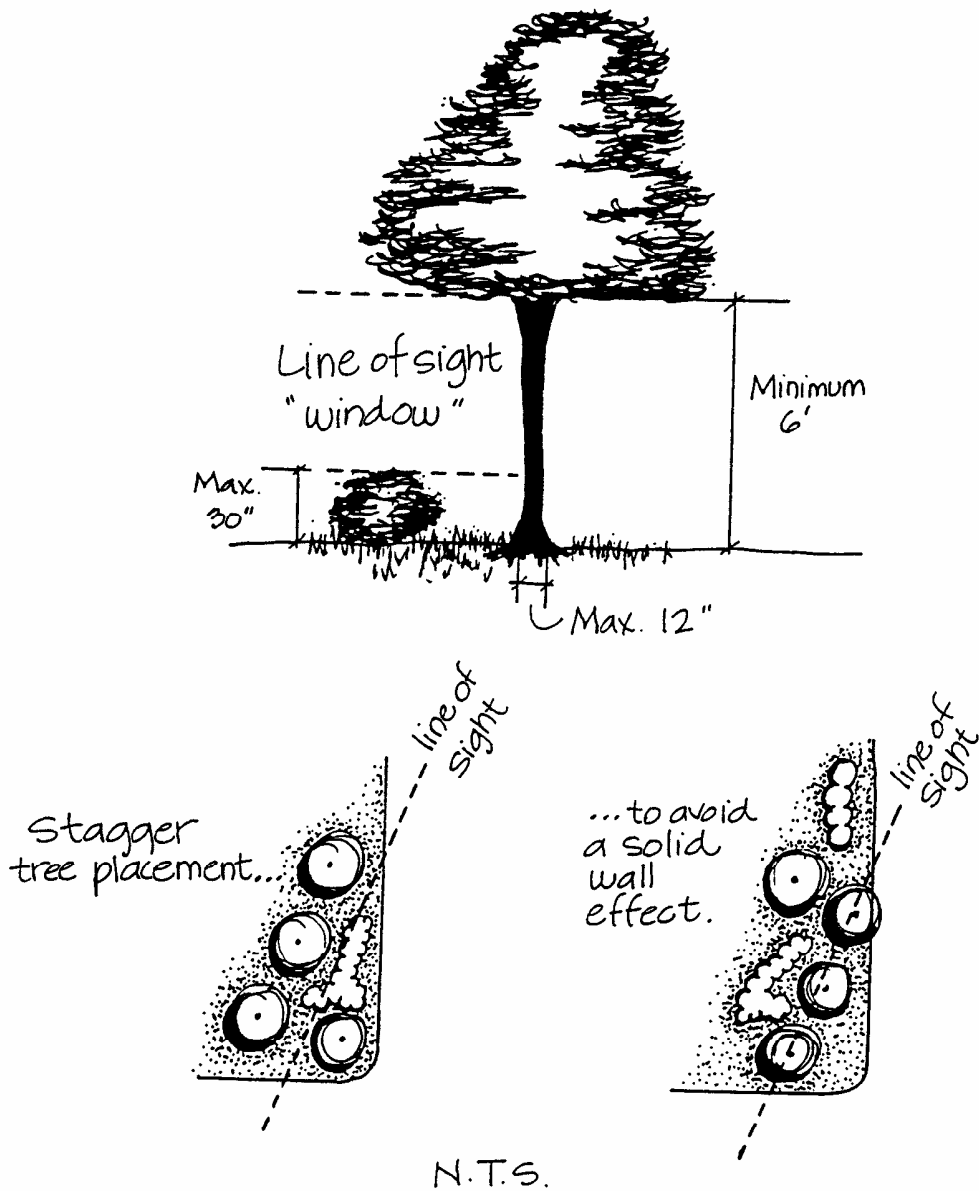
D.S. 2-06.3.6. Screening Standards
 Design variations for walls.

CITY OF TUCSON
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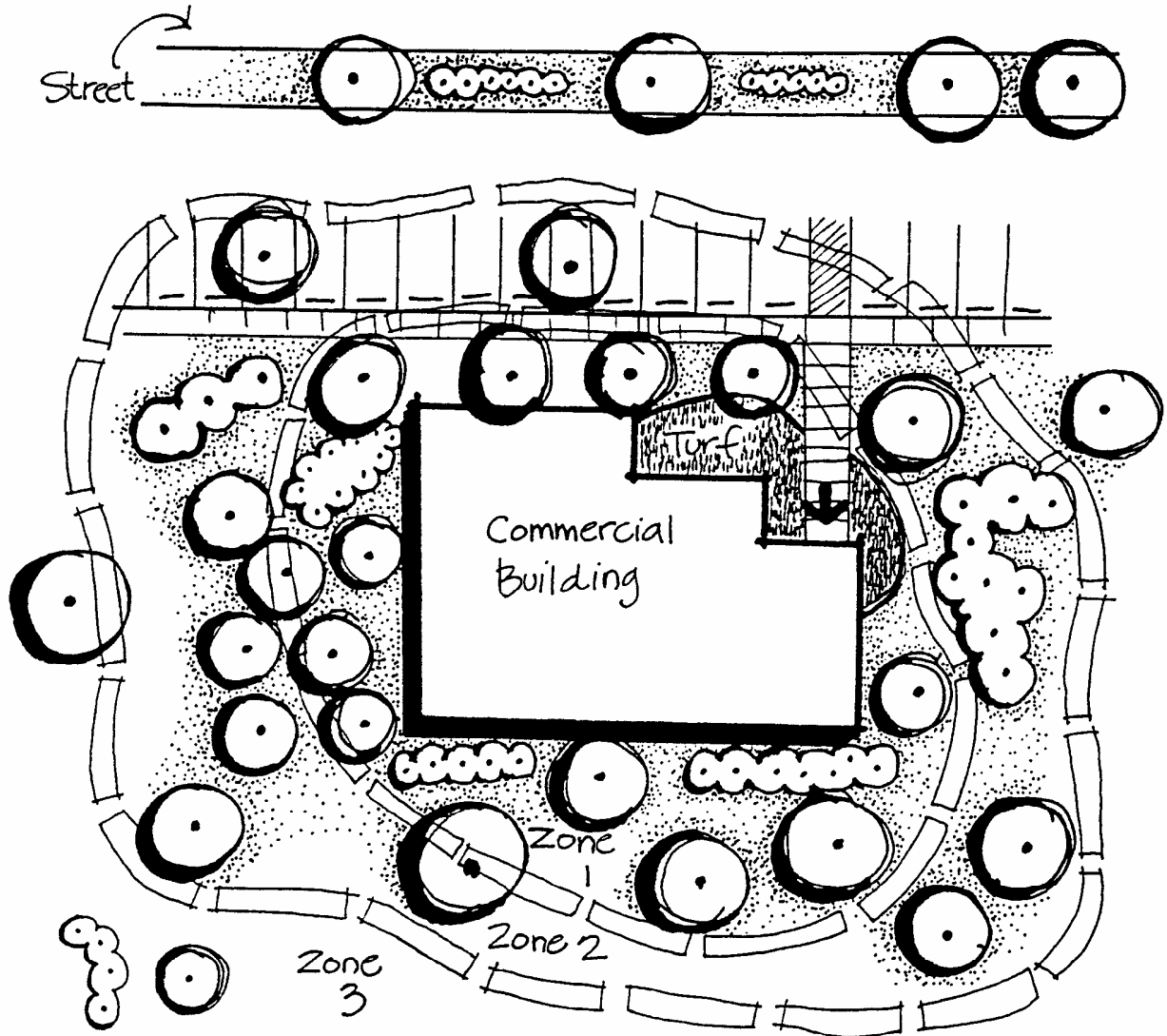
D.S. 2-06.3.7. Safety Standards

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
LANDSCAPING AND SCREENING STANDARDS



D.S. 2-06.3.7. Safety Standards
A clear line of sight must be maintained above 30" & below 6' within a sight visibility triangle.

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-06.0
LANDSCAPING AND SCREENING STANDARDS



Zone 1: High water use plants for maximum cooling effects.

Zone 2: Drought tolerant plants needing irrigation until established.

Zone 3: Drought tolerant or indigenous plants needing no supplemental watering after established.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-16.0
LANDSCAPE PLANT MATERIALS**

LANDSCAPE PLANT MATERIALS

- 2-16.1.0 PURPOSE**
 - 2-16.2.0 APPLICABILITY**
 - 2-16.3.0 DEFINITIONS**
 - 2-16.4.0 TYPES OF PLANT MATERIAL**
 - 2-16.5.0 SEEDING PROGRAMS**
 - 2-16.6.0 PLANT/SEED LISTS**
 - 2-16.7.0 EXHIBITS**
-

2-16.0.0 LANDSCAPE PLANT MATERIALS.

- 2-16.1.0 PURPOSE.** This Standard has been prepared for the purpose of establishing plant and seed lists for use with various City of Tucson regulations that either require or regulate landscaping.
- 2-16.2.0 APPLICABILITY.** This Standard applies on development projects, including repair and infrastructure installation, when City regulations mandate the use of drought tolerant or native plant and seed material.
- 2-16.3.0 DEFINITIONS.** Definitions for words used in this Standard are found in the Development Standards Glossary or in Sec. 6.2.0 of the Tucson *Land Use Code (LUC)*.
- 2-16.4.0 TYPES OF PLANT MATERIAL.** Most projects, with some exceptions, are required to be landscaped with either native vegetation or drought tolerant vegetation. The following subsections describe how vegetation is selected to comply with those requirements. For information on any exceptions, refer to the individual ordinance requiring or regulating the landscaping.
- 4.1 Native Vegetation. There are regulations in the *LUC*, such as the Scenic Corridor Zone (SCZ) and the Environmental Resource Zone (ERZ), where native vegetation is required to be retained or where the property is required to be revegetated with native plant material. In these two zones or in any other City regulation listing a requirement for native vegetation or revegetation, the requirement is to be complied with as discussed below.

Native vegetation is defined as vegetation indigenous to the site. Native vegetation, however, varies greatly in different areas of the Tucson basin due to changes in topographical elevation, soils, and availability of moisture. Due to this variation of native plant material, a general native plant list applicable to an individual site within the region cannot be defined.

Therefore, when native vegetation is required on a project, the landscape plans submitted for review must include a comprehensive list of native vegetation that exists on the site and in the immediate areas surrounding the site. Selection of plant material for use on the project will be from that comprehensive list.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-16.0
LANDSCAPE PLANT MATERIALS**

- 4.2 **Native Seeds.** As mentioned in Sec. 2-16.4.1, the type of native vegetation varies greatly within the Tucson basin. To determine which seeds to use on a project when native seeds are required, a comprehensive list (as discussed in Sec. 2-16.4.1) of native plants must be submitted.

A base set of native seed species is contained in ***Exhibit I*** of this Standard. This base set is not inclusive of all native plant material. Seeds from that list may be chosen for use on a project requiring native seeds, if the plant is found on the comprehensive native plant list assembled for the property.

If the project does not require native seeds but the landscape design calls for the use of seeds native to the site or region, a comprehensive list, as per Sec. 2-16.4.1, may be submitted for determination as to whether or not they are native. As an alternative (on projects not requiring native seeds), seed selection may be made from ***Exhibit I***, Native Seeds. If the proposed seed is not on the comprehensive list, ***Exhibit I***, nor in ***Exhibit II***, it may be used if:

- A. The seed species is drought tolerant and a seed supplier certification of drought tolerancy is submitted; and
 - B. The City can certify through a third party the seed species' drought tolerancy; and
 - C. The proposed seed species is not for landscaping public right-of-way, unless it is to comply with SCZ or ERZ requirements; and
 - D. The seed species has not been considered by the Arizona Department of Water Resources (ADWR) and rejected.
- 4.3 **Drought Tolerant Vegetation.** When drought tolerant vegetation is required by a City regulation, such as Sec. 3.7.0, Landscaping and Screening Regulations, of the *LUC*, plant selection is from ***Exhibit II***, Low Water Use/Drought Tolerant Plant List.
- 4.4 **Drought Tolerant Seeds.** Various City landscaping regulations allow the use of seeds within landscape areas. For example, the Landscaping and Screening Regulations allow the use of seeds as a ground cover in lieu of decomposed granite (DG) in such areas as under canopy trees. However, seeds cannot be used to comply with the fifty (50) percent vegetative coverage area requirements of the street landscape border.

In situations where the use of seeds is permitted, selection of seed material will be from plants on the Low Water Use/Drought Tolerant Plant List, ***Exhibit II***. Also, if the area that is to be reseeded is not within the public right-of-way, seed selection may be as per Sec. 2-16.4.2, Native Seeds.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-16.0
LANDSCAPE PLANT MATERIALS**

4.4 Drought Tolerant Seeds. (Cont'd)

All plant material used within the public right-of-way is to be from the plant list, **Exhibit II**, regardless of whether it is plant or seed material. The only exceptions to this are in the application of native vegetation requirements of the SCZ and the ERZ sections of the *LUC* or in compliance with native seeding requirements of the Uniform Building Code grading ordinance.

2-16.5.0 SEEDING PROGRAMS. In projects where seeding is required or is being utilized to meet a landscaping requirement, the items to address, in addition to seed selection, are irrigation requirements, site preparation, and establishment guarantee. Site-specific situations will be addressed on a case-by-case basis. General guidelines are provided in this Standard; however, alternatives may be proposed to the staff reviewing the landscape plans.

5.1 Site Preparation. In order to attain the maximum benefit from the seeded materials, it is necessary to till the soil prior to seeding. The method and use of fertilizers, seeding, mulching, tackifiers, etc., will vary per site-specific situations. The applicant is expected to do whatever is necessary to prepare the site to guarantee plant establishment to the satisfaction of the City.

5.2 Irrigation. The sites that will require revegetation will vary considerably. Some sites with little slope and with soil textures and structures conducive to capturing rainfall or capable of being modified to capture rainfall can be revegetated on rainfall alone. Some sites may require short-term irrigation to achieve plant establishment. The applicant will not be required by the City to irrigate but will, however, be responsible for successful establishment of vegetation using the appropriate seeding/irrigation method.

5.3 Plant Establishment Guarantee. A stand of vegetation shall be considered established when:

A minimum of one (1) perennial seeded species per square foot has rooted, developed true leaves, and is in a state of continual positive growth, and the interspace area between perennial species has a minimum of one (1) annual or perennial plant in any stage of development or growth other than seed.

2-16.6.0 PLANT/SEED LISTS.

6.1 Origin of Plant/Seed Lists.

A. **Exhibit I**, Native Seed List, was derived from the Low Water Use/Drought Tolerant Plant List as known native vegetation. The list is not inclusive of all native vegetation. For alternative selections, refer to Sec. 2-16.4.2 of this Standard.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-16.0
LANDSCAPE PLANT MATERIALS**

6.1 Origin of Plant/Seed Lists. (Cont'd)

The seed list is established as a guide on how to mix the various types of seeds to provide a varying mix of native plant growth on the site giving it a more natural appearance. The pounds per acre listing is a guide for use by the designer to achieve a minimum growth pattern to the seeded area. Specific rates are based on the seeds that are used in the mix. The seed mix is to be certified by the seed supplier as to the growth coverage projected.

- B. **Exhibit II**, Low Water Use/Drought Tolerant Plant List, is prepared for use within the Tucson Active Management Area (TAMA) by the ADWR.

6.2 Modification of Plant Selection. In order to use plants not listed in **Exhibit II**, Low Water Use/Drought Tolerant Plant List, the plants are to be approved through the following process.

- A. Any person seeking to add or delete a plant or plants from the low water use plant list may submit an application for modification of the list at any time to the Director of the ADWR. The application is made on a form prescribed and furnished by the Director of the ADWR.
- B. The ADWR Director reviews each request for modification of the low water use plant list. The Director may request additional information from the applicant and may seek information from other sources as may be necessary to determine whether the list should be modified.
- C. If the addition of a plant to the low water use plant list is approved, the ADWR Director will place the plant on a supplemental list as an addendum to the low water use plant list. The supplemental list shall be available upon request from the ADWR.
- D. If the ADWR Director approves the deletion of a plant from the Low Water Use/Drought Tolerant Plant List, the deletion from the list will be issued with the annual modified review plant list.
- E. The ADWR Director conducts an annual review of the low water use plant list and issues a modified plant list. As a result of the review, the Director may add or delete plants from the list.

6.3 Updates of Plant Lists. The plant and seed lists will be updated as necessary to provide the most current plant list based on Sec. 2-16.6.2.E.

2-16.7.0 EXHIBITS.

Exhibit I - Native Seed List

Exhibit II - Low Water Use/Drought Tolerant Plant List

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-16.0
LANDSCAPE PLANT MATERIALS**

**EXHIBIT I
NATIVE SEED LIST**

SPECIES

<u>Botanical Name</u>	<u>Common Name</u>	<u>PLS* Rate lbs/acre</u>
Aristida purpurea (P, W)	Purple Three-Awn	2.0
Plantago insularis (A, C)	Indian Wheat	3.0
Senna covesii (P, W)	Desert Senna	2.0
Sphaeralcea ambigua (P, C/W)	Desert Globe-Mallow	1.0
Sporobolus cryptandrus (P, W)	Sand Dropseed	1.0

Plus choose a minimum of three (3) species from the following six:

Acacia constricta (P, W)	Whitethorn Acacia, Mescat	2.0
Ambrosia (Franseria) deltoidea (P, C)	Triangle-Leaf Bursage	4.0
Atriplex canescens (P, C)	Four-Wing Saltbush	3.0
Encelia farinosa (P, C/W)	Brittlebush	1.5
Haplopappus (Ericameria) laricifolius (P, C/W)	Turpentine Bush	1.0
Larrea tridentata (divaricata) (P, W)	Creosote Bush, Greasewood	6.0

Optional recommended species:

Acacia greggii (P, W)	Cat's Claw Acacia	2.0-3.0
Atriplex lentiformis (P, C)	Quail Bush	1.0-2.0
Atriplex polycarpa (P, C)	Desert Saltbush	1.0-3.0
Baileya multiradiata (P, C/W)	Desert Marigold	1.0-2.0
Bouteloua curtipendula (P, W)	Sideoats Grama	2.0
Cercidium floridum (P, W)	Blue Palo Verde	2.0-3.0
Cercidium microphyllum (P, W)	Littleleaf or Foothill Palo Verde	2.0-3.0
Eragrostis intermedia (P, W)	Plains Lovegrass	1.0
Eschscholtzia mexicana (A, C)	Mexican Gold Poppy	1.0-3.0
Leptochloa dubia (P, W)	Green Sprangle-Top	1.0
Phacelia campanularia (A, C)	Desert Canterbury Bells	1.0-2.0
Prosopis velutina (P, W)	Velvet Mesquite	1.0-2.0
Psilostrophe cooperi (P, C/W)	Paper Flower	1.0-2.0
Setaria macrostachya (P, W)	Plains Bristle Grass	2.0

*PLS = Pure Live Seed

KEY: A = Annual; P = Perennial; C = Germinates and thrives in the cool season; W = Germinates and thrives in the warm season; C/W = Germinates and thrives in cool/warm seasons.

NOTE: The cool season in Tucson runs September through March, and the warm season is from March through October. There is an overlap of seasons.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

STREET DEVELOPMENT STANDARD

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3-01.2.0	STREET COMPOSITION
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3-01.0.0 STREET DEVELOPMENT STANDARD.

3-01.1.0 GENERAL.

1.1 Purpose. The following Street Development Standard has been established to:

- Provide for streets of suitable location, width, and improvement to safely accommodate vehicular, pedestrian, disabled pedestrian, and bicycle traffic;
- Afford satisfactory access to police, fire fighting, ambulance, paramedic, utility, sanitation, and street maintenance equipment;
- Coordinate street improvements, both public and private, so as to compose a convenient system and avoid undue hardships to adjoining properties; and
- Provide design values and alternatives most suitable for various situations as dictated by safety and sound engineering judgment.

1.2 Scope. This Standard applies to all development located within the City of Tucson.

1.3 Functional Classifications. The improvement and development of streets is based on the functional classification system. The design characteristics of the street depend on the volume and type of traffic, length of street, and whether or not it is a through street.

The three (3) functional classifications identified by the City of Tucson are local streets, collector streets, and arterial streets.

1.4 Definitions. Definitions for words used in this Standard are found in the Development Standards Glossary or in Sec. 6.2.0 of the Tucson *Land Use Code (LUC)*.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

3-01.2.0 STREET COMPOSITION.

2.1 Right-of-Way Requirements.

- A. All rights-of-way, both public and private, will be designed to accommodate present and future street pavements, medians, curbs, walks, utility installations, drainage, landscaping, and other design considerations. All entire or partial right-of-way widths are in whole numbers, dimensioned in feet.

The following abbreviations are used in this Standard to refer to right-of-way elements.

- | | |
|--------------------|-------------------|
| M - Median | T - Travel Lanes |
| TL - Turning Lanes | C - Curbs |
| B - Bike Lanes | P - Parking Lanes |
| W - Sidewalk Area | |

- B. The minimum required right-of-way width consists of:

Local Street	T & C & P & W
Collector Street	T & C & W & TL & B & M (if required)
Arterial Street	T & C & W & TL & B & M

- C. Each arterial and collector street will be designed to *Major Streets and Routes (MS&R) Plan* guidelines to accommodate the projected traffic for the design year and any safety features, buffer zones, frontage roads, refuge lanes, bus lanes, or other design considerations.
- D. Additional right-of-way is required by the *MS&R Plan* at major intersections to allow for necessary turning movements and other street uses.
- E. Where considered appropriate by the Tucson Department of Transportation (TDOT), additional right-of-way may also be required for installing mass transit stops, facilities for the physically disabled, or stormwater flows and drainage structures.

2.2 Traffic Volumes.

- A. Residential Average Daily Traffic (ADT) can be estimated according to the following table.

Type of Dwelling Unit	ADT per Unit
Single Family Dwellings	10.0
Apartment/Condominiums	7.0
Townhomes	6.0
Mobile Homes	5.0

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STREET DEVELOPMENT STANDARD**

2.2 Traffic Volumes. (Cont'd)

- B. Nonresidential ADT can be estimated using the *Trip Generation Manual of the Institute of Transportation Engineers*.
- C. The ADT calculated for the project must be added to the ADT of the through traffic on any street adjacent to the project, to determine whether the requirements of this Standard apply to the street.

2.3 Width Requirements. (See **Figures 1-5.**)

A. Pavement and Travel Lane Widths.

- 1. Paved roadway and travel lane widths are determined by the use of the following tables.

TABLE 1 - MIDBLOCK PAVEMENT WIDTHS		
<i>Number of Parking Lanes</i>	<i>Minimum Width of 2-Way Roadway Exclusive of Curbs</i>	
	ADT 0-1,000	ADT 1,001-2,500
0	24 feet	24 feet
2	32 feet*	40 feet

*May be used only with two (2) foot wide wedge curbs.

TABLE 2 - TRAVEL LANE WIDTHS		
<i>ADT</i>	<i>Lane Width</i>	<i>Number of Lanes</i>
0 to 1,000	10 feet	2
1,001 to 2,500	12 feet	2
Over 2,500	Designed on a case-by-case basis	

- 2. The width of a travel lane is determined by the speed of traffic, modal split, truck traffic, ADT, and other considerations. Where the volume of truck traffic exceeds five (5) percent of the ADT, the minimum travel lane width will be twelve (12) feet. Where speed of traffic and modal splits effect the width of travel lanes, lane widths will be approved by TDOT.

- B. When a travelway exhibits characteristics of both a parking area access lane (PAAL) and a local street, TDOT will classify the travelway according to the most dominant use.

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2.4 Parking Lanes.

- A. A parking lane is seven (7) feet in width and parallel with the curb, if used with a vertical curb and measured from the face of the vertical curb, and eight (8) feet in width and parallel with the curb, if used with a wedge curb and measured from the back of the wedge curb.
- B. When wedge curbs are permitted, they may be included as a part of the parking lane.
- C. Parking is prohibited on arterial and collector streets, unless specifically authorized by the Mayor and Council.
- D. Local streets must be designed with parking on both sides of the street, unless parking is provided in common areas distributed throughout the subdivision, at a ratio of one parking space per dwelling within the subdivision.

2.5 Additional Vehicular Lanes.

- A. Deceleration and/or acceleration lanes may be required adjacent to driveways on streets having a posted speed of thirty-five (35) miles per hour or greater or where the ADT of the driveway exceeds one thousand (1,000).
- B. Left turn lanes, with appropriate transitions, may be required on streets that exist at less than the full future width or where significant turning movements will occur. The minimum turn lane width is twelve (12) feet.
- C. TDOT will determine when deceleration, acceleration, and/or left turn lanes are required, based on a traffic analysis supplied by the developer. The analysis must comply with procedures detailed in the *Highway Capacity Manual*, latest edition, or with procedures supplied by TDOT.
- D. Pavement transitions are to be designed based upon the following formulas. Design speed is the posted speed plus ten (10) mph. (*Manual on Uniform Traffic Control Devices* [MUTCD], 1978 or subsequent edition.)
 - 1. For a design speed (d) less than or equal to forty (40) mph, the length (L) of the transition in feet is:

$$L = \frac{([d]^2 \times \text{offset \{ft.\}})}{60}$$

- 2. For a design speed (d) greater than forty (40) mph, the length (L) of the transition in feet is:

$$L = ([d] \times \text{offset \{ft.\}})$$

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2.5 Additional Vehicular Lanes. (Cont'd)

Examples:

Posted Speed	Offset	Transition Length
40	12'	600'
50	12'	720'
40	6'	300'
50	6'	360'
25	12'	245'
30	12'	320'

- E. Median islands will be designed with a length consistent with the design speed of the street and have a nominal width of twenty (20) feet but at no point be less than six (6) feet in width. Median islands will provide accessible routes through or across medians and a place of refuge for pedestrians and disabled pedestrians at all pedestrian crosswalks.

2.6 Bikeways, Lanes, and Paths.

- A. Bikeways and bike paths separate from the paved roadway require a minimum of five (5) feet for one-way travel and a minimum of ten (10) feet for two-way travel.
- B. Each bike lane within the paved roadway requires a minimum of five (5) feet of additional pavement.
- C. Bikeways, bike lanes, and bike paths will be designed in accordance with the Arizona Department of Transportation publication, *Arizona Bicycle Facilities Planning and Design Guidelines* and Mayor and Council policy.

2.7 Sidewalk Areas.

- A. All streets require a sidewalk area on each side of the street. A sidewalk area generally consists of a space between the curb and sidewalk, area for a sidewalk, and a ground slope area. Improvements include, but are not limited to, wheelchair ramps, sidewalks, driveways, utilities, street furniture, landscaping, and drainage structures.

Reduction in the width of the sidewalk area is not allowed, except when authorized by the City Engineer or designee under any of the following conditions.

1. If an alternative street cross-section has been previously approved;
2. In order to accommodate existing grade differentials;
3. In order to match existing sidewalks;
4. In order to accommodate drainage facilities.

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2.7 Sidewalk Areas. (Cont'd)

- B. The space between the curb and the sidewalk is reserved for placing fire hydrants, traffic signs, mailboxes, water meters, drainage structures, and other similar uses. The minimum width for this space is two (2) feet.

The space between the curb and sidewalk may be excluded. (See **Figures 1 and 2.**) In such a situation, sufficient right-of-way on the property side of the sidewalk must be dedicated to accommodate the items normally found in the space.

- C. When landscaping is installed in sidewalk areas which are not required to have sidewalks, a four (4) foot wide walk area must be kept free from trees and large bushes. If curbs exist, the walk area will be graded to provide a ground slope of two (2) percent to the top of the curb.
- D. In sidewalk areas where sidewalks are installed, owners of abutting property may place pea gravel, decomposed granite, or brick in sand in the space between the curb and sidewalk and in the ground slope areas without a permit from the City of Tucson.
- E. Landscaping work in street right-of-way that involves irrigation systems, raised planters, trees, large shrubs, or curbing will require the abutting property owner to submit a plan to, and receive written approval and a permit (pursuant to Chapter 25, Tucson Code) from, TDOT. The landscaping will be reviewed for sight visibility safety, pedestrian safety, upheaval potential, and compatibility with existing utilities and drainage facilities.
- F. Any improvements (landscaping, irrigation, etc.) installed in the sidewalk area by the owner of an abutting property will be installed at the owner's expense. If the improvements need to be removed or relocated because of construction of City of Tucson projects, removal and relocation will be at the owner's expense.
- G. Maintenance of the sidewalk area is the responsibility of the owner of the abutting property.

2.8 Pedestrian Access. Barrier-free access routes shall be designed so they are traversable at all times and free of floodwater during a ten (10) year frequency flood event.

- A. All streets require the installation of a barrier-free pedestrian circulation path, unless specifically exempted by this Standard. The pedestrian circulation path consists of sidewalks, wheelchair ramps, and landings.

Where the local street system is designed so that access to schools via the local streets is indirect, a pedestrian easement is required which provides a direct route to nearby schools.

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2.8 Pedestrian Access. (Cont'd)

- B. Pedestrian circulation paths located in a street will conform to the criteria in this Standard.
- C. Pedestrian circulation paths located within a development must meet the criteria listed in Development Standard 2-08.0 and in Sec. 3-01.4.4 of this Standard.

3-01.3.0 STREET IMPROVEMENTS.

3.1 Paving.

- A. All pavement sections will be designed in accordance with ambient soil conditions and projected use, using a method acceptable to the City Engineer.
 - 1. The minimum structural section for permanent pavement on local streets is:
 - a. Two (2) inches of asphaltic concrete, supported by four (4) inches of aggregate base course, supported by subgrade compacted to ninety (90) percent relative density in accordance with the Pima County and City of Tucson *Standard Specifications for Public Improvements*; or
 - b. Three and one-half (3½) inches of asphaltic concrete supported by subgrade compacted to ninety (90) percent relative density in accordance with *Standard Specifications for Public Improvements*.
 - 2. The minimum structural section for an interim paving improvement is two (2) inches of asphaltic concrete on compacted subgrade. (Interim paving may be constructed on public streets when designated by the City Engineer. Such interim paving must be at least twenty-four [24] feet in width. Curbing may be required.)
 - 3. The minimum structural section for a private residential street is dust control paving.
 - 4. The minimum structural section for a private street in an industrial development will be three (3) inches of asphaltic concrete supported by six (6) inches of aggregate base course.
 - 5. The minimum structural section for temporary paving is two (2) inches of asphaltic concrete pavement on compacted earth.
- B. All asphaltic concrete will conform to *Standard Specifications for Public Improvements* or an approved equivalent, unless directed otherwise by the City Engineer.

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3.2 Curbing.

- A. Curbing is required on all streets in order to adequately control drainage within the street, prevent moisture from entering the subgrade, control access to abutting property, separate the roadway from the pedestrian area, and provide adequate lateral support for the pavement structure.
- B. Curbing will conform to the following criteria.
 - 1. Curbing will be vertical or wedge curbs as detailed in *Standard Details for Public Improvements*.
 - 2. Vertical curbing is required on all streets:
 - a. With a projected ADT of one thousand (1,000) or more, and
 - b. When the sidewalk adjoins the back of curb.
 - 3. Wedge curbing may be used on streets with a projected ADT of one thousand (1,000) or less.
- C. At the intersections of streets with other streets or of streets with PAALs/driveways, the curb lines will be connected with a curve having the minimum radius shown in **Figure 6**, measured at the face of the curb.
- D. At intersections of alleys with streets having vertical curbing, curb returns with a minimum radii of twelve (12) feet are required. If the alleys are not paved, the ends of the curb returns will be connected with a concrete header along the extension of the street right-of-way. Curb cuts may be used in place of curb returns only with the approval of the City Engineer. (See **Figure 7**.)

When wedge curbs are used, curb returns need not be provided at alleys unless required for drainage control.
- E. All curb cuts, curb returns, and curb depressions will be located in accordance with the City of Tucson Code, Chapter 25.
- F. Wheelchair ramps meeting the criteria of this Standard will be provided at all curb returns.
- G. When curb returns are installed at arterial intersections, conduit and pull boxes will also be installed per the currently adopted street lighting plan to allow for future lighting projects. The conduit and pull boxes will be to *Standard Details for Public Improvements*. TDOT will provide guidelines as to plan details.

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3.3 Pedestrian Circulation Paths.

- A. Sidewalks are required as part of new development of all properties. All new subdivisions and applications for building permits shall provide five (5) foot wide sidewalks along the entire length of street frontage, whether public or private, of the property in question. The sidewalk requirements also apply to expansions in floor area, site area, or vehicular use area of twenty-five (25) percent or more. Sidewalks are not required in the following circumstances.
1. At locations where pedestrian traffic is extremely unlikely, subject to approval of the Community Design Review Committee (CDRC);
 2. At locations where pedestrian traffic is heavily predominant along only one (1) side of a street, a sidewalk is required only on that side of the street, subject to approval of the CDRC;
 3. For development of parcels located in areas included in improvement districts which are under design and which include sidewalks;
 4. On any residential street with an ADT of less than one hundred forty (140), provided the street has vertical curbs and concrete driveways providing pedestrian and disabled pedestrian access to the dwelling on each lot;
 5. On any residential street with an ADT of less than four hundred (400), provided that a sidewalk is constructed in an alternative location approved by the CDRC;
 6. For subdivisions proposing individual single-family residential lots, with each lot containing sixteen thousand (16,000) square feet of area or more;
 7. On streets in established areas without existing curbs;
 8. For lots containing drainageways in which the flow from the one hundred (100) year storm is one hundred (100) cfs or greater, provided an alternate route for pedestrians is constructed in a location approved by the CDRC. This exception is limited to the width of the drainageway, which is measured from top-of-bank to top-of-bank;
 9. For streets in established areas where adequate right-of-way does not exist and existing improvements adjacent to the right-of-way preclude granting a public pedestrian easement for construction of pedestrian facilities on site;
 10. For a single-family lot where adjacent lots are developed without sidewalks, provided the lot is not part of a subdivision that is under development or has assurances posted for such improvements.

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3.3 Pedestrian Circulation Paths. (Cont'd)

B. Sidewalk Location. Sidewalks must meet the following locational requirements.

1. Sidewalks will be located a minimum of two (2) feet from the back of the existing or projected wedge curb location (the standard location) and extend to the curb at all street intersections.

These sidewalks may meander, if:

- a. The sidewalk is in the standard location at the extension of the property lines or matches the alignment of the abutting sidewalks; and
 - b. On a public street, the sidewalk is located within the right-of-way or within an acceptable pedestrian easement; and
 - c. The maximum lateral offset does not exceed seven and one-half (7½) feet; and
 - d. Lateral transitions in the sidewalk are no sharper than three (3) longitudinal to one (1) lateral; and
 - e. Irrigation is not placed between the sidewalk and the curb; and
 - f. The sidewalk is a minimum of five (5) feet in width where it adjoins vertical curbing.
2. Sidewalks will extend the full width of the street frontage of the development to provide continuity of the pedestrian and disabled pedestrian circulation path.
 3. Bus benches and shelters will be located adjacent to the edge of the sidewalk and will not encroach into the five (5) foot wide circulation path.
 4. There will be a minimum of one (1) foot separation between the five (5) foot wide pedestrian circulation path portion of any sidewalk and any adjacent structure. This one (1) foot wide area may also consist of concrete.
 5. Sidewalks must be physically separated from any vehicular travel lane by means of curbing, grade separation, barriers, railings, or other means, except at crosswalks.

- C. Ramp Requirement. Curb ramps must be provided at all points where the sidewalk intersects a curb, in accordance with Arizona Revised Statute 9-499.02. Ramps must align with each other where they cross the street.

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3-01.4.0 CONSTRUCTION STANDARDS.

4.1 Sidewalk Specifications.

A. *Width.*

1. Sidewalks located along a street will meet the following requirements.

- a. All projects which require a new sidewalk will provide a sidewalk with a minimum width of five (5) feet, installed to avoid any obstruction which decreases the minimum width to less than five (5) feet.

Additional sidewalk width is required for schools and within pedestrian oriented areas, such as the University area and the Downtown Redevelopment Area.

- b. All projects which have an adjacent existing sidewalk less than four (4) feet in width will provide a sidewalk with a minimum width of five (5) feet by:

- 1) Increasing the width of any narrower existing sidewalk to five (5) feet; and
- 2) Removing all obstructions (such as poles, signs, benches, bus stops, etc.) from the sidewalk to provide a minimum width of five (5) feet; or
- 3) Constructing additional sidewalk where obstructions cannot be moved, so that a minimum five (5) feet of sidewalk extends past the obstruction.

- c. Where sidewalks are less than five (5) feet in width, passing spaces at least five (5) feet by five (5) feet will be located at reasonable intervals not to exceed two hundred (200) feet. A T-intersection of two (2) sidewalks or a level driveway apron is an acceptable passing space. A public pedestrian easement may be required for installation of the passing spaces.

- B. *Vertical Clearance.* All sidewalks will have an unobstructed vertical clearance of eighty-four (84) inches.

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4.1 Sidewalk Specifications. (Cont'd)

C. *Composition.*

1. Sidewalks located within a street right-of-way, both parallel to the street and leading into a development project, will be constructed in conformance with the composition requirements of the *Standard Details for Public Improvements*. The *Standard Details for Public Improvements* may have to be modified to comply with the slope requirements of this Standard. Textured concrete will have a relief less than or equal to one-eighth (1/8) inch.

D. *Slope.*

1. *Accessible Route Cross Slope.* The cross slope of the sidewalk will not exceed two (2) percent. If existing public sidewalks which intersect driveway aprons have a cross slope which exceeds two (2) percent (where the apron slope is measured to the back of the sidewalk), one (1) of the following will occur. A public pedestrian easement may be required for installation of pedestrian facilities.
 - a. The driveway apron will be reconstructed so the sidewalk portion of the apron does not exceed two (2) percent cross slope; or
 - b. An additional four (4) feet of sidewalk, with transitions, will be installed behind the existing apron; or
 - c. Additional paving will be installed to provide a level accessible route, with transitions, in the parking area behind the sidewalk; or
 - d. Where excess right-of-way exists, the sidewalk is meandered behind the driveway apron to provide an accessible route.
2. *Accessible Route Running Slope.* The running slope of the sidewalk will not exceed one (1) vertical to twenty (20) horizontal, unless the longitudinal grade of the street exceeds this maximum. Any portion of a sidewalk which exceeds this slope will conform to the requirements of this Standard concerning ramp construction, unless TDOT determines that extenuating circumstances preclude conformance.

4.2 Ramp Specifications.

- A. *Width.* All ramps will have a minimum width of four (4) feet, excluding edge protection or flared sides.
- B. *Rise.* The maximum rise for any ramp will be thirty (30) inches.

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4.2 Ramp Specifications. (Cont'd)

C. *Slope.*

1. *Accessible Route Cross Slope.* The cross slope of ramps will not exceed one (1) vertical to fifty (50) horizontal.
2. *Accessible Route Running Slope.* The running slope of ramps will not exceed one (1) vertical to twelve (12) horizontal. This includes the slope of the underlying and adjacent topography.

Exceptions:

- a. Changes in elevation no greater than one-fourth ($\frac{1}{4}$) inch may be vertical and without treatment.
- b. Changes in elevation between one-fourth ($\frac{1}{4}$) inch and one-half ($\frac{1}{2}$) inch will be beveled with a slope no greater than one (1) vertical to two (2) horizontal.

D. *Ramp Landings.* All ramps will have an unobstructed level landing both at the top and the bottom of the ramp, meeting the following requirements.

1. *Width.* The landing will be at least as wide as the ramp leading into it.
2. *Length.* The landing will be at least five (5) feet long.
3. *Landing Slope.* A landing will be level in any direction. A street surface may be used for the landing at the bottom of the ramp if it meets all composition and slope requirements for an accessible route.

E. *Sidewalk/Ramp Intersections.* A sidewalk will intersect a ramp only at the top or bottom landing.

F. *Ramp Safety.*

1. *Obstruction by Parked Vehicles.* Curb ramps will be located so that vehicles cannot park blocking the ramp access.
2. *Handrails.* Handrails will be required for any ramp other than a curb ramp with a rise greater than six (6) inches or longer than seventy-two (72) inches. The following criteria apply.
 - a. Handrails will be located on both sides of the ramp.
 - b. On any ramp which changes direction, the inside handrail will be continuous.

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4.2 Ramp Specifications. (Cont'd)

- c. The height of the top of the handrails will be between thirty (30) inches and thirty-four (34) inches from the ramp surface.
 - d. If the handrails are constructed of metal, the top railing will be covered with a non-heat-conducting material.
3. *Vertical Drop-Offs.* If any ramp other than a curb ramp has a vertical drop-off on the side, there will be a curb, wall, railing, or surface projecting above the ramp surface to prevent pedestrians and wheelchairs from slipping off the ramp. Minimum height of any protective device will be two (2) inches.
4. *Surface.* Ramps and landings will be rough finished for traction. Stamped textured concrete is not acceptable.
5. *Drainage.* All ramps and landings will be designed so that water does not collect on the surface of the ramp or landing.

4.3 Driveways.

- A. Driveway aprons will be of portland cement concrete (PCC) constructed to City of Tucson Standards, with a standard length of eight (8) feet from the front of the curb to the back of the apron.
- B. Curb returns may be used in place of standard curb cuts only when one (1) or more of the following conditions occur.
- 1. The ADT of the driveway exceeds one hundred (100);
 - 2. The points of access to a property should be limited for traffic control and other reasons;
 - 3. Local conditions occur which involve speed, the amount of truck traffic, or the type of development and which, in the opinion of TDOT, require curb returns.

- 4.4 Street Drainage. A portion of rainfall which falls on subdivision lots eventually concentrates in either streets or drainageways. The primary function of streets is to carry the traffic. In most cases, however, drainage and traffic flow can complement each other to accomplish the most efficient use of streets. As the storm runoff amount increases adjacent to curbs, it will begin to interfere with traffic movement, at which time the flow or portions thereof must be removed from the streets into drainageways.

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4.4 Street Drainage. (Cont'd)

- A. *Drainage Criteria for Local, Collector, and Arterial Streets.* The design criteria given in Sec. 12.2 of Development Standard 10-02.0 "Standard Manual for Drainage Design and Floodplain Management in Tucson, Arizona" shall apply to all newly constructed and substantially improved local, collector, and arterial streets. The following drainage design criteria shall apply.
1. Runoff from a ten (10) year storm must be contained within the curbs of the street. On arterial streets or multiple lane roadways, at least one (1) travel lane in each direction shall be free from flooding during a ten (10) year flood. Otherwise, storm drains, drainage channels, or other acceptable infrastructure shall be provided to comply with all-weather access requirements.
 2. Storm drain systems shall be designed such that the ten (10) year storm is contained in the combined street gutter and storm drain system. Whenever developments occur in areas not adequately served by existing storm drains and/or drainage channels and street drainage design criteria require installation of storm drains, the design of this drainage facility shall be as approved by the City Engineer's Office.
- B. *Maximum Allowable Street Flow.* All streets shall be designed and constructed so that the maximum rate of storm runoff flowing in the direction of vehicular travel *should not exceed* 50 cfs. In no case *shall* the maximum rate of storm runoff flowing in the direction of vehicular travel exceed one hundred (100) cfs without proper justification and prior approval by the City Engineer's Office.
- C. *Drainage Conveyance Structures.* Curb cuts, sidewalk scuppers, curb inlets, grate inlets, or other drainage conveyance structures shall be constructed, as appropriate, to convey the street flow to the storm drain or other drainageways.
- D. *Flow at At-Grade Dip Crossings.* Streets required for permanent all-weather access shall be designed and constructed so that the maximum rate of storm runoff flowing across the street at a wash crossing shall not exceed one (1) foot in depth during a one hundred (100) year flood.
- E. *All-Weather Access.* All-weather access is a safe vehicular travel route which both conventional and emergency vehicles require for the purpose of unimpeded access. Streets required for permanent all-weather access shall be designed and constructed based on the following performance criteria.
1. At least one (1) paved, permanent, all-weather access shall be provided to each lot over terrain which can be traversed by conventional motor vehicles in times of flooding. This Standard applies to public or private streets and to a designated route connecting a street and the development or building in question.

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4.4 Street Drainage. (Cont'd)

2. Stormwater runoff flowing either across or in the direction of an all-weather access route shall not exceed one (1) foot in depth during the one hundred (100) year flood.
 3. The depth of flow in a roadway shall not exceed one (1) foot in depth, except at drainage crossings, during the regulatory (100-year) flood peak discharge.
- F. *Sidewalks.* At any point where the ten (10) year flood discharge starts to cross a sidewalk, the sidewalk shall be designed and constructed to convey the ten (10) year flood flow under the sidewalk. The equation or design criteria $dv^2 < 18$ may be utilized to regulate flow depths and/or flow rates exceeding the ten (10) year flood discharge magnitudes.

4.5 Vehicular Travel Lane Grade Criteria.

- A. Barring unusual circumstances of grade or drainage conditions, the following criteria apply to streets (both public and private) and alleys. Any exceptions must be obtained in writing from the City Engineer.

Maximum Longitudinal Grades	
Travelways under 600 feet in length	15%
Travelways over 600 feet in length	12%
Cul-de-sac turning areas	8%

Minimum Longitudinal Grades	
Crowned streets	0.50%
Inverted streets	0.50%

- B. Vertical curves are required on local, collector, and arterial streets where the algebraic difference in grade exceeds one (1) percent, and the minimum desirable vertical curve length is one hundred (100) feet. Vertical curves will be designed to meet minimum stopping sight distance.
- C. Crowned Streets (see **Figure 8**). When the street is used as a ramp landing, the maximum slope of the landing area is two (2) percent.
1. The minimum crown is two (2) percent for streets with a longitudinal grade of 0.50% or greater.
 2. The minimum crown is three (3) percent for streets where a longitudinal grade less than 0.50% is approved.
 3. The maximum crown is four (4) percent.

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4.5 Vehicular Travel Lane Grade Criteria. (Cont'd)

- D. Inverted Streets (see **Figure 8**). When the street is used as a ramp landing, the maximum slope of the landing area is two (2) percent.
 - 1. The minimum cross slope for an inverted street is two (2) percent for streets with a longitudinal grade of 0.50% or greater.
 - 2. The minimum cross slope for an inverted street is three (3) percent for a street where a longitudinal grade of less than 0.50% is approved.
 - 3. Inverted crown slopes in excess of three (3) percent may be used only with the City Engineer's approval.
- E. Street improvements are required on streets abutting properties subject to rezoning or subdivision platting. The extent of the improvements will be based on the street classification, the amount of traffic projected, soil conditions, and drainage.
- F. All street improvement plans must comply with *Standard Details for Public Improvements* which outlines drafting standards for the preparation of plans.
- G. All standard details, specifications, and procedures mentioned in this Standard may be obtained at the Office of the City Engineer or the City Clerk.

4.6 Utilities.

- A. Utilities will be located in compliance with utility location drawings. (See **Figures 9-14.**)
- B. Strip easements may be used along streets for the installation of utilities. (See **Figure 15.**) With the exception of minor service extensions to individual parcels, all longitudinal utility installations between service points at individual parcels will be located within street rights-of-way. Access between the street and the private property will not be denied unless unsafe conditions exist.
- C. All sanitary sewer facilities will be constructed in accordance with current Pima County Department of Wastewater Management standards.

- 4.7 Assurances. When assurances for street, sewer, electric and water utilities, and drainage and flood control improvements are required in conjunction with a subdivision, they will be posted prior to final plat approval by the City Engineer or designee. Assurances are to be posted in accordance with Development Standard 1-04.0.

3-01.5.0 SIGHT VISIBILITY.

- 5.1 Sight Visibility Triangles. Clear lines of sight will be maintained along all streets and driveways to assure the safety of motorists and pedestrians.

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5.1 Sight Visibility Triangles. (Cont'd)

A. *Lines of Sight.*

1. Lines of sight will not be obscured between thirty (30) inches and six (6) feet through a triangular area adjacent to a driveway, a PAAL, an alley, or a street, where such access ways intersect with another street in a T-configuration. The sight visibility triangle, or sight triangle, consists of three (3) sides that are formed by two (2) intersecting access ways and a line connecting the two (2).

The first side, or through street side, is drawn parallel to the centerline of the street that is intersected. The second side, or stem side, is drawn parallel to the centerline of the stem street. The line which connects the first two (2) sides, or sight line, is drawn diagonally to the through street. (See **Figure 16.**)

Where streets meet in a four (4) way intersection, each street is considered a stem, with the other street considered the through street, for purposes of determining the sight triangle. (See **Figure 17.**)

2. The datum for the purpose of measuring the limits of the lines of sight (i.e., thirty [30] inches and six [6] feet) is an imaginary plane formed by the intersection of the gutter line (or its approximation) of the through street with the at-grade centerline (or its approximation) of the stem street.

B. *Sight Visibility Triangle Criteria.*

1. A sight triangle will be maintained on each side of a stem that intersects a two (2) way through street so that clear sight is provided to vehicles approaching from both the near side (to the driver's left) and the far side (to the driver's right) of the stem. Near side means approaching traffic is on the same side of the street as the stem. Far side means approaching traffic is on the opposite side of the street from the stem.

The length required for the through street side of the sight triangle is measured on the side of the stem from which traffic approaches. On one-way streets or streets with median islands (i.e., no opening), only one (1) sight triangle is required on the side of approaching traffic; however, a twenty (20) foot (stem) by thirty (30) foot (curb) pedestrian visibility triangle will be maintained on the opposite side of approaching traffic. (See **Figure 16.**)

2. If a street is included on the *MS&R Plan*, both the existing and future sight visibility triangles (based on the *MS&R Plan* typical cross sections) should be shown. Future sight visibility triangles are to be based upon the *MS&R Plan* typical cross section for said street. The most restrictive sight visibility triangles will be used unless specifically exempted.

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5.1 Sight Visibility Triangles. (Cont'd)

3. The through street side of a sight triangle on a horizontal curve is measured along a chord, as opposed to along the arc. (See **Figure 18.**)
4. The sight triangle location and dimensions may be adjusted to compensate for unusual circumstances, such as irregular topography or grade changes, cul-de-sacs, curvilinear or deflected streets, or in other situations acknowledged by the CDRC.

5.2 Sight Distances.

- A. The length of the stem side of the sight triangle is twenty (20) feet, measured from a point specified below.
- B. The length and location of the through street side of the sight triangle for near side/far side is determined according to the following criteria.
 1. On any PAAL or on a street with an ADT of one hundred forty (140) or less, no sight triangle is required. The minimum building setback required in Sec. 3.2.6.5 of the *LUC* prevails.
 2. Where the ADT is greater than one hundred forty (140) but less than one thousand one (1,001), the through street side is considered a local street in the "Line of Sight Matrix" (Sec. 3-01.5.3) and is measured at the edge of the nearest adjacent travel lane.
 3. Where the ADT is between one thousand one (1,001) and twelve thousand (12,000) and the street is not designated as an arterial on the *MS&R Plan*, the through street side is considered a collector street in the "Line of Sight Matrix" and is measured at both the existing and projected (future) face of curb. The future face of curb is based on the typical *MS&R Plan* right-of-way cross section for that street.
 4. Where the ADT is twelve thousand (12,000) or more or the street is designated as an arterial on the *MS&R Plan*, the through street side is considered an arterial street in the "Line of Sight Matrix" and is measured at both the existing and projected (future) face of curb.

The future face of curb is based on the typical *MS&R Plan* right-of-way cross section for that street.

5. On any street designated by the *MS&R Plan* as requiring intersection widening, the midblock *MS&R Plan* cross section may be used, at the discretion of the City Engineer, for determining the future sight visibility triangles of parcels lying within or adjoining the intersection widened portion of the street right-of-way.

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5.3 Line of Sight Matrix.

STEM STREET SIDE	THROUGH STREET SIDE			
		<i>Local</i>	<i>Collector</i>	<i>Arterial</i>
DRIVE/PAAL	Near Side	185*	265	345
	Far Side	110	110	125
LOCAL	Near Side	180	260	340
	Far Side	110	110	125
COLLECTOR	Near Side	175	255	335
	Far Side	110	110	125
ARTERIAL	Near Side	165	245	325
	Far Side	110	110	125

*Length in Feet

5.4 Structural Projections or Overhangs. Structural projections or overhangs over six (6) feet above finish grade are permitted within the required setback areas, provided that the overhang does not extend into the public right-of-way or the future right-of-way per the *MS&R Plan*, and the following conditions are met.

- A. On any PAAL, see Development Standard 3-05.2.2.B.
- B. On any street, see Sec. 3.2.6.5 and Sec. 3.2.6.6 of the *LUC*.

3-01.6.0 STREET DESIGN CRITERIA.

6.1 Street Layout.

- A. Partial local street rights-of-way are not acceptable for subdivision design. Modifications may be granted in accordance with Sec. 3-01.7.0. Where partial streets exist adjacent to the tract being developed (see **Figure 19**):
 - 1. Additional property necessary to provide the full width right-of-way must be dedicated; and
 - 2. Improvements must be made to the street as required by TDOT.
- B. Proposed developments will provide for the continuation of existing arterial and collector street right-of-way.
- C. The local street system will be arranged to discourage through vehicular traffic through the proposed development.
- D. When residential lots front on arterials or collectors, proposed developments will provide sufficient right-of-way for local service or access streets. Other treatments to protect residential properties by separation of through and local traffic will be considered.

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6.1 Street Layout. (Cont'd)

- E. Where residential driveways front directly on a major street, adequate area will be provided on site to accommodate a vehicular turnaround area or a circular driveway.
- F. The proposed development will provide streets that conform to all adopted neighborhood or area plans.
- G. All stub streets will be designed as collector streets for a minimum ADT of one thousand (1,000) vehicles and will provide temporary turnaround areas at the stub end.
- H. When the City of Tucson determines that vehicular access to or from a development or subdivision at a particular location should be prohibited in the public interest and for health, welfare, or safety, a one (1) foot wide no vehicular access easement will be dedicated to the City of Tucson. Physical barriers may be required.

6.2 Geometric Design.

- A. Street design will be in accordance with the following criteria, subject to the approval of the City Engineer and concurrence by the CDRC. Grades, curve criteria, sight distances, and other geometric design standards not specifically included in this Standard will conform to *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway and Transportation Officials (A.A.S.H.T.O.).

Arterial street design will conform to the current edition of the A.A.S.H.T.O. manual, *A Policy on Design of Urban Highways and Arterial Streets*.

Minimum posted speed for public local streets will be twenty-five (25) miles per hour. Private local streets may be designed for twenty (20) miles per hour.

- B. Permanent dead-end streets will be designed with an adequate turnaround at the dead end, except for dead-end streets less than one hundred fifty (150) feet in length, if municipal services, such as fire, refuse, and postal service, can be provided without the use of the street.

Dead-end streets may exceed six hundred (600) feet in length, as measured from the centerline of the connecting street to the far end of the turnaround area, under the following conditions.

1. The ADT is less than four hundred (400), and
2. The total length of the dead-end street is not to exceed twelve hundred (1,200) feet in length, and

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6.2 Geometric Design. (Cont'd)

3. The street is approved by both the Fire Department and TDOT, and
 4. The portion of the dead-end street nearest the connecting street has a minimum of thirty-six (36) feet of pavement (measured between backs of wedge curbs or between faces of vertical curbs) for a distance equal to the total length of the dead-end street less six hundred (600) feet.
- C. Turnarounds may be designed as cul-de-sacs or "T" or "Y" shaped configurations in accordance with Sec. 3-01.6.2.C.1 and Sec. 3-01.6.2.C.2.
1. The cul-de-sac is preferred by the City of Tucson at all times for local street turnarounds because of its overall efficiency. (See **Figures 20 and 21.**)
 - a. In residential areas, the right-of-way turnaround radius will be a minimum of fifty (50) feet, with a radius of fifty (50) feet for return curves.
 - b. In industrial and commercial areas, the right-of-way turnaround radius will be a minimum of sixty (60) feet, with a radius of sixty (60) feet for return curves.
 - c. In residential areas, the turnaround will be paved with a minimum radius of forty-two (42) feet, measured to the face of the vertical curb or to the back of the wedge curb, whichever is provided.
 - d. In industrial and commercial areas, the turnaround will be paved with a minimum radius of fifty-two (52) feet, measured to the face of the vertical curb or to the back of the wedge curb, whichever is provided.
 - e. Parking will be allowed along the curb of a cul-de-sac utilizing a pavement turnaround radius of fifty (50) feet or greater.
 - f. See **Figure 22** for the standard right-of-way and curb "knuckle" design for a street right-of-way of fifty (50) feet.
 2. "T" and "Y" shaped turnarounds may be used for dead-end streets which have a projected ADT of one hundred forty (140) or less. (See **Figure 23.**) Parking will not be allowed in the turnaround area. Vertical curbing is required in the turnaround area.
 3. Street improvements may be required on dead-end streets abutting properties subject to rezoning or subdivision platting. The extent of improvements will be based on the street classification, the amount of traffic projected, the soil conditions, and the drainage.

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- 6.3 Street Alignments. Jogs of less than one hundred fifty (150) feet in local alignments are not acceptable. Arterial and collector streets will not have jogs in alignment. (See **Figure 24.**)
- 6.4 Intersection Alignments.
- A. The centerlines of intersecting streets will have an angle of intersection of ninety (90) degrees or as close to ninety (90) degrees as is practicable. Local streets will intersect at an angle no less than sixty (60) degrees.
- Arterial and collector streets will have an angle of intersection no less than seventy-five (75) degrees. (See **Figure 25.**) Curvilinear streets should radially intersect.
- B. Right-of-way lines at the corners of street intersections will be rounded with a curve radius of twenty-five (25) feet or greater for residential districts and forty (40) feet for commercial or industrial districts.
- 6.5 Private Streets.
- A. Private streets are permitted only where satisfactory means of providing for their control and maintenance is demonstrated.
1. The City of Tucson will not be responsible for maintenance, liability, or enforcement of traffic control on private streets, except where specifically authorized by ordinance.
2. Erection of all traffic control and street name signs is the responsibility of the developer. Maintenance of all traffic control and street name signs is the responsibility of the property owners' association.
- B. Private streets will be named according to current Pima County criteria and will be approved by Pima County Addressing.
- C. An applicant petitioning the City of Tucson to accept the dedication of a private street to the public must satisfy TDOT that the street meets City Standards for public streets, such as structure, right-of-way, and all other public street provisions.
- D. Private streets must meet all the requirements of public streets which carry similar types and volumes of traffic, except where specific exceptions are noted in this Standard.
- E. PAALs are not acceptable for dedication as public rights-of-way.
- 6.6 Alleys. Alleys are to be used for utility placement, provision of sanitary services, and as a secondary point of access to property.

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3-01.7.0 MODIFICATIONS.

- A. Where, in the opinion of the CDRC, there exist extraordinary conditions of topography, land ownership, adjacent development, Historic District review, or other circumstances not provided for in this Standard, the CDRC may modify this Standard in such a manner appropriate to the public interest.
- B. In granting a modification of this Standard or requirements of these provisions, the CDRC may make such additional requirements as appear necessary, in its judgment, to secure substantially the objectives of the Standards or requirements so modified.
- C. All items not specifically covered by this Standard will be judged on a case-by-case basis by the CDRC without setting precedent.

3-01.8.0 APPEALS. Appeals to decisions made by the CDRC under this Standard are to the Zoning Examiner. The process of appeals will follow the format established in Sec. 5.4.4.1 of the *LUC*.

3-01.9.0 ENFORCEMENT. The Department of Transportation is responsible for enforcing the provisions of the Standard.

3-01.10.0 LIST OF FIGURES.

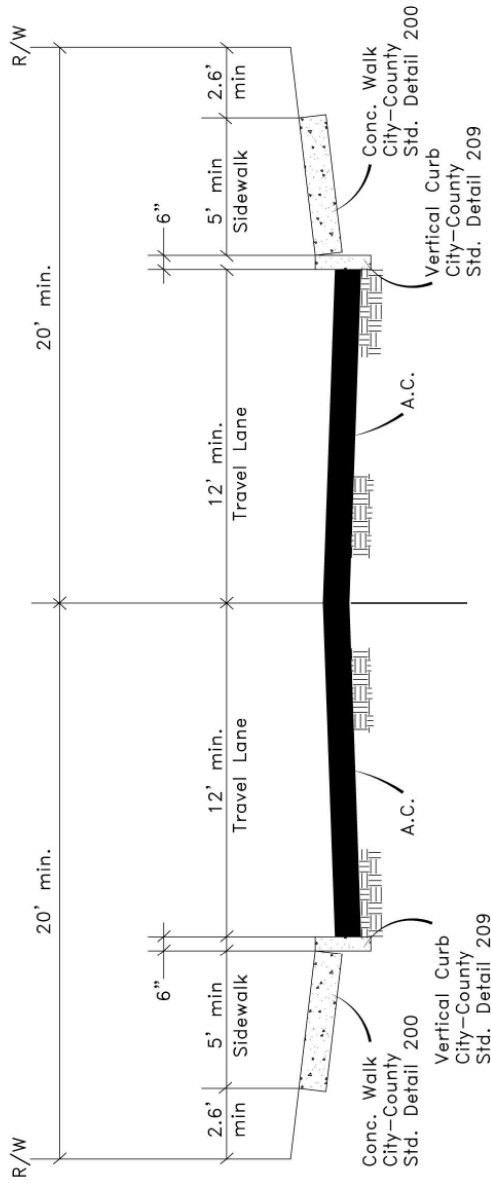
- Figure 1 - Typical Cross Section for Interior Roads - No Parking Lanes (ADT 0-1,000)
- Figure 2 - Typical Cross Section - Two Parking Lanes (ADT 0-1,000)
- Figure 3 - Typical Cross Section - Handicapped Accessible Drive
- Figure 4 - Typical Detail - Handicapped Accessible Ramp Detail for Vertical Curb
- Figure 5 - Typical Cross Section - Two Parking Lanes (ADT 1,001-2,500)
- Figure 6 - Curb and Property Radii
- Figure 7 - Alley/Street Intersection
- Figure 8 - Crowned Streets/Inverted Streets
- Figure 9 - 150' Right-of-Way - Utility Location
- Figure 10 - 120' Right-of-Way - Utility Location
- Figure 11 - 100' Right-of-Way - Utility Location
- Figure 12 - 90' Right-of-Way - Utility Location
- Figure 13 - 76' Right-of-Way - Utility Location
- Figure 14 - 64' Right-of-Way - Utility Location
- Figure 15 - Utility Strip Easement
- Figure 16 - Sight Visibility Triangles
- Figure 17 - Sight Visibility Triangles - 4-Way Intersection
- Figure 18 - Sight Visibility Along Curve
- Figure 19 - Partial Local Street
- Figure 20 - Cul-de-Sac
- Figure 21 - Cul-de-Sac
- Figure 22 - Standard Right-of-Way and Curb Knuckle Design for 50' Right-of-Way

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3-01.10.0 LIST OF FIGURES. (Cont'd)

- Figure 23 - Turnarounds
- Figure 24 - Street Jogs
- Figure 25 - Street Intersections

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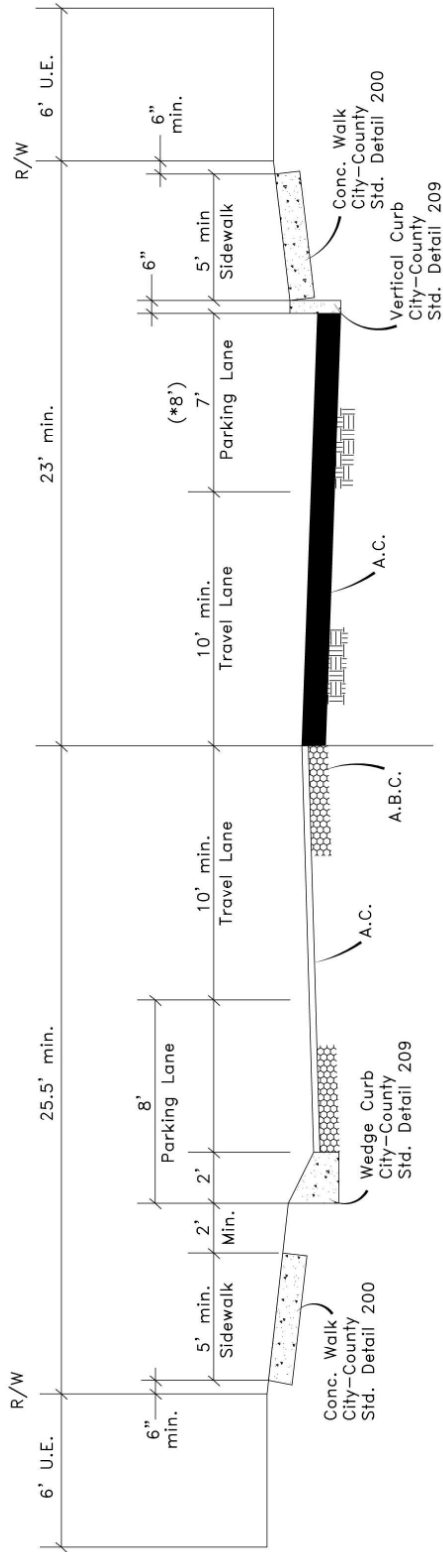


TYPICAL CROSS SECTION FOR INTERIOR ROADS*

PARKING LANES = 0

* CAN BE USED WHERE PARKING IS PROVIDED IN COMMON AREAS DISTRIBUTED EVENLY THROUGHOUT THE SUBDIVISION AT A RATIO OF ONE (1) PARKING SPACE PER DWELLING UNIT WITHIN THE SUBDIVISION

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* When ADT Greater than 1000

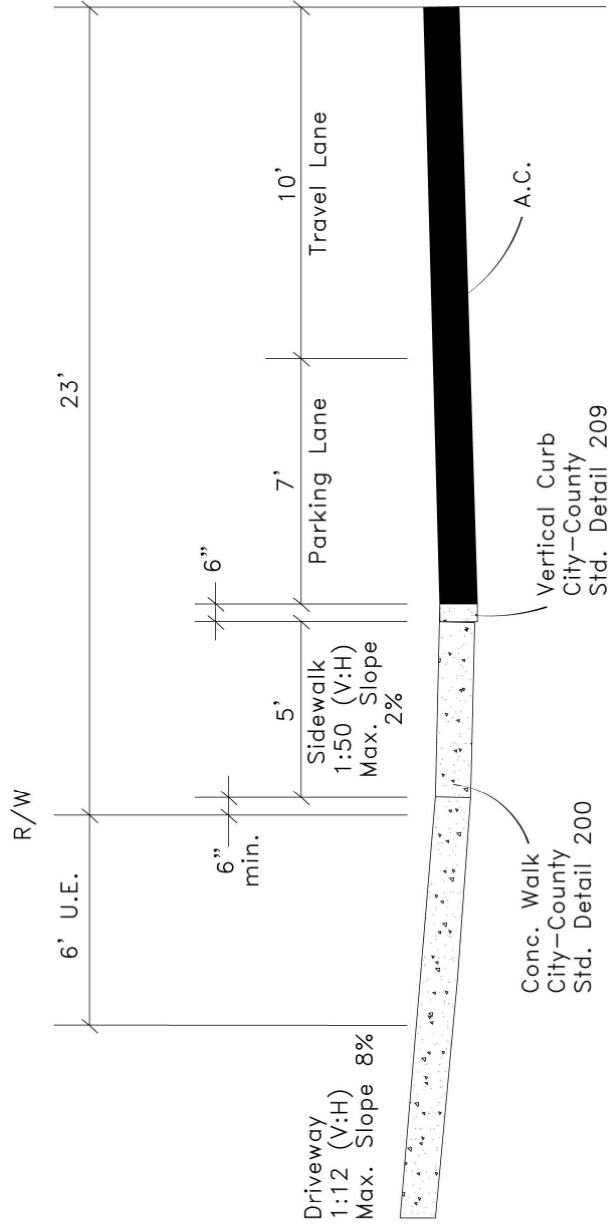
TYPICAL CROSS SECTION

PARKING LANES=2

ADT: 0 ~ 1000

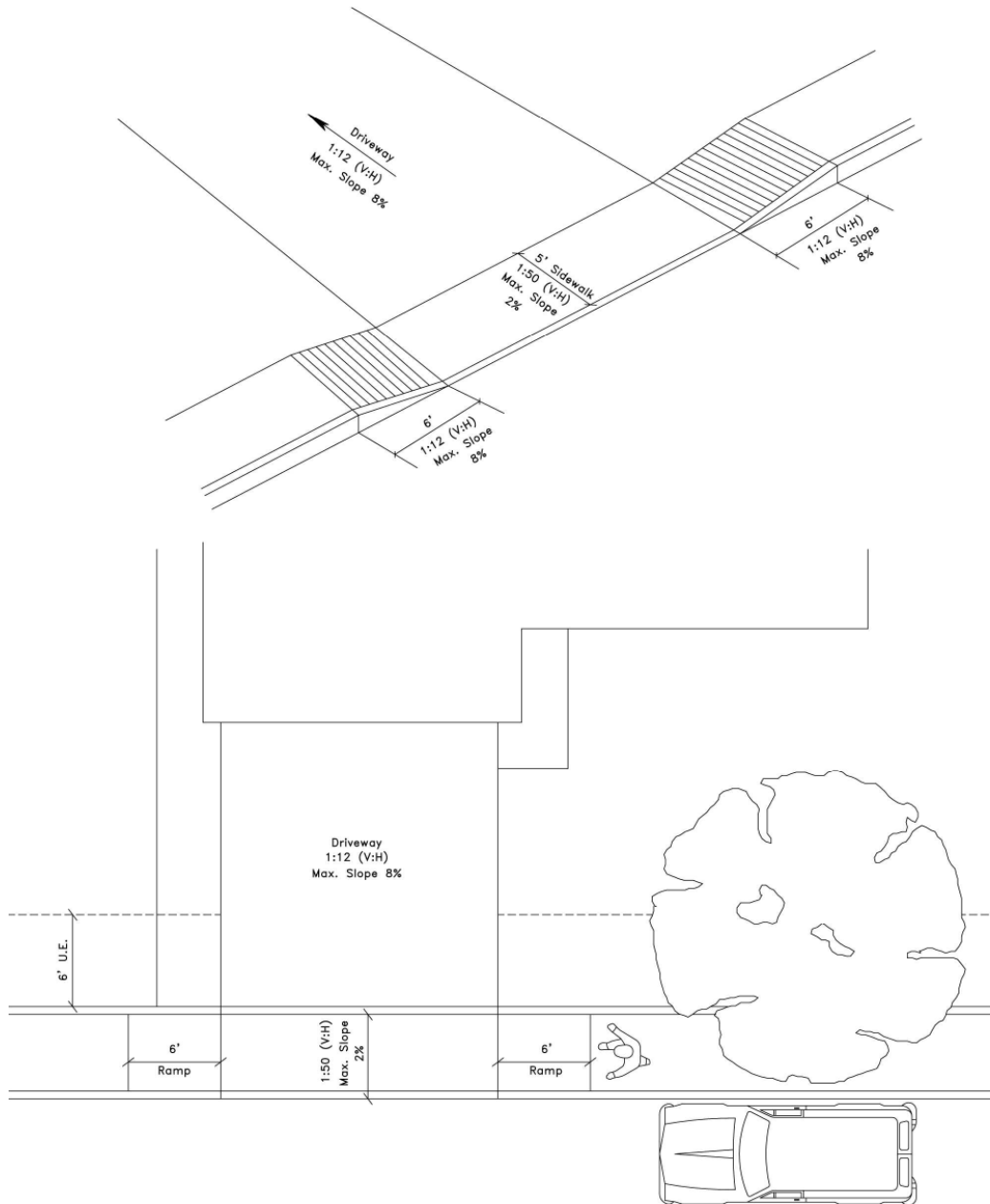
FIGURE 2 - TYPICAL CROSS SECTION – TWO PARKING LANES (ADT 0-1,000)

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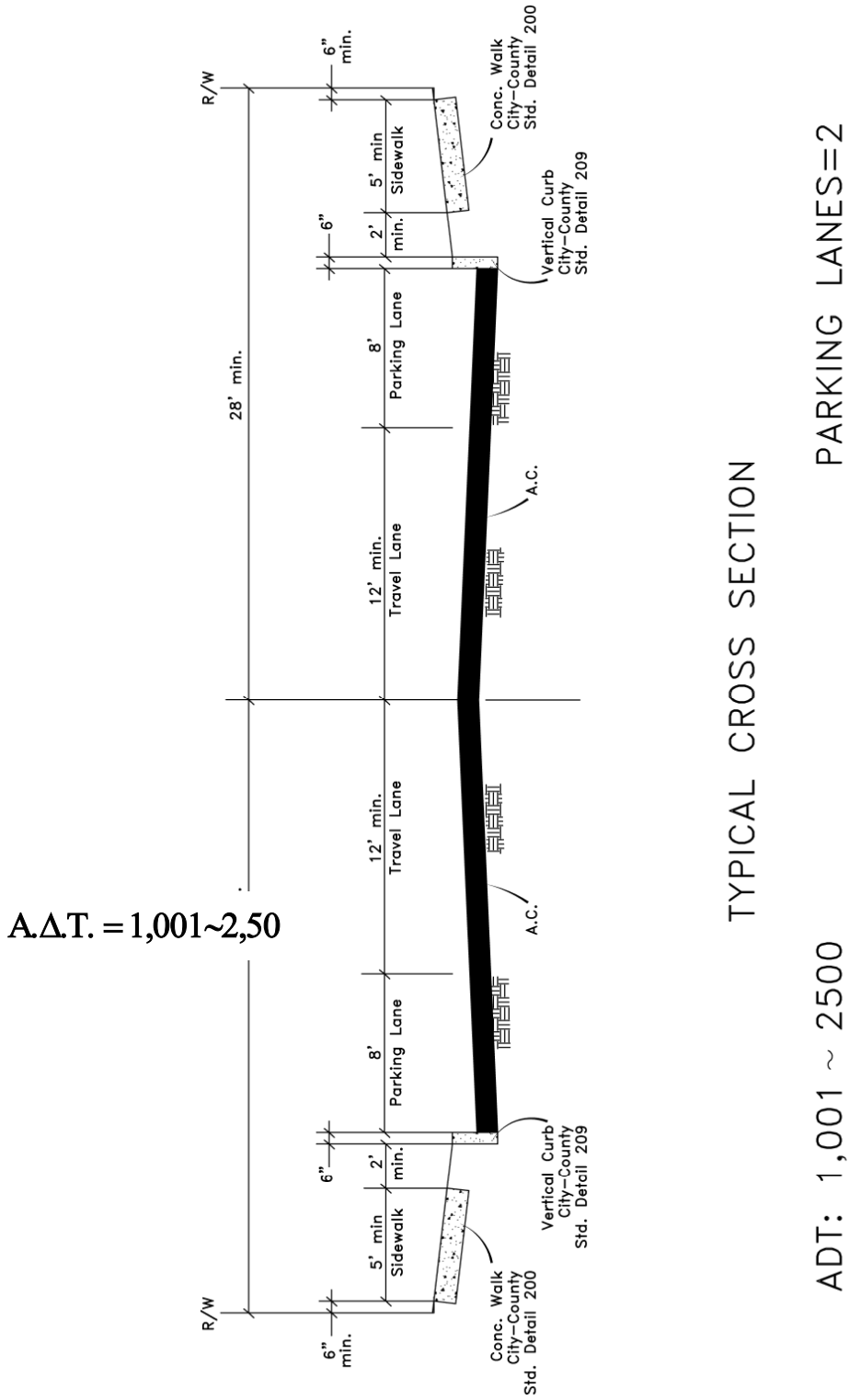
**TYPICAL CROSS SECTION
HANDICAPPED ACCESSIBLE DRIVE**

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Handicapped Accessible Ramp Detail
For Vertical Curb

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MINIMUM CURB RETURN RADIUS

	ARTERIAL STREET	COLLECTOR STREET	LOCAL STREET	P.A.A.L./ DRIVEWAY
ARTERIAL STREET	30'	25'	25'	25'
COLLECTOR STREET	25'	25'	25'	25'
LOCAL STREET	25'	25'	18'	18'
P.A.A.L./ DRIVEWAY	25'	25'	18'	18'

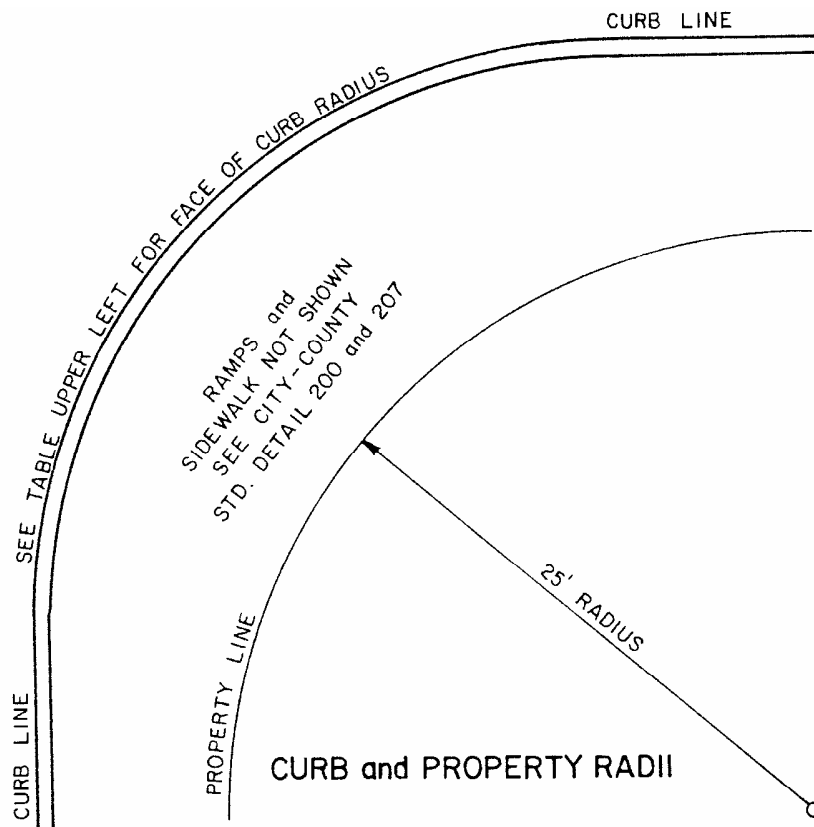
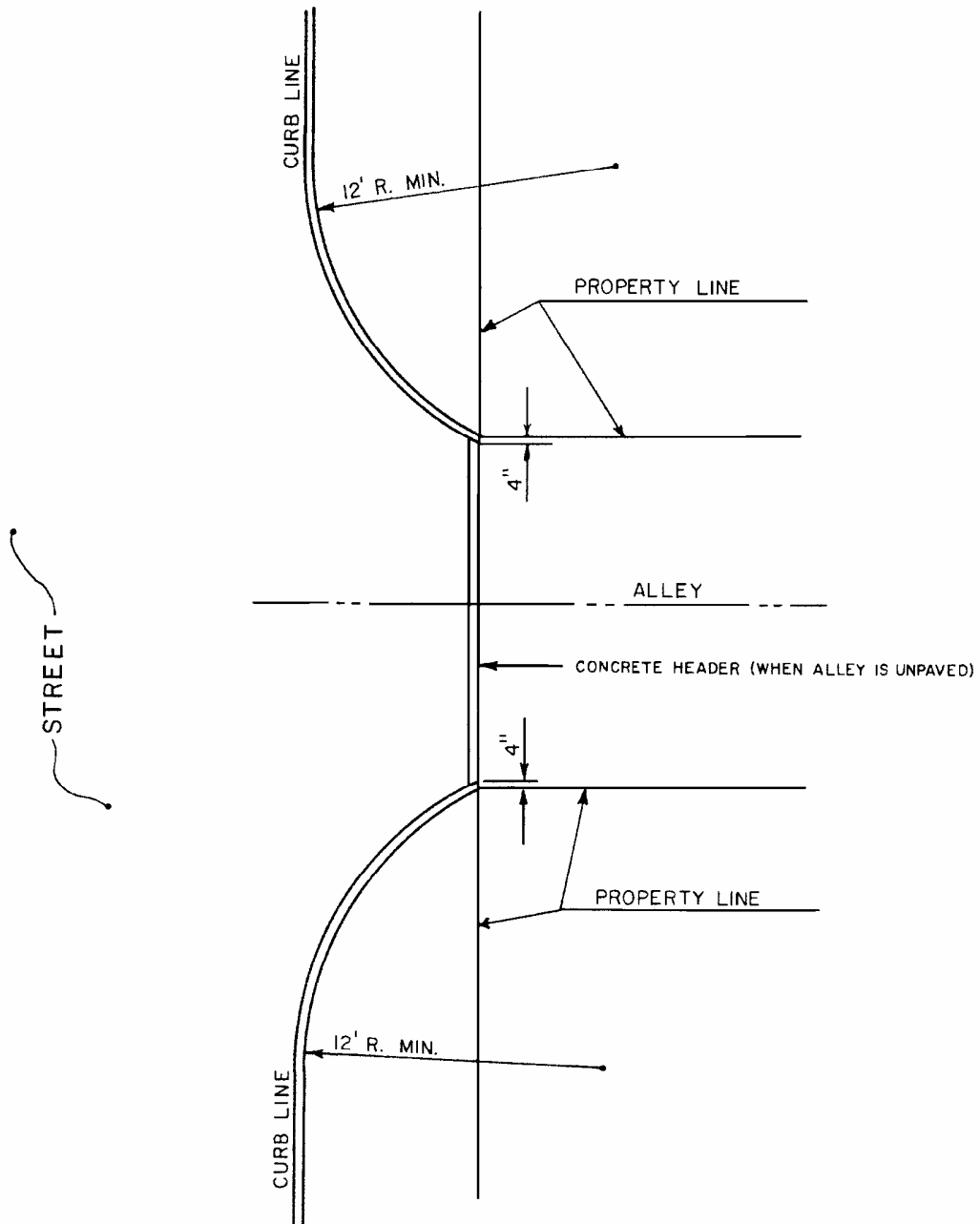


FIGURE 6 - CURB AND PROPERTY RADII

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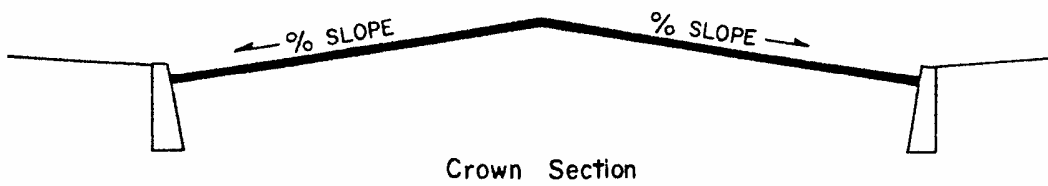
SIDEWALK AND RAMPS NOT SHOWN

ALLEY/STREET INTERSECTION

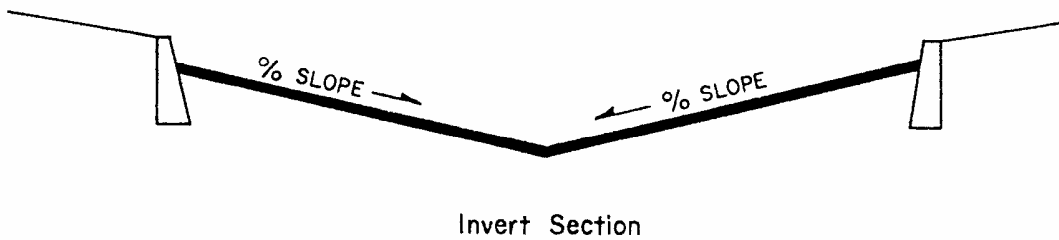
FIGURE 7 - ALLEY/STREET INTERSECTION

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LONGITUDINAL GRADE	CROWN
≥0.50%	2% MIN.
<0.50%	3% MIN.
ANY	4% MAX.



LONGITUDINAL GRADE	INVERT
≥0.50%	2% MIN.
<0.50%	3% MIN.*
ANY	5% MAX.*

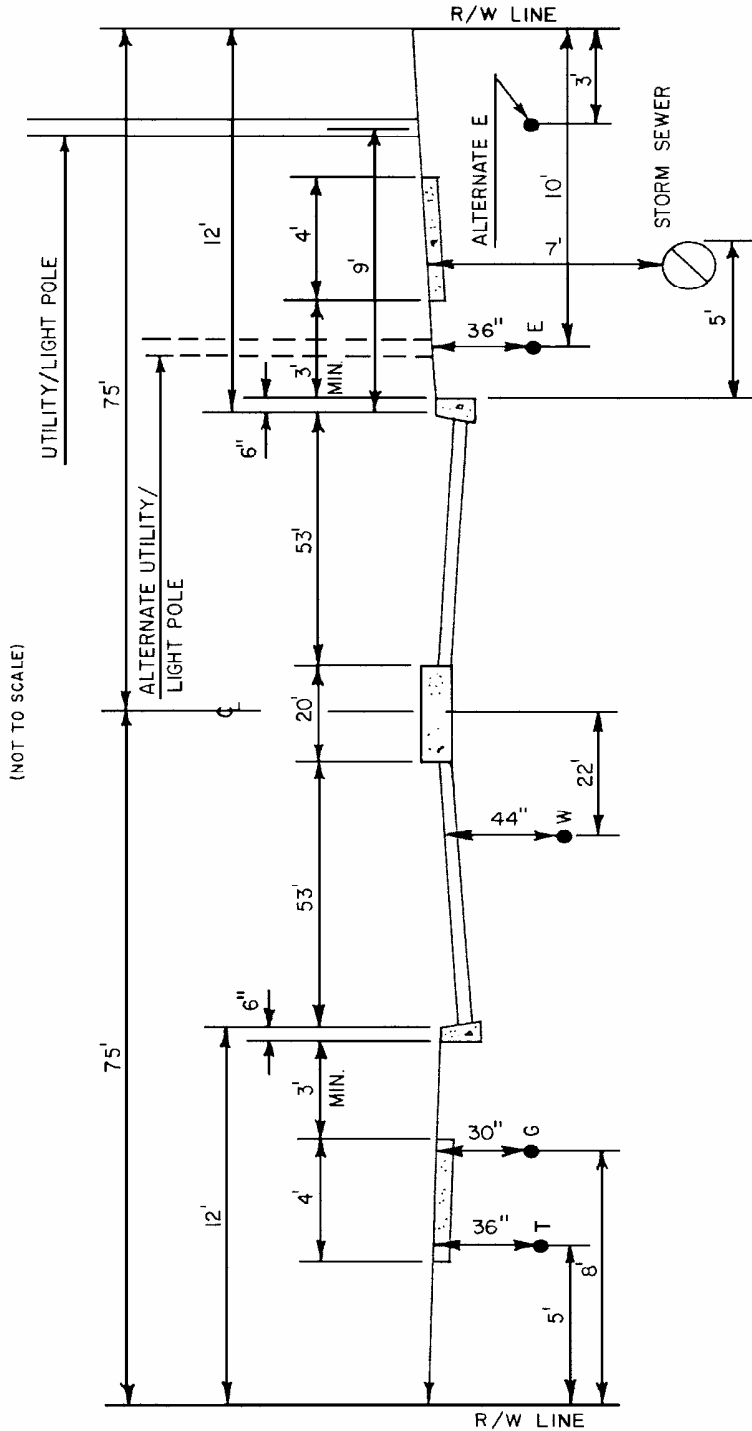


* INVERTED CROWN SLOPES IN EXCESS OF 3% REQUIRE CITY ENGINEER APPROVAL

FIGURE 8 - CROWNED STREETS/INVERTED STREETS

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150' RIGHT OF WAY - UTILITY LOCATION



NOTES:

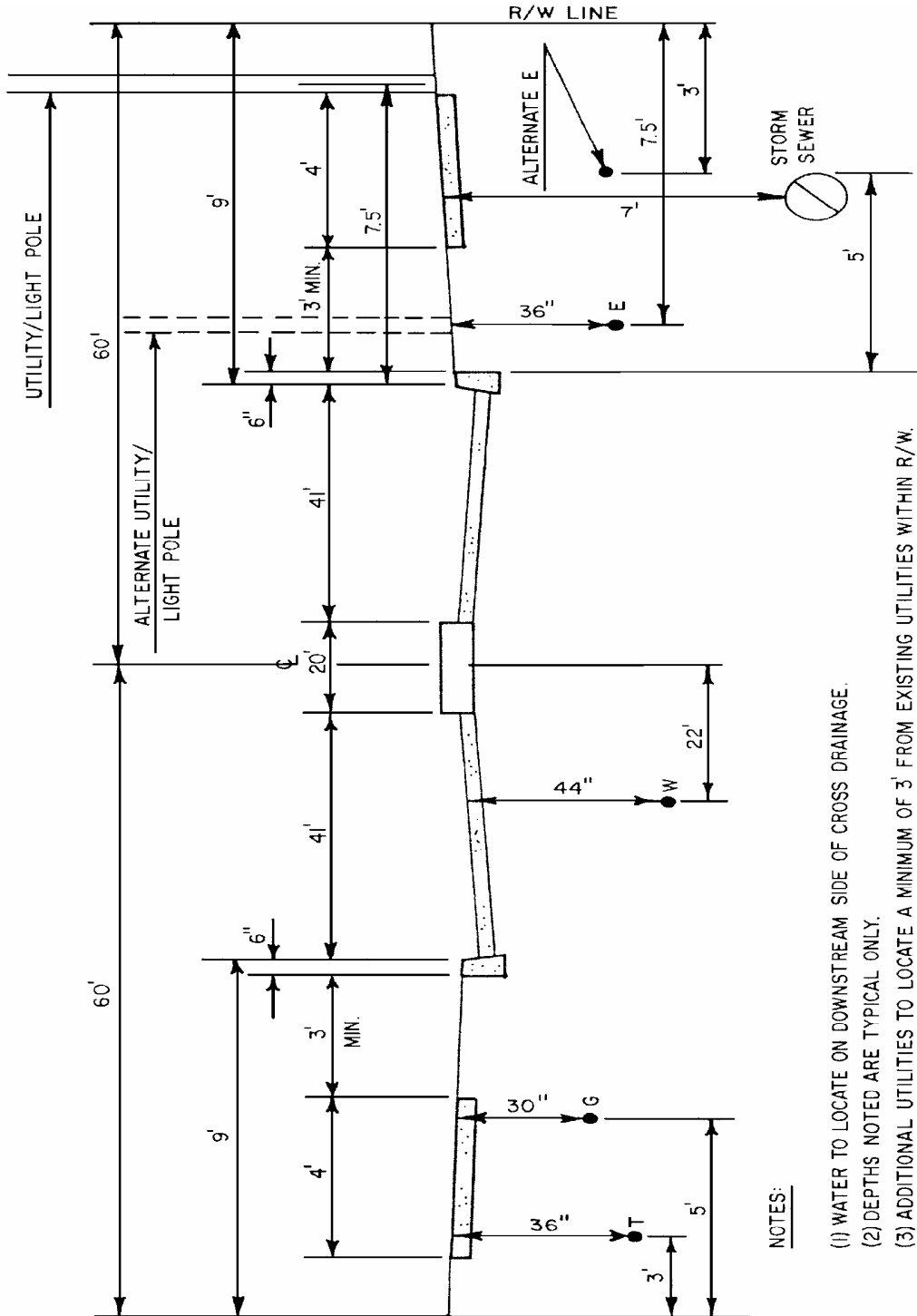
- (1) WATER TO LOCATE ON DOWNSTREAM SIDE OF CROSS-DRAINAGE.
- (2) DEPTHS NOTED ARE TYPICAL ONLY.
- (3) ADDITIONAL UTILITIES TO LOCATE A MINIMUM OF 3' FROM EXISTING UTILITIES WITHIN R/W.
- (4) JOINT TRENCH ARRANGEMENT IS AN OPTION FOR TELEPHONE, GAS, AND ELECTRIC AT 10' OFF R/W. TYPICAL DEPTH IS 46".
- (5) STORM DRAIN TYPICALLY LOCATED WITHIN 5' FROM BACK OF CURB AND 7' DEEP FROM FINISHED GRADE OF SHOULDER.
- (6) THE STANDARD LOCATION FOR 138 KV OVERHEAD ELECTRIC TRANSMISSION FACILITIES WITHIN 150 FOOT WIDE MAJOR STREET RIGHTS-OF-WAY WILL BE 64' FROM STREET CENTERLINE.

FIGURE 9 - 150' RIGHT-OF-WAY - UTILITY LOCATION

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

120' RIGHT OF WAY - UTILITY LOCATION

(NOT TO SCALE)



NOTES:

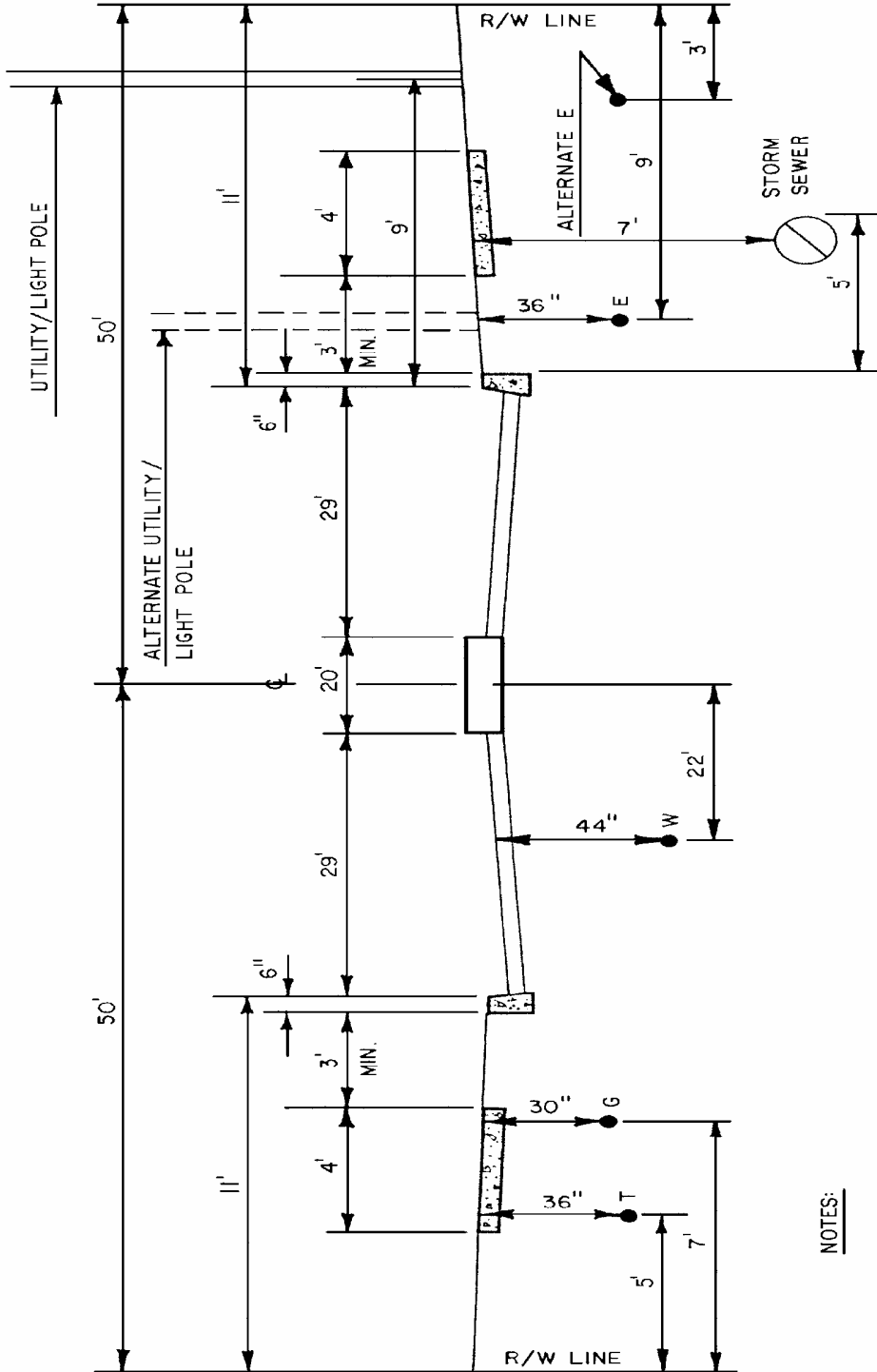
- (1) WATER TO LOCATE ON DOWNSTREAM SIDE OF CROSS DRAINAGE.
- (2) DEPTHS NOTED ARE TYPICAL ONLY.
- (3) ADDITIONAL UTILITIES TO LOCATE A MINIMUM OF 3' FROM EXISTING UTILITIES WITHIN R/W.
- (4) JOINT TRENCH ARRANGEMENT IS OPTION FOR TELEPHONE, GAS, AND ELECTRIC AT 10' OFF R/W. TYPICAL DEPTH IS 46".
- (5) STORM DRAIN TYPICALLY LOCATED WITHIN 5' FROM BACK OF CURB AND 7' DEEP FROM FINISHED GRADE OF SHOULDER.
- (6) THE STANDARD LOCATION FOR 138 KV OVERHEAD ELECTRIC TRANSMISSION FACILITIES WITHIN 120 FOOT WIDE MAJOR STREET RIGHTS-OF-WAY WILL BE 58.5' FROM STREET CENTERLINE.

FIGURE 10 - 120' RIGHT-OF-WAY - UTILITY LOCATION

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

100' RIGHT OF WAY - UTILITY LOCATION

(NOT TO SCALE)



NOTES:

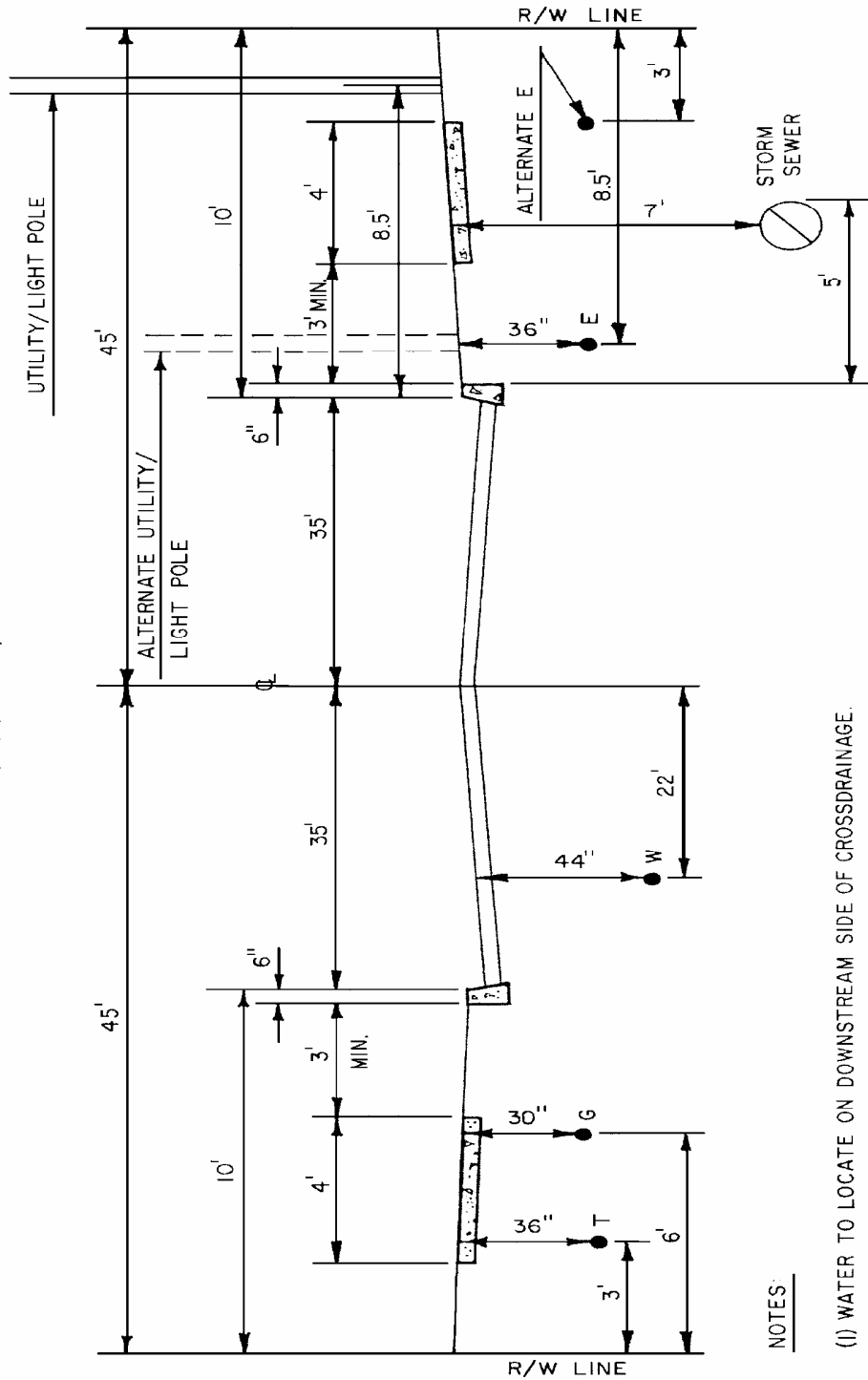
- (1) WATER TO LOCATE ON DOWNSTREAM SIDE OF CROSS-DRAINAGE.
- (2) DEPTHS NOTED ARE TYPICAL ONLY.
- (3) ADDITIONAL UTILITIES TO LOCATE A MINIMUM OF 3' FROM EXISTING UTILITIES WITHIN R/W.
- (4) JOINT TRENCH ARRANGEMENT IS AN OPTION FOR TELEPHONE, GAS, AND ELECTRIC AT 10' OFF R/W. TYPICAL DEPTH IS 46".
- (5) THE STANDARD LOCATION FOR 138 KV OVERHEAD ELECTRIC TRANSMISSION FACILITIES WITHIN 100 FOOT WIDE MAJOR STREET RIGHTS-OF-WAY WILL BE 48' FROM THE STREET CENTERLINE.

FIGURE 11 - 100' RIGHT-OF-WAY - UTILITY LOCATION

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

90' RIGHT OF WAY - UTILITY LOCATION

(NOT TO SCALE)



NOTES:

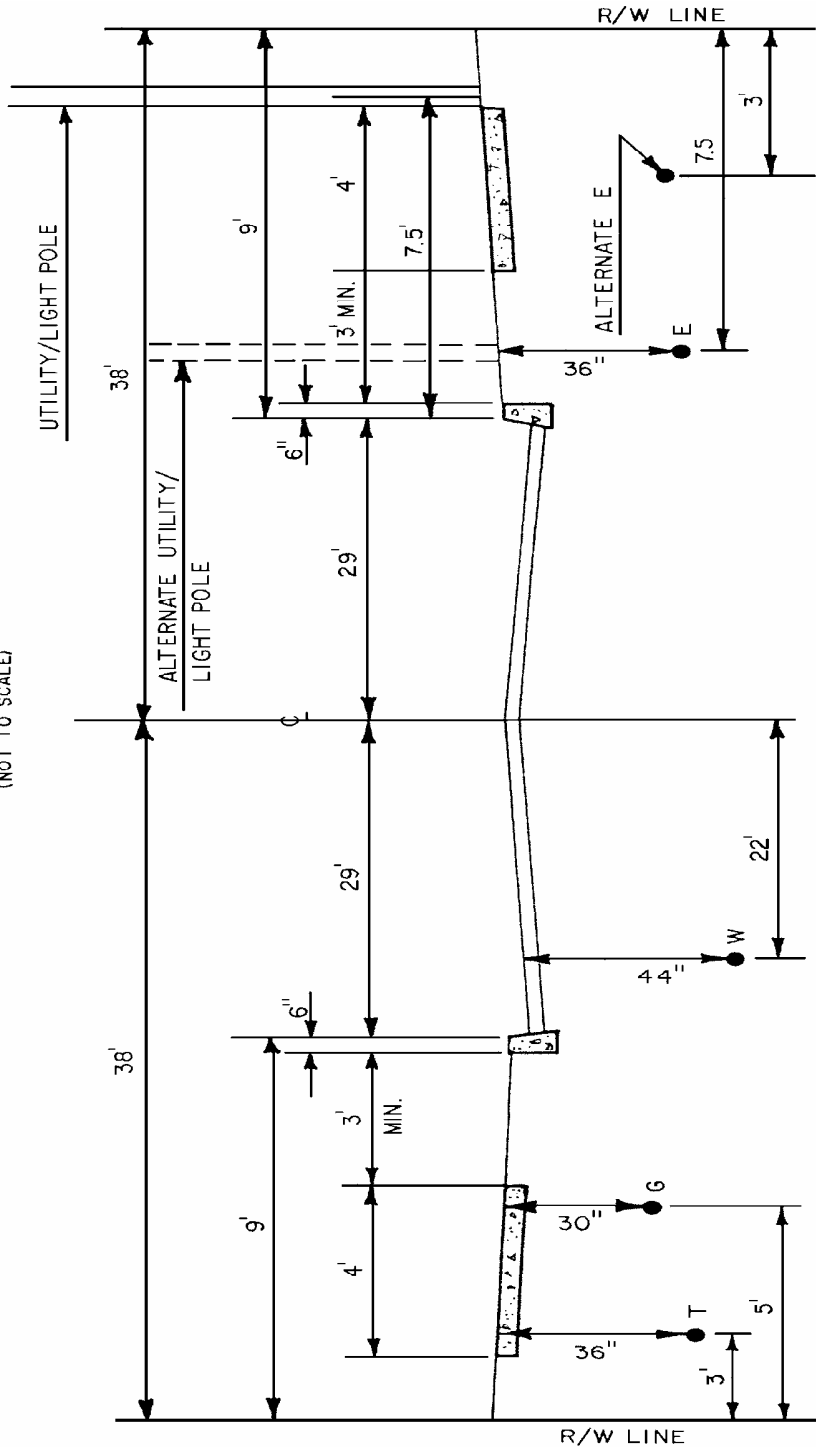
- (1) WATER TO LOCATE ON DOWNSTREAM SIDE OF CROSSDRAINAGE.
- (2) DEPTHS NOTED ARE TYPICAL ONLY.
- (3) ADDITIONAL UTILITIES TO LOCATE MINIMUM 3' FROM EXISTING UTILITIES WITHIN R/W.
- (4) A JOINT TRENCH ARRANGEMENT IS AN OPTION FOR TELEPHONE, GAS AND ELECTRIC AT 10' OFF R/W. TYPICAL DEPTH IS 46".
- (5) STORM DRAIN TYPICALLY LOCATED WITHIN 5' FROM BACK OF CURB AND 7' DEEP FROM FINISHED GRADE OF SHOULDER.
- (6) THE STANDARD LOCATION FOR 138 KV OVERHEAD ELECTRIC TRANSMISSION FACILITIES WITHIN 90 FOOT WIDE MAJOR STREET RIGHTS-OF-WAY WILL BE 43.5' FROM THE STREET CENTERLINE.

FIGURE 12 - 90' RIGHT-OF-WAY - UTILITY LOCATION

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

76' RIGHT OF WAY - UTILITIES LOCATION

(NOT TO SCALE)



NOTES:

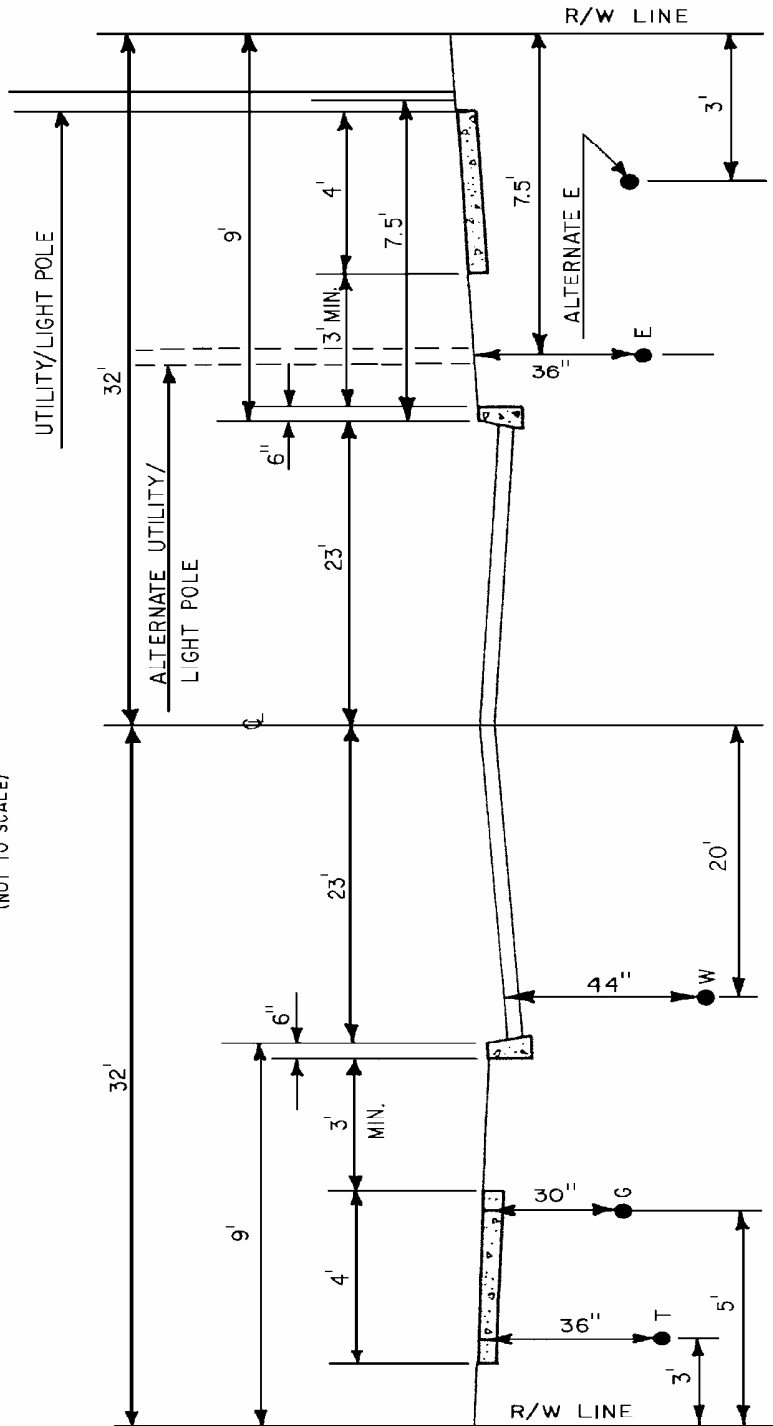
- (1) WATER TO LOCATE ON DOWNSTREAM SIDE OF CROSS-DRAINAGE.
- (2) DEPTHS NOTED ARE TYPICAL ONLY.
- (3) ADDITIONAL UTILITIES TO LOCATE A MINIMUM OF 3' FROM EXISTING UTILITIES WITHIN R/W.
- (4) JOINT TRENCH ARRANGEMENT IS OPTION FOR TELEPHONE, GAS, AND ELECTRIC AT 10' OFF R/W. TYPICAL DEPTH IS 46".
- (5) THE STANDARD LOCATION FOR 138 KV OVERHEAD ELECTRIC TRANSMISSION FACILITIES WITHIN 76 FOOT WIDE MAJOR STREET RIGHTS-OF-WAY WILL BE 36.5' FROM STREET CENTERLINE.

FIGURE 13 - 76' RIGHT-OF-WAY - UTILITY LOCATION

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**

64' RIGHT OF WAY - UTILITY LOCATION

(NOT TO SCALE)



NOTES:

- (1) WATER TO LOCATE ON DOWNSTREAM SIDE OF CROSS-DRAINAGE.
- (2) DEPTHS NOTED ARE TYPICAL ONLY.
- (3) ADDITIONAL UTILITIES TO LOCATE A MINIMUM OF 3' FROM EXISTING UTILITIES WITHIN R/W.
- (4) JOINT TRENCH ARRANGEMENT IS AN OPTION FOR TELEPHONE, GAS AND ELECTRIC AT 10' OFF R/W.
TYPICAL DEPTH IS 46".
- (5) THE STANDARD LOCATION FOR 138 KV OVERHEAD ELECTRIC TRANSMISSION FACILITIES WITHIN 64 FOOT WIDE MAJOR STREET RIGHTS-OF-WAY WILL BE 30.5' FROM STREET CENTERLINE.

FIGURE 14 - 64' RIGHT-OF-WAY - UTILITY LOCATION

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD

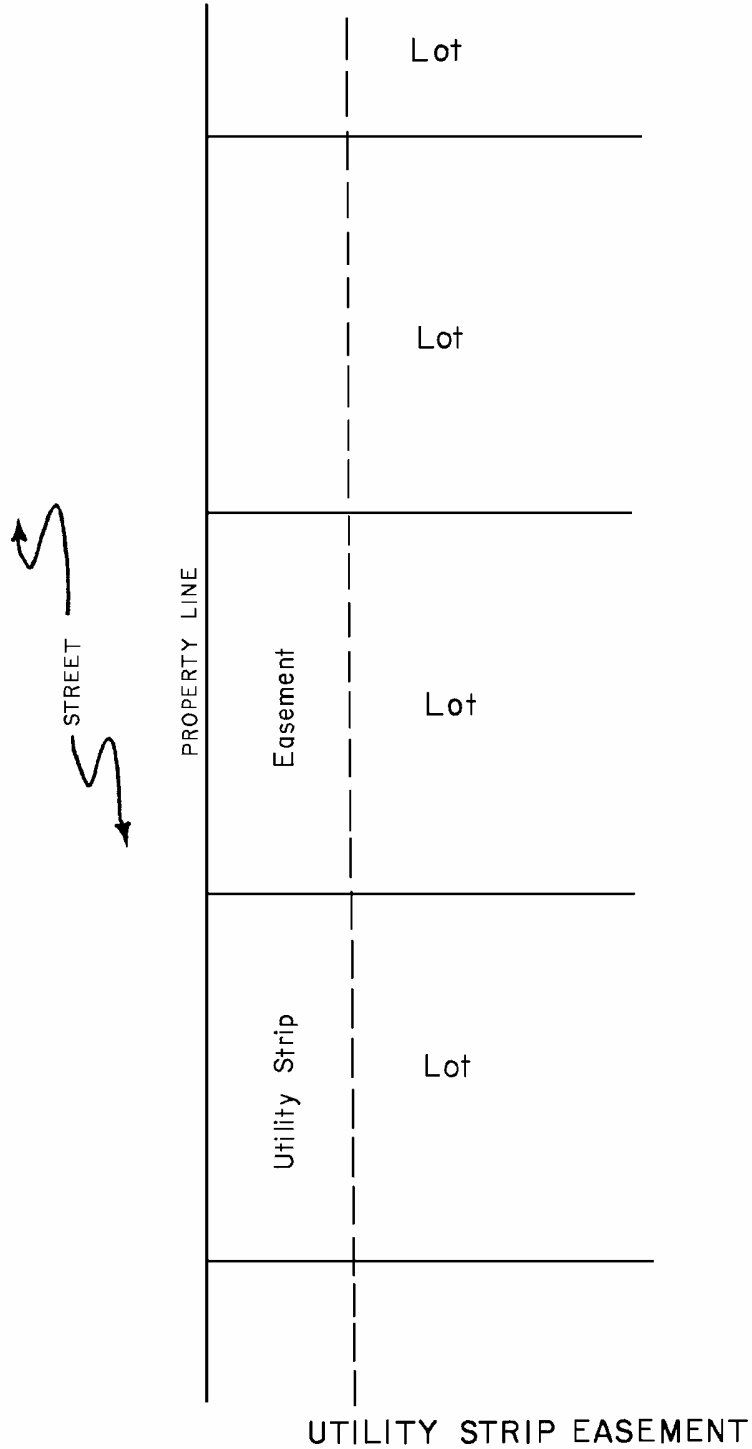
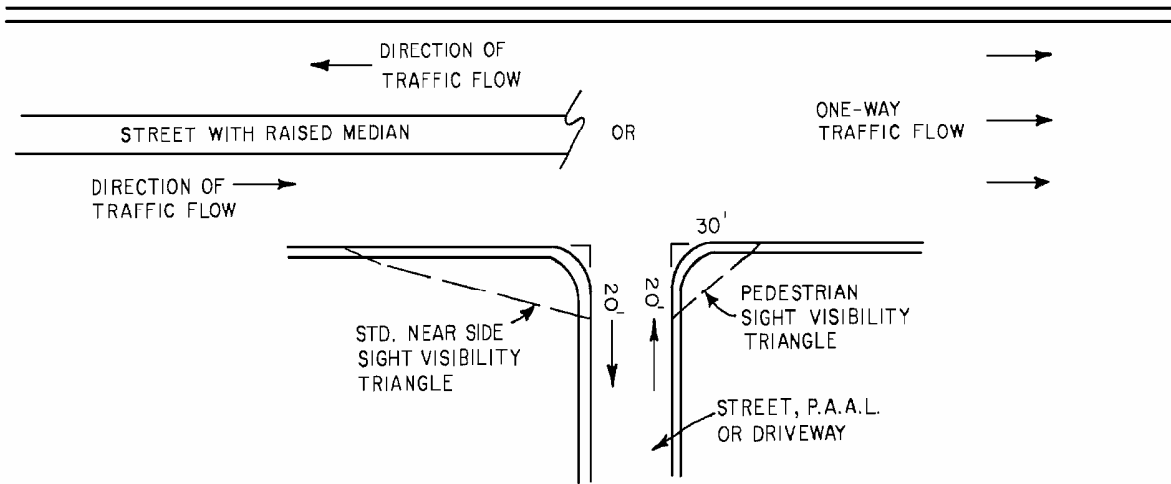
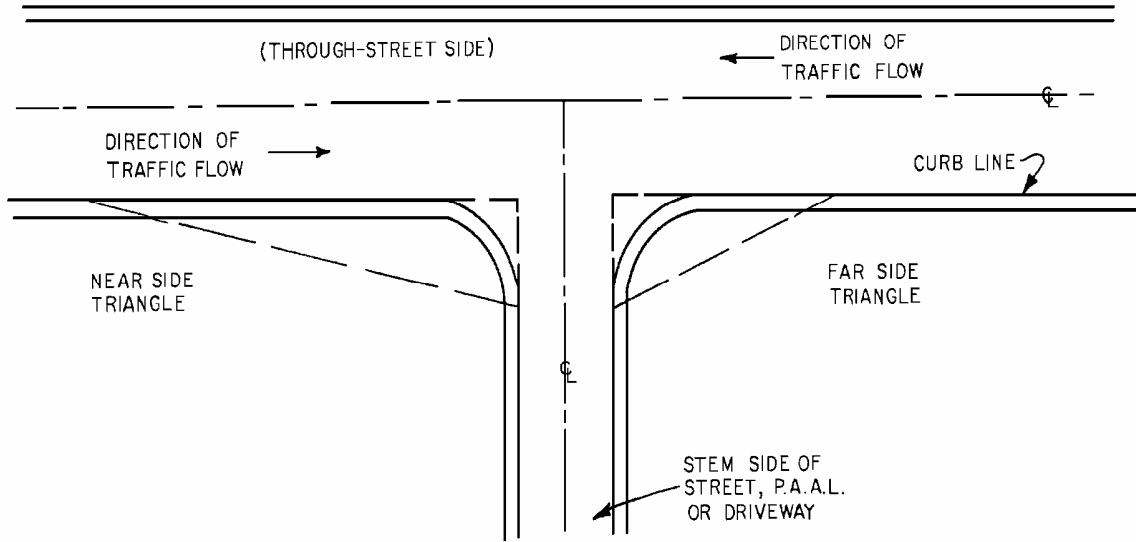


FIGURE 15 - UTILITY STRIP EASEMENT

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**



FOR THROUGH-STREET LENGTH OF TRIANGLE SEE DEV. STD. 3-01.5.3

FIGURE 16 - SIGHT VISIBILITY TRIANGLES

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD

4-WAY INTERSECTION

(NOT TO SCALE)

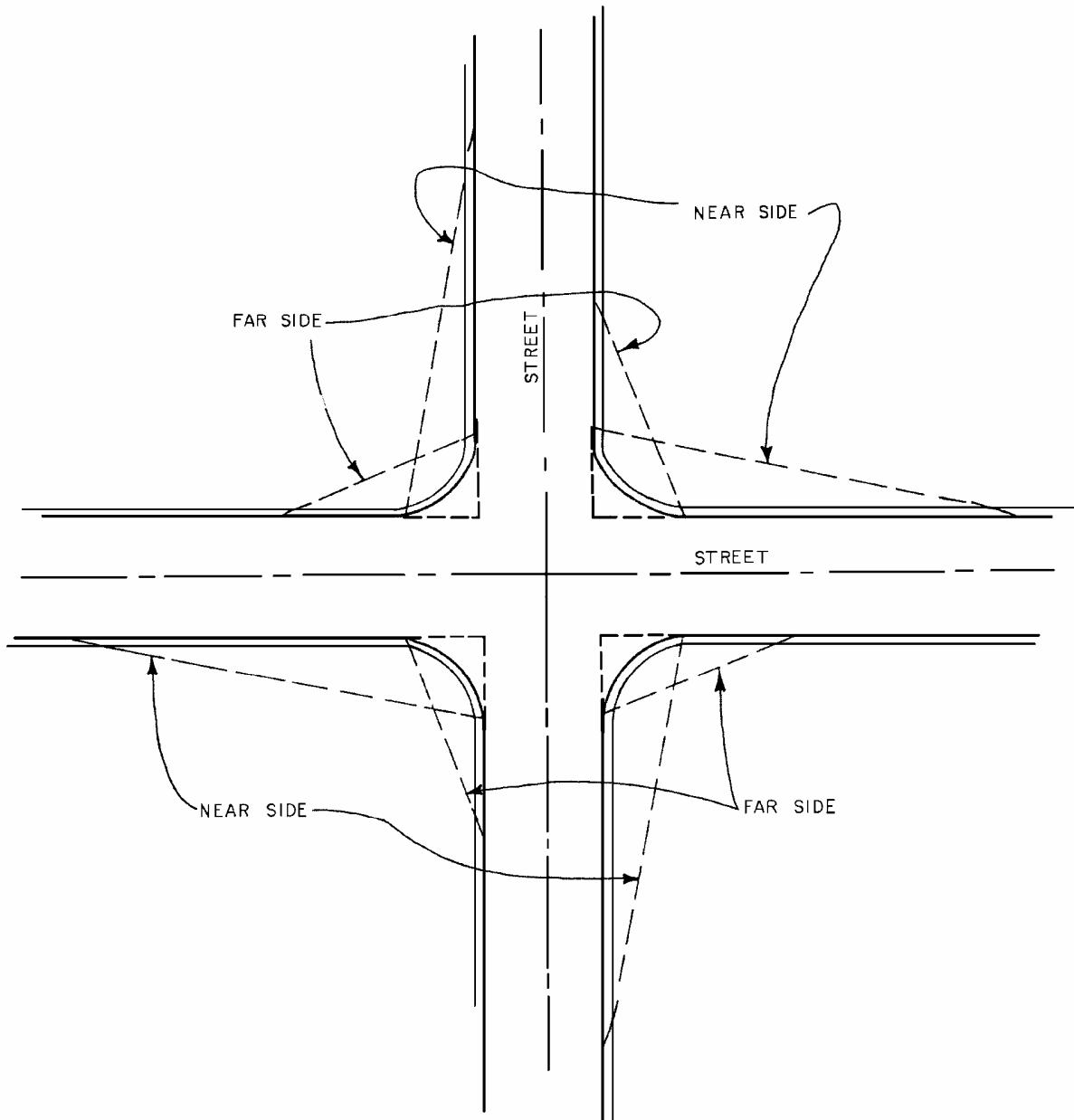


FIGURE 17 - SIGHT VISIBILITY TRIANGLES - 4-WAY INTERSECTION

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD

SIGHT VISIBILITY ALONG CURVE

(NOT TO SCALE)

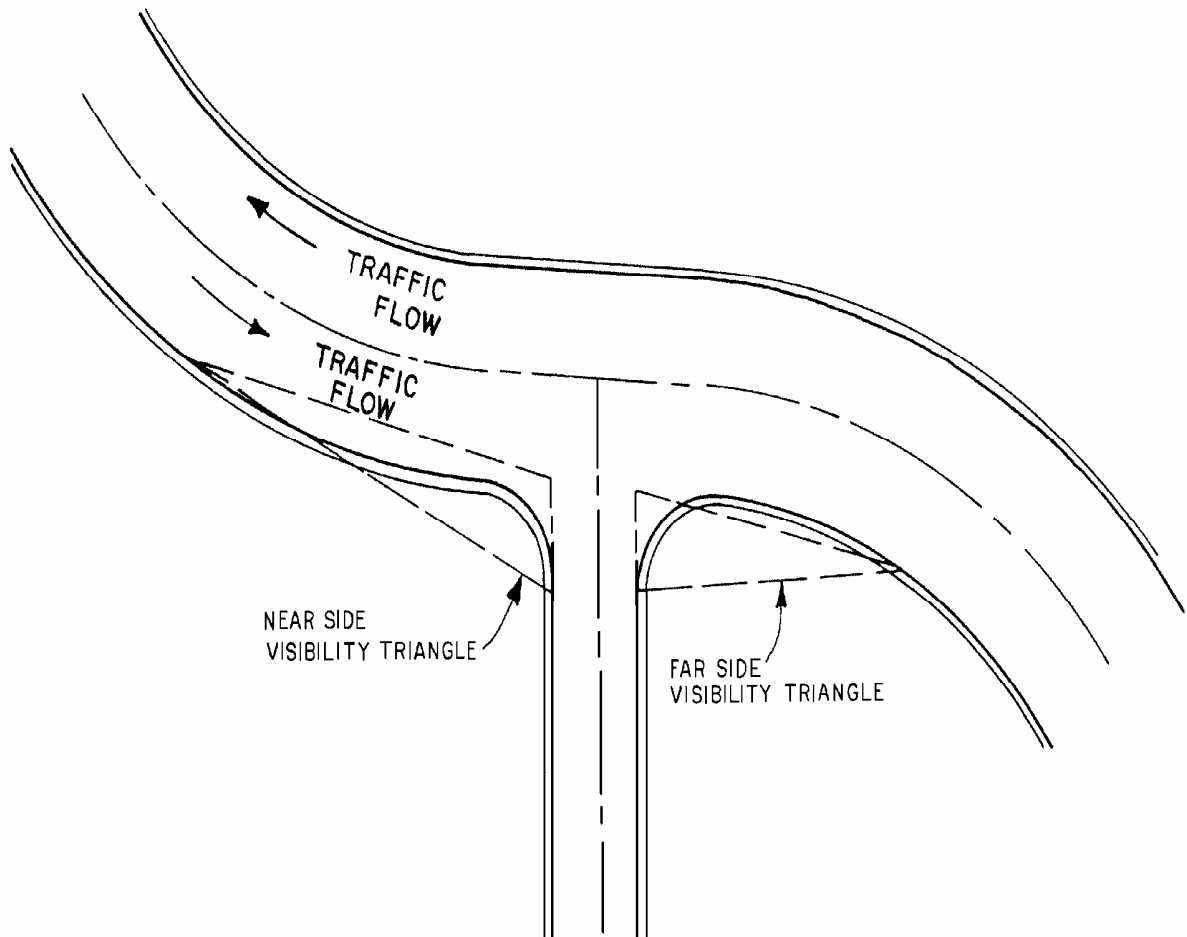
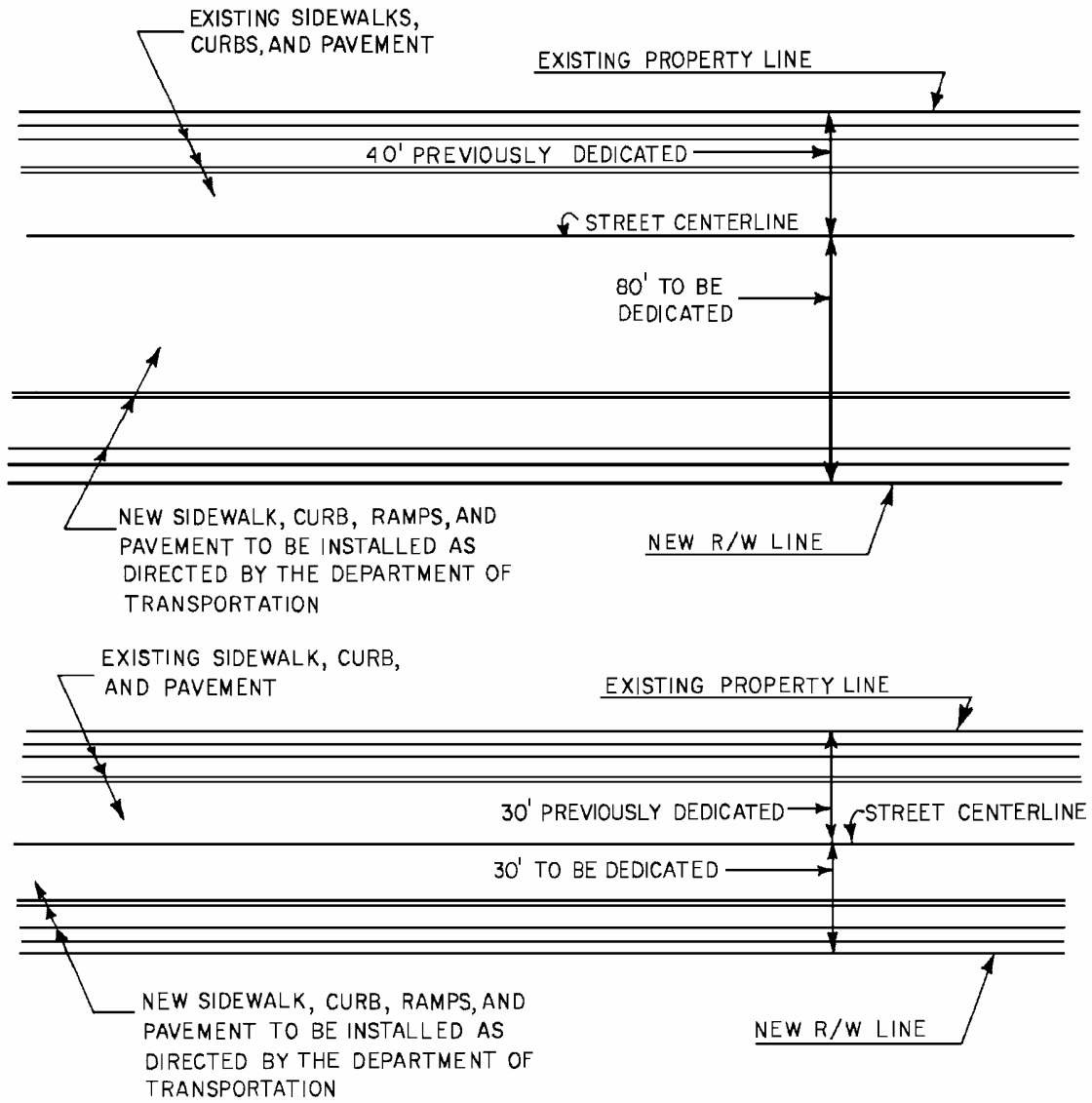


FIGURE 18 - SIGHT VISIBILITY ALONG CURVE

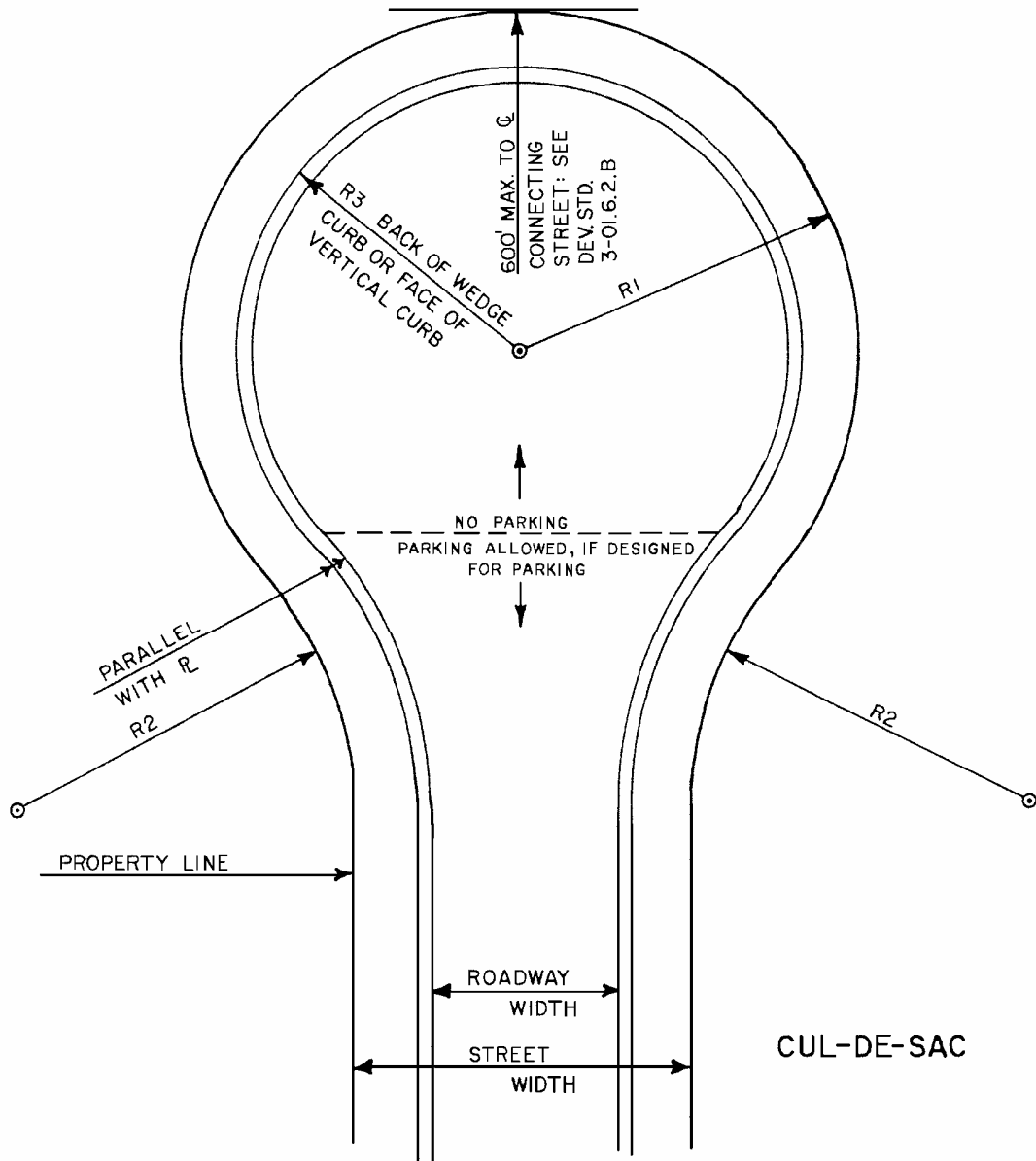
**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**



PARTIAL LOCAL STREET

FIGURE 19 - PARTIAL LOCAL STREET

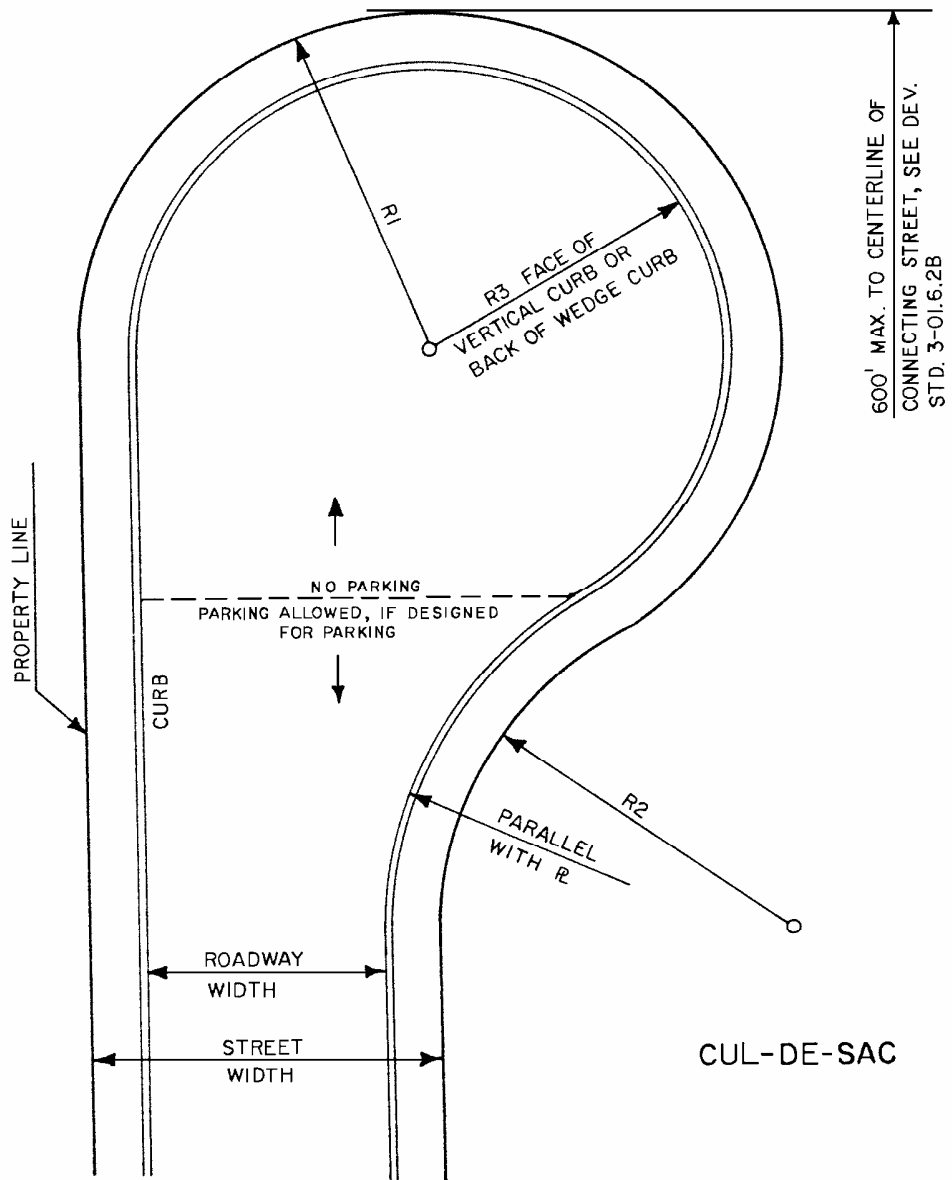
**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**



MINIMUM RADII IN FEET		
	RESIDENTIAL	INDUSTRIAL/ COMMERCIAL
R1	50'	60'
R2	50'	60'
R3	42'	52'

FIGURE 20 - CUL-DE-SAC

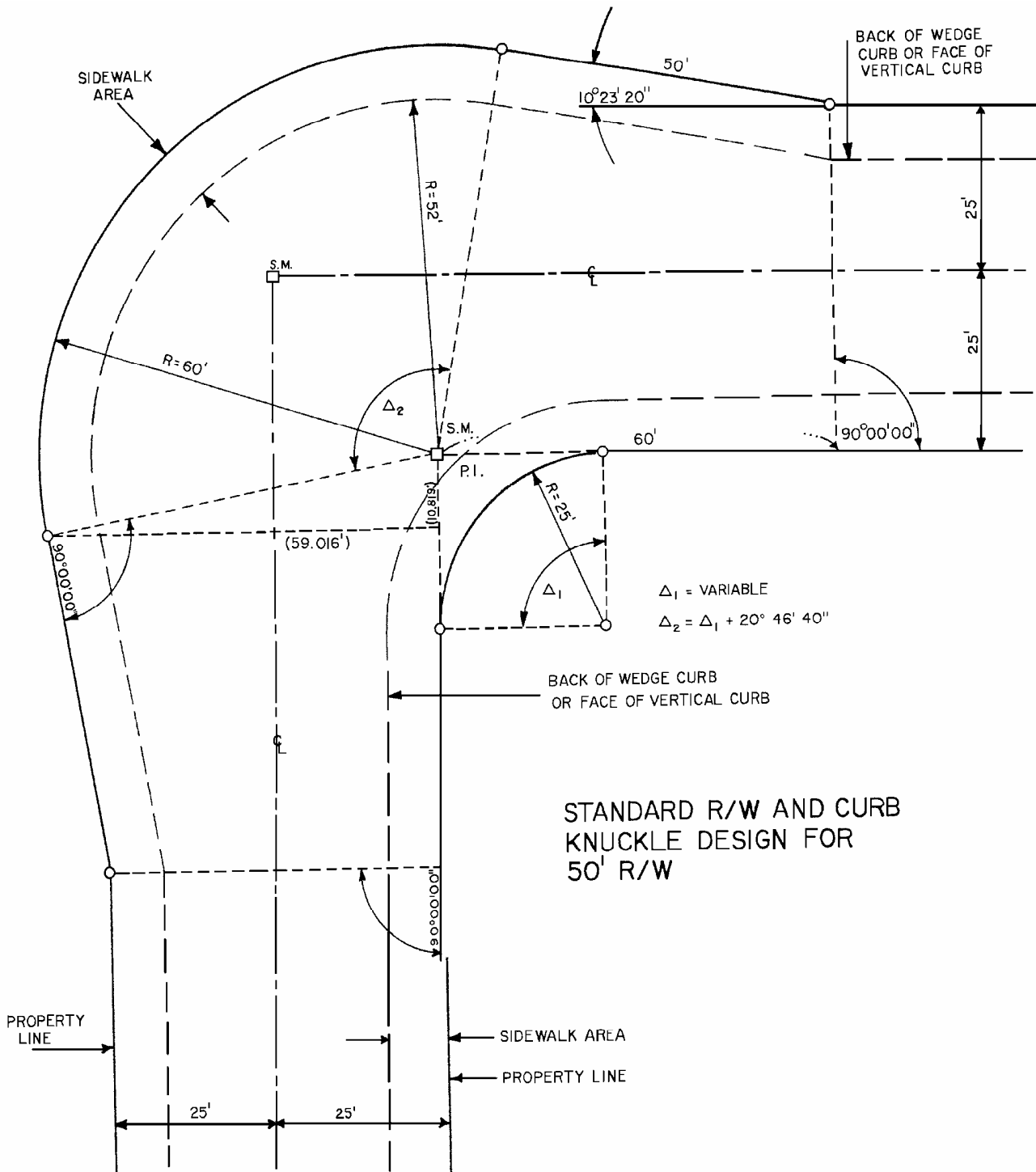
**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**



MINIMUM RADII IN FEET		
	RESIDENTIAL	INDUSTRIAL/ COMMERCIAL
R1	50'	60'
R2	50'	60'
R3	42'	52'

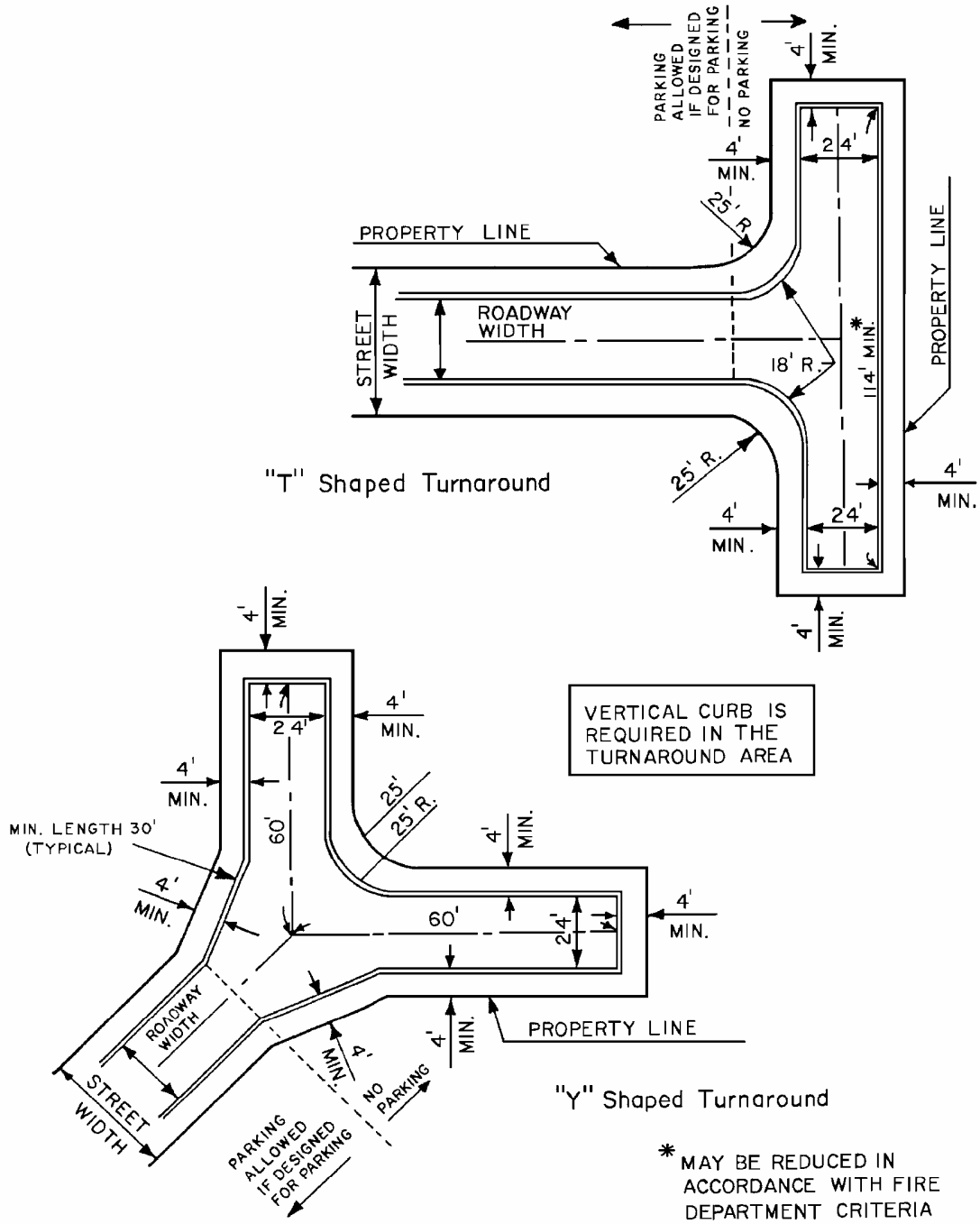
FIGURE 21 - CUL-DE-SAC

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**



**FIGURE 22 - STANDARD RIGHT-OF-WAY AND CURB KNUCKLE DESIGN
FOR 50' RIGHT-OF-WAY**

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD**



TURNAROUNDS

FIGURE 23 – TURNAROUNDS

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD

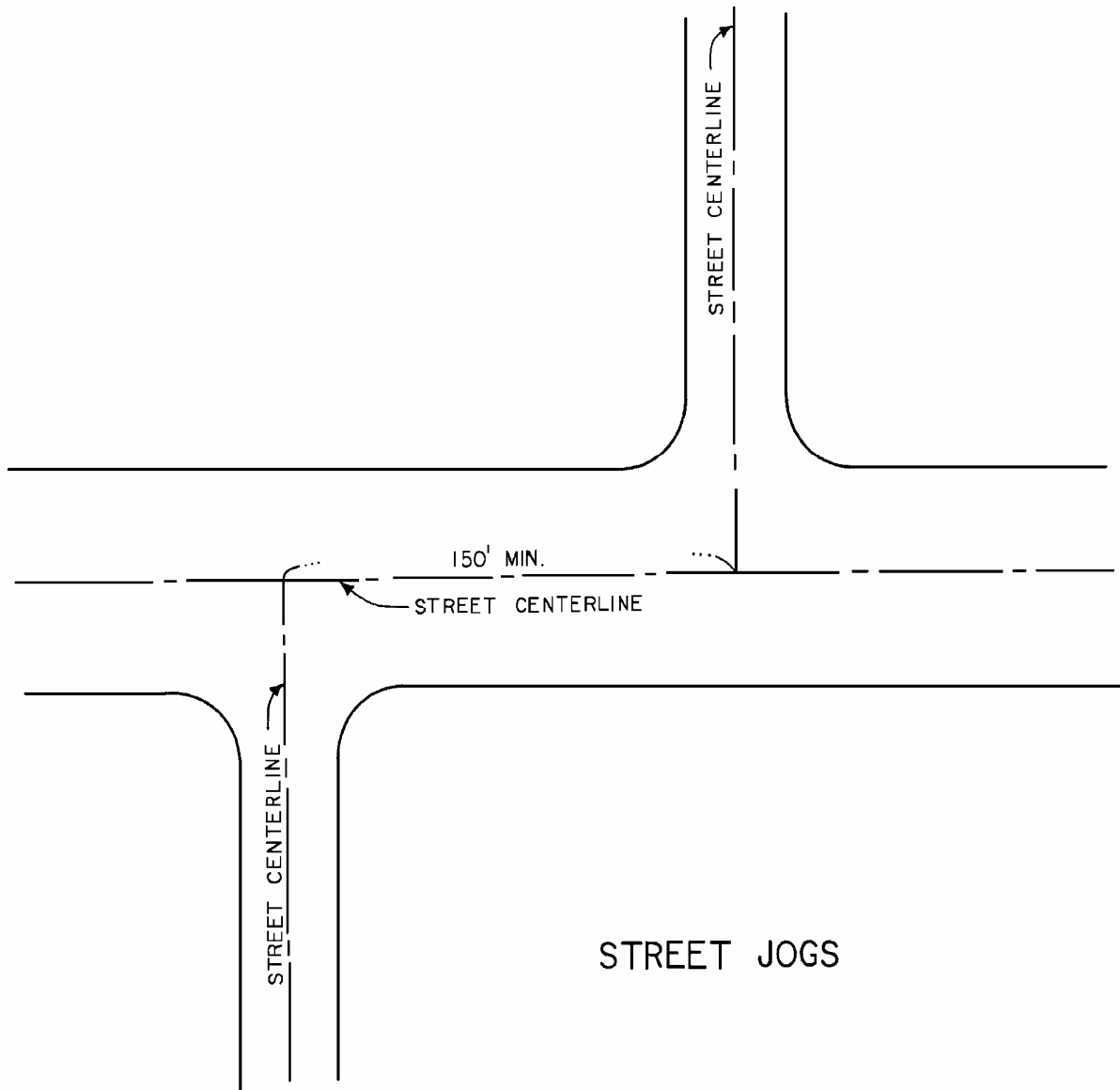


FIGURE 24 - STREET JOGS

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 3-01.0
STREET DEVELOPMENT STANDARD

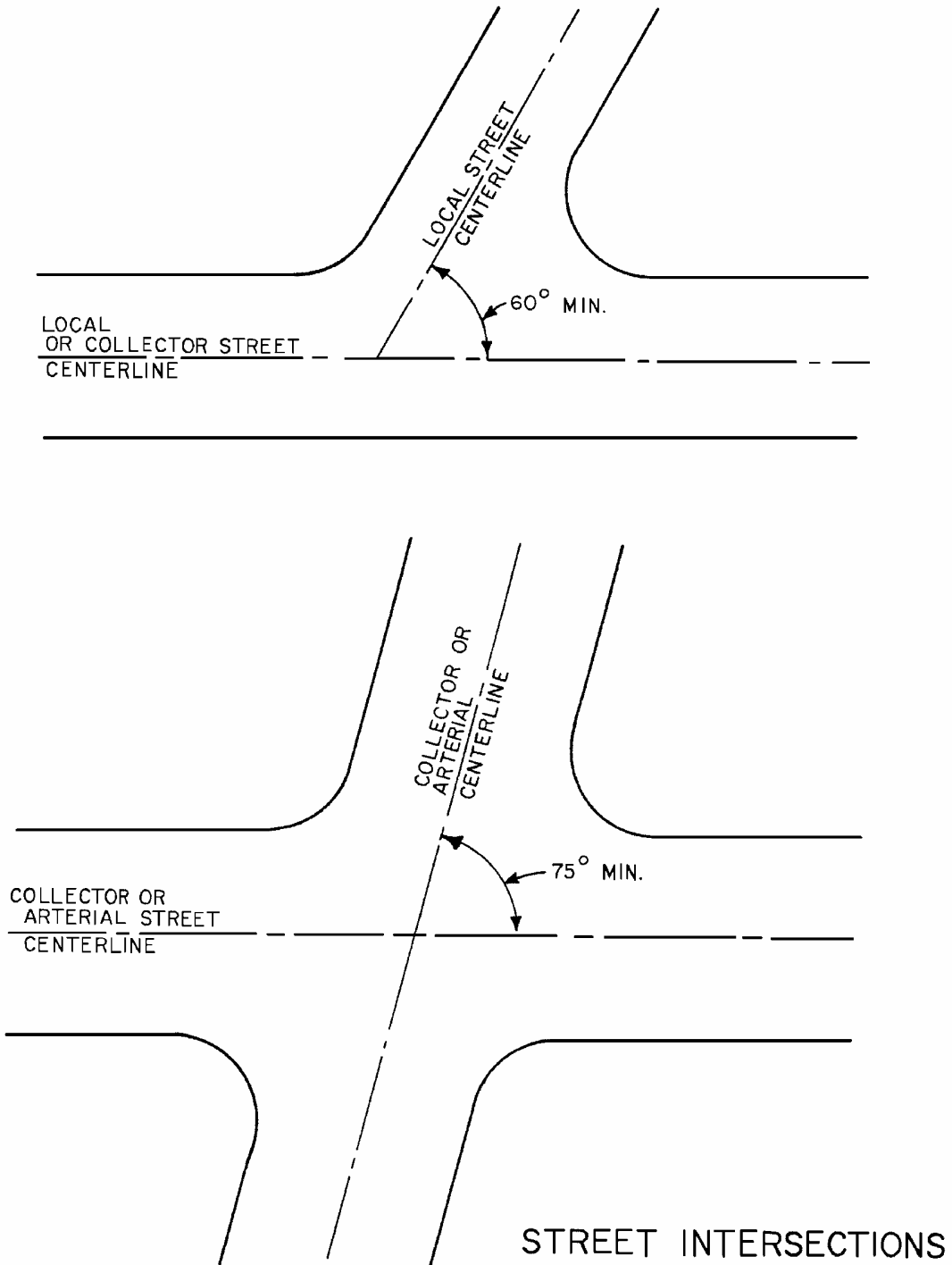


FIGURE 25 - STREET INTERSECTIONS

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)**

SOLID WASTE DISPOSAL (REFUSE)

6-01.1.0	GENERAL
6-01.2.0	RESIDENTIAL REFUSE COLLECTION
6-01.3.0	COMMERCIAL AND INDUSTRIAL DEVELOPMENT
6-01.4.0	SPECIFICATIONS - GENERAL
6-01.5.0	AUTOMATED REFUSE COLLECTION SYSTEM
6-01.6.0	FEES
6-01.7.0	SITE PLAN INFORMATION
6-01.8.0	SPECIAL SERVICES
6-01.9.0	MODIFICATIONS AND APPEALS
6-01.10.0	LIST OF EXHIBITS AND FIGURES

6-01.0.0 SOLID WASTE DISPOSAL (REFUSE).

6-01.1.0 GENERAL.

1.1 Purpose. To respond to the need for a safe and efficient system of refuse collection, the following Refuse Service Standard has been established to:

- Provide reasonable service intervals for residential, commercial, and industrial development.
- Establish minimum locational and dimensional requirements for access and maneuvering during collection.
- Create provisions for the sanitary storage and pick up of all refuse materials for collection by the City of Tucson.
- Enhance the appearance of the City through establishment of site layout guidelines for the collection and storage of refuse materials.

1.2 Scope. These Standards apply to all new construction and new service within the City of Tucson.

1.3 Definitions. Definitions for words used in this Standard are found in the Development Standards Glossary or in Sec. 6.2.0 of the Tucson *Land Use Code (LUC)*.

6-01.2.0 RESIDENTIAL REFUSE COLLECTION.

2.1 Single Family/Duplex Development.

- A. New single family and duplex development including one (1) or two (2) mobile homes on individual residential lots fronting any major street will provide a frontage road, alley, or on-site facilities for refuse collection.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)**

2.1 Single Family/Duplex Development. (Cont'd)

- B. Garbage can service, hand loading, or where applicable, the Automated System (Sec. 6-01.5.0) is preferable for single family/duplex development.
1. Alley service will be provided only where the alleys are constructed with a twenty (20) foot wide cross section and maintained for clear access.
 - a. A four (4) foot by six (6) foot level area for each three (3) garbage cans or receptacles will be provided within the property line adjacent to the alley.
 - b. A fifteen (15) foot minimum height clearance, free of any overhead obstructions (wires, branches, etc.), will be provided above the collection site. If covered, the container service area must have at least a twenty-five (25) foot vertical clearance.
 - c. Vegetation which will grow from private property into the alley right-of-way thus creating visual or traffic obstructions for the collection crew is prohibited. It is the property owner's responsibility to maintain an unobstructed sight distance for the collection crew.
 2. Where an alley is not provided or on-site collection cannot occur, cans will be placed behind the curb in front of the premises.
 - a. Cans are permitted to remain adjacent to the street or behind the curb only on regular collection days.
 - b. Where sidewalks exist, cans are to be placed in the buffer area between the curb and sidewalk or behind the sidewalk when the sidewalk touches the curb. Cans shall be placed so as not to obstruct sidewalk traffic.
 - c. Permanent enclosures or bins on the curb are prohibited.
 - d. A level area at least four (4) feet wide by six (6) feet long, free of vegetation and other obstructions (including vehicles), shall be provided and maintained by the property owner for garbage can container collection area.

2.2 Residential Multifamily Development.

- A. New projects including mobile home parks consisting of three (3) or more dwelling units will provide centralized on-site refuse storage, collection, and pickup areas with service access from within the tract or from an alley adjacent to the tract.

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DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)**

2.2 Residential Multifamily Development. (Cont'd)

The storage and collection areas will be screened from view of adjacent development and from public rights-of-way.

The storage and collection areas will be placed at an adequate distance from adjoining residential uses to prevent health-related impacts (odor, flies, etc.) to those uses.

- B. When garbage can enclosures and bins are used for centralized collection, they will be constructed as specified in Sec. 6-01.4.2.
1. Enclosures or bins are to be approved by the Sanitation Division before being placed into service.
 2. Refuse storage areas built into patio walls will not be serviced.
 3. A twenty-five (25) foot minimum height clearance, free of any overhead obstructions (wires, branches, etc.), shall be provided above the collection site.
- C. Alley service will be provided only where the alleys are constructed in accordance with Development Standard 3-01.0 and with a minimum twenty (20) foot width. Provisions for alley service are noted in Sec. 6-01.2.1.B.1.
- D. When alley service cannot be provided, on-site collection facilities and access for servicing will be designed into a project.
1. On-site refuse collection will be provided by the City only when the property owner enters into a written agreement with the City (see **Exhibit I**).
 2. The Sanitation Division will provide for rental of dumpsters or other equipment on an individual fee basis on private property.
 3. Private streets must conform to Development Standard 3-01.0 to provide adequate access for the service vehicle (see **Figure 1**).
 4. Since private streets are not required to be constructed to City of Tucson structural standards, the City is relieved of any responsibility for structural damage to the street caused by the normal procedures of refuse collection. The developer must acknowledge responsibility in recorded covenants for the site. (See **Exhibit I** for suggested wording.)

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)**

6-01.3.0 COMMERCIAL AND INDUSTRIAL DEVELOPMENT.

3.1 Access to Property.

- A. An adequate and safe ingress/egress is required for the collection vehicle in each new project.
- B. The property owner must enter into a written agreement with the City allowing City vehicles access onto the property (see **Exhibit I**).

3.2 Containers.

- A. Where the use of a garbage can container is planned by a commercial establishment, each establishment will provide such containers and adhere to the same restrictions as required for residential refuse service.
- B. Where the volume of refuse cannot be contained in three (3) garbage cans, each commercial establishment shall provide metal dumpster containers of adequate size. Containers are to be approved by the Sanitation Division before being placed in service.
- C. The capacity of eight (8) 20-gallon cans is one (1) cubic yard of refuse. The minimum dumpster size stores three (3) cubic yards.

3.3 Service Frequency. Service shall be provided two (2) times each week at a minimum. Additional service up to six (6) times per week may be required by the Sanitation Division, depending on the nature and volume of solid waste involved.

6-01.4.0 SPECIFICATIONS - GENERAL.

4.1 Access to and Placement of Containers.

- A. New development will provide on-site refuse storage, collection, and pickup areas with service access from within the tract or from an alley adjacent to the tract.
- B. A container service area is ten (10) feet by ten (10) feet with a minimum vertical clearance of twenty-five (25) feet.
- C. Each service area is required to have a clear approach of fourteen (14) feet by forty (40) feet for the collection vehicle. The maximum back-up distance for the collection vehicle shall be forty (40) feet.
- D. Dumpster containers are not to be placed on any curb or sidewalk or in the area between the curb and sidewalk.
- E. Containers are not allowed in any area so as to obstruct safe sight distance.

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SOLID WASTE DISPOSAL (REFUSE)**

4.1 Access to and Placement of Containers. (Cont'd)

- F. Container placement is not to obstruct or block drainage.
- G. Containers will be placed in accordance with Fire Department Standards with regard to access and hydrants.
- H. Should more than one (1) container be necessary, the containers are to be positioned so as to permit the collection vehicle to collect garbage without impeding the continuous flow of traffic within the development.
- I. Containers are to be placed so that the collection vehicle does not have to back into moving traffic, on or off the premises.
- J. Containers are not to be placed on or in a manner which obstructs vehicle parking spaces.
- K. The container service area must be kept free from vegetation and other obstructions by the property owner.
- L. Containers requiring service on private property are governed by the requirements as set forth in Sec. 6-01.2.2.D (see *Exhibit I*).
- M. The storage and collection areas will be screened from view of adjacent development and from public rights-of-way. The areas must be placed an adequate distance from adjoining residential uses to prevent health-related impacts (odor, flies, etc.) to those uses.

4.2 Enclosure and Bin Construction.

- A. Requirements for access to and placement of enclosures and bins are found in Sec. 6-01.2.0, Residential, or Sec. 6-01.3.0, Commercial, whichever is applicable.
- B. Enclosures and bins are to have suitable hatches, doors, gates, and covers to prevent material from overflowing, spilling, or scattering onto surrounding premises. A sanitary condition will be maintained for fire prevention.
- C. Enclosures for dumpster containers are as follows.
 - 1. The base shall be a concrete slab with an inside clear dimension of ten (10) feet by ten (10) feet by five (5) inches thick. Restaurants and other food service establishments are required to provide a sewer-connected drain in the center of the slab to facilitate container cleaning.
 - 2. Steel pipes are required between the container and the enclosure's rear and side walls to prevent the container from damaging the enclosure while being serviced.

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SOLID WASTE DISPOSAL (REFUSE)**

4.2 Enclosure and Bin Construction. (Cont'd)

3. Enclosures are to be constructed with sufficient reinforcing material to prevent damage from vibration while servicing the container. If masonry walls are used, they will be constructed as shown in **Figure 2**.
 4. Enclosure gates must be secured but not locked. They must also be secured when opened to prevent accidental closing during servicing.
 5. Enclosure gates have a minimum opening of ten (10) feet.
- D. Bins for garbage can containers will be constructed similarly to enclosures; however:
1. Minimum requirements in Sec. 6-01.4.2.C.1 and Sec. 6-01.4.2.C.2 are not applicable to bin construction.
 2. Refuse storage bins will be of sufficient size to accommodate the volume of refuse (number of containers) to be stored.

4.3 Stationary Compactor (Stat-Pak).

- A. Special refuse storage and collection services are offered by the City for commercial establishments which generate unique or large volumes of solid waste. Hospitals, dry goods stores, restaurants, shopping centers, warehouses, manufacturing plants, etc., can benefit from the use of stationary compacting machines as an effective and efficient on-site storage unit where space and accessibility are limited.
- B. The stationary compactor is designed to work with eight (8) cubic yard to forty (40) cubic yard refuse containers. Consultation with the Sanitation Division may be required for determining specific container size and placement.
- C. A safe and adequate location with a fourteen (14) foot by forty (40) foot approach for collection vehicles is required for the compactor.
- D. The compactor shall be placed on a concrete pad ten (10) feet wide. The overall length of the concrete pad must be five (5) feet greater than the combined length of the compactor and the receiving container. Lengths of the receiving containers vary depending on the container's capacity. Consultation with the Sanitation Division may be required to determine the exact dimensions.
- E. Where high volumes of liquids are incorporated with the refuse, a drain shall be installed beneath the area of the compactor charge box and connected to a sanitary sewer.
- F. An electrical disconnect switch for 220-440 (60 amps, 3 phase) shall be installed within five (5) feet of the compactor.

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SOLID WASTE DISPOSAL (REFUSE)**

4.3 Stationary Compactor (Stat-Pak). (Cont'd)

- G. A twenty-five (25) foot minimum height clearance, free of any overhead obstructions (wires, branches, etc.), shall be provided above the collection site.

6-01.5.0 AUTOMATED REFUSE COLLECTION SYSTEM.

5.1 Residential Low Density Development. To respond to the need for a safe, efficient, and more economical system of refuse collection, the Sanitation Division is currently phasing in the Automated Refuse Collection System. Full implementation of this system is expected to be complete by 1989. Expansion of this system shall take place in planned increments throughout the City. The Automated System is a dual-purpose system and can be used for curb and alley collection, providing the alley is designed to Development Standard 3-01.0 and with a minimum twenty (20) foot width.

5.2 Residential High Density Development/Commercial and Industrial Development. The Automated Refuse Collection System does not apply at this time.

NOTE: Any new development plans that fall within the Automated Collection System will be reviewed by Sanitation personnel on a case-by-case basis.

5.3 Additional Specifications.

A. *Alley Requirements.* Alley service shall be provided where the alleys are constructed in accordance with Development Standard 3-01.0 and with a minimum twenty (20) foot width.

1. Curb-tender alley service shall meet requirements of Residential Standards, Sec. 6-01.2.1.B.1.
2. A level area at least six (6) feet by six (6) feet, free of vegetation and other obstructions, is required for container placement.
3. The recommended turning radius for the Curb-tender vehicle is depicted in **Figure 1**. Further height and width specifications are shown in **Exhibit II**.

B. *Curb-Side Collection.* Curb-side collection requirements will comply with all minimum standards for residential refuse collection in Sec. 6-01.2.2.

6-01.6.0 FEES. Fees for refuse collection and disposal as established by the Mayor and Council are based upon the size of the containers and the frequency of collection.

Current fee schedules are available in the Sanitation Division office upon request.

6-01.7.0 SITE PLAN INFORMATION. To secure building permits, the following information is required either drawn on the plan or as part of the "General Notes" section of any development or building plan.

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)**

6-01.7.0 SITE PLAN INFORMATION. (Cont'd)

- A. Specification of the anticipated method of collection and frequency of service.
- B. Identification of the use of adjacent properties surrounding the proposed development, i.e., vacant land, residences, shopping centers, commercial buildings, alleys, easements, drainage, etc.
- C. Locations of walls, fences, hedges, or landscaped buffer areas that are designed to reduce noise and the negative aesthetic impacts that could result from refuse collection services.

6-01.8.0 SPECIAL SERVICES. In instances where developments propose refuse service not specified in these Standards, e.g., developments for the elderly or handicapped, prior approval must be obtained from the Sanitation Division.

6-01.9.0 MODIFICATIONS AND APPEALS.

9.1 Modifications.

- A. Where, in the opinion of the Community Design Review Committee (CDRC) and Sanitation Division, there exist extraordinary conditions of topography, land ownership, adjacent development, historic district consideration, or other circumstances not provided for in these Standards, the CDRC and Sanitation Division may modify these Standards as deemed appropriate in the public interest.
- B. In modifying these Standards or requirements of these provisions, the CDRC may make such additional requirements as appear necessary, in its judgment, to secure substantially the objectives of the Standards or requirements which are modified, providing the modifications do not conflict with any other ordinance or regulation. All items not specifically covered by these Standards will be judged on a case-by-case basis by the CDRC without setting precedent.

9.2 Appeals. Appeals to decisions made under these Standards are to the Zoning Examiner. The process of appeals is established in Sec. 5.4.4.1 of the *LUC*.

6-01.10.0 LIST OF EXHIBITS AND FIGURES.

- Exhibit I - On-Site Service Agreement Form
- Exhibit II - Automated Refuse Collection Specifications
- Figure 1 - Turning Radii for Service Vehicles
- Figure 2 - Structural Design for Enclosure Wall

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)



The Sunshine City •

CITY OF TUCSON

DEPT. OF SOLID WASTE MANAGEMENT
P.O. Box 27210
Tucson, Arizona 85726-7210

DATE

Sanitation Administrator
City of Tucson
Tucson, Arizona

It is hereby requested that garbage and/or trash pickups be made on my private property located as follows:

This letter constitutes authority and permission for your personnel and vehicles to enter upon, on and across my property for the purpose of collecting garbage and/or trash.

It is understood that acceptance of this request and permission does not imply a continuing obligation by the City of Tucson to collect garbage and/or trash at this location and that such service may be discontinued by the City of Tucson at any time it should be in the public interest to do so.

It is further understood that the City, in the process of providing service on my private property, does not assume liability for acts other than its own or those of its employees in the process of serving the location.

It is further agreed that I will provide the City with a clear unobstructed access on my property for the purpose of the City providing service at the location.

This agreement shall continue in force unless and until terminated by either of the parties hereto, giving notice in writing to the other intention to so terminate. Upon receipt of such notice, this agreement shall thereupon terminate.

Accepted this _____
day of _____
19 _____
Names of property owners

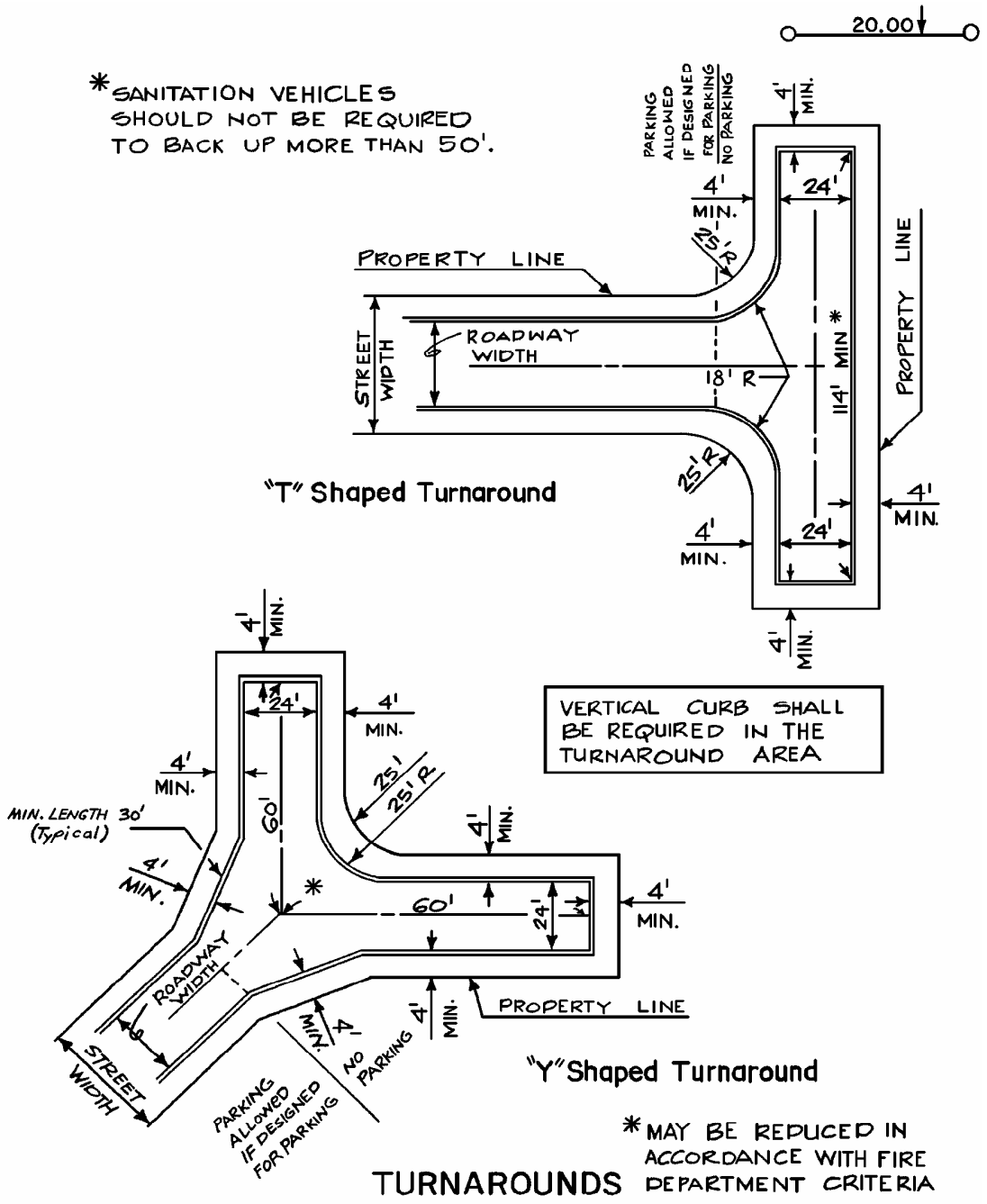
CITY OF TUCSON, a municipal corporation

By _____
Sanitation Administrator

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)

AUTOMATED REFUSE COLLECTION SPECIFICATIONS	
<i>Description</i>	<i>Dimension</i>
Height of Truck	11'
Height of Arm in Dump Position	12' 3"
Height with Truck in Dump Position	14' 11"
Length of Truck	28' 10"
Width of Truck	8'
Turning Radii	50'
Length of Clear Curb Line for Pickup	90'
Body Capacity	20 & 25 cubic yards
Hopper Capacity	3.5 cubic yards

**CITY OF TUCSON
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SOLID WASTE DISPOSAL (REFUSE)**



* IDENTICAL TO STREET DEVELOPMENT STANDARD 3.01.0 FIGURE 23

FIGURE 1 - TURNING RADII FOR SERVICE VEHICLES

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)**

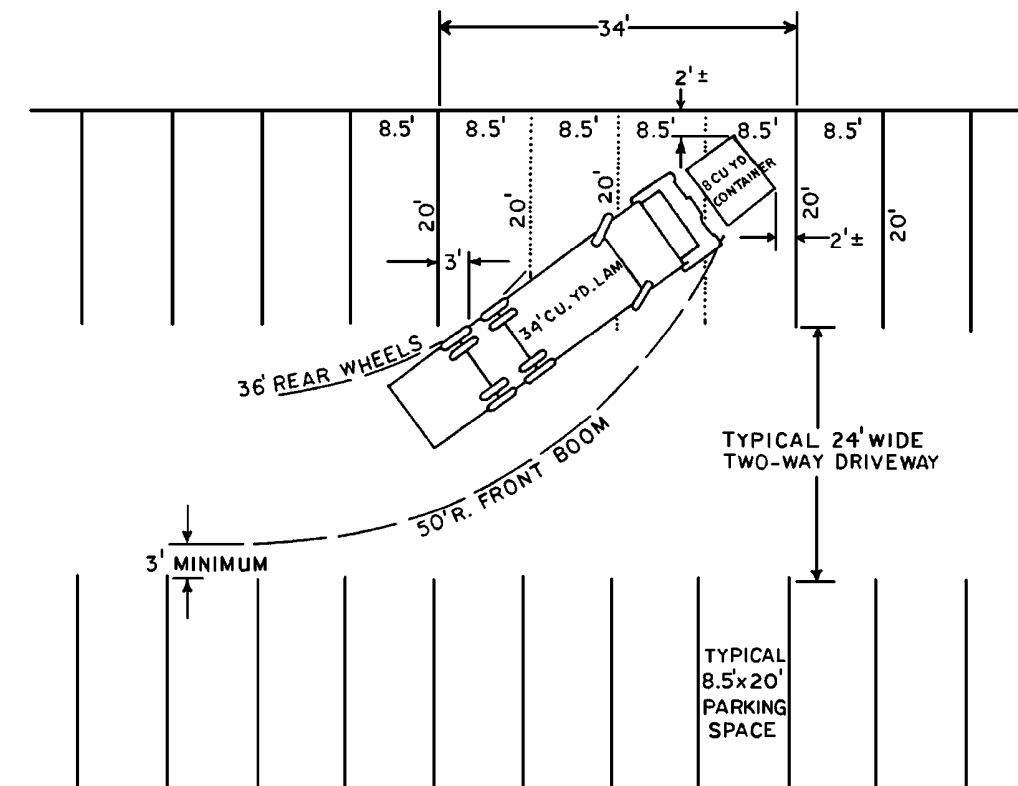
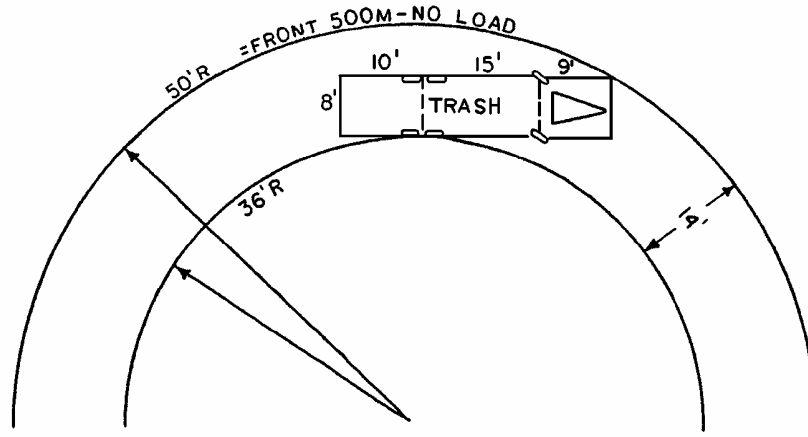


FIGURE 1 - TURNING RADII FOR SERVICE VEHICLES (Cont'd)

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 6-01.0
SOLID WASTE DISPOSAL (REFUSE)

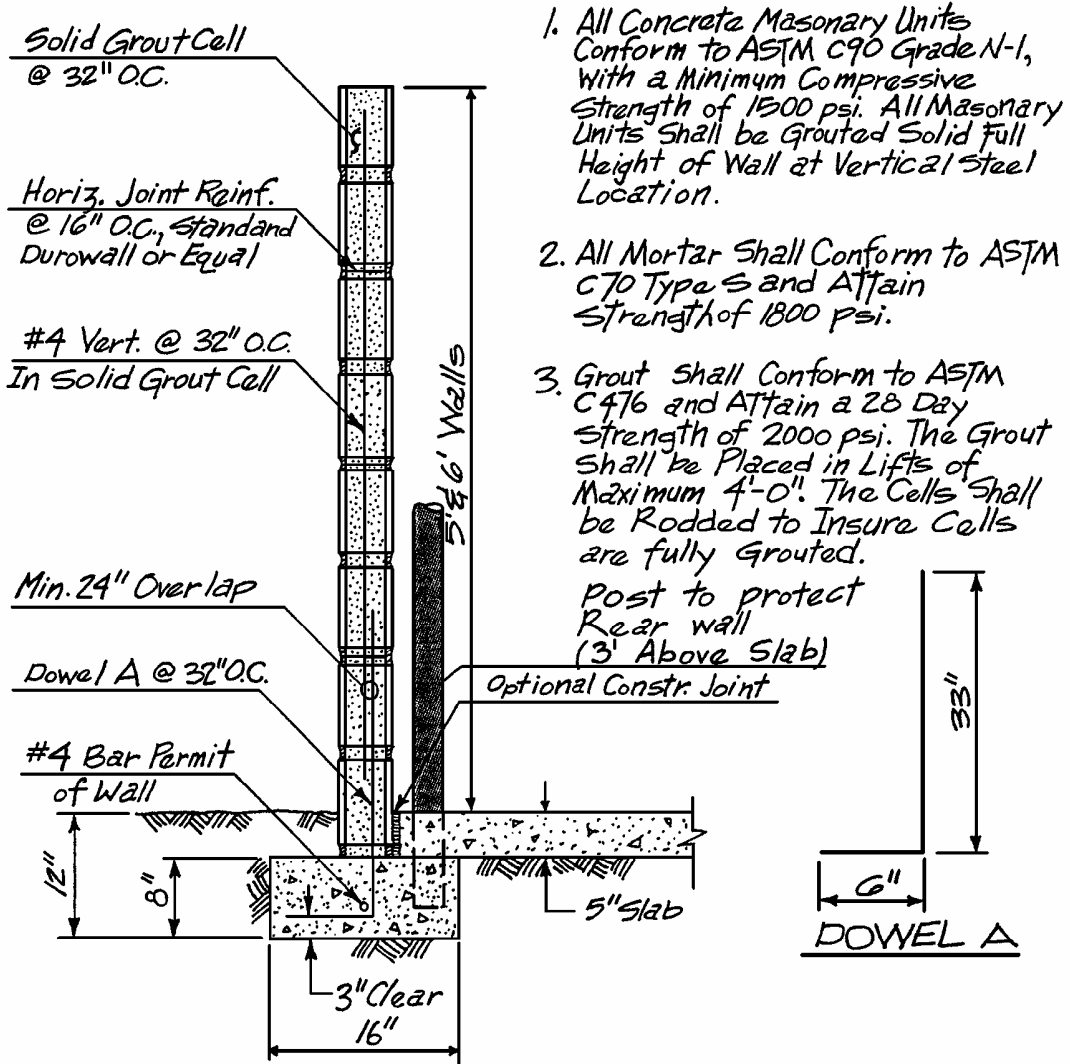


FIGURE 2 - STRUCTURAL DESIGN FOR ENCLOSURE WALL

**CITY OF TUCSON
DEVELOPMENT STANDARD NO. 9-06.0
FLOODPLAIN, WASH AND ENVIRONMENTAL RESOURCE ZONE (ERZ) STANDARD**

**FLOODPLAIN, WASH AND ENVIRONMENTAL
RESOURCE ZONE (ERZ) STANDARD**

- 9-06.1.0 GENERAL**
 - 9-06.2.0 DEVELOPMENT REGULATIONS**
 - 9-06.3.0 REVIEW**
 - 9-06.4.0 PRA PLAN SUBMITTAL REQUIREMENTS**
 - 9-06.5.0 MODIFICATIONS**
-

9-06.0.0 FLOODPLAIN, WASH AND ENVIRONMENTAL RESOURCE ZONE (ERZ) STANDARD.

9-06.1.0 GENERAL.

- 1.1 Purpose. This Standard has been established for the purpose of informing applicants of the preparation, submittal, and review procedures for development within areas that have environmentally valuable habitat in conformance with Article 1, Division 1, Floodplain and Erosion Hazard Area Regulations, Chapter 26, Tucson Code; Article VIII, Watercourse Amenities, Safety and Habitat (WASH), Chapter 29, Tucson Code; and Section 2.8.6, Environmental Resource Zone (ERZ), Land Use Code (LUC), Chapter 23, all of the Tucson Code; so that proper and adequate information is presented in a consistent manner, thereby providing the basis for an efficient and timely review.

This standard is further to insure that the adopted policies of the Mayor and Council and adopted recommendations of the City's Stormwater Advisory Committee are accurately reflected in the implementation of existing regulations.

The areas subject to regulation under this development standard include the floodplain and floodway fringe areas as defined in Sec. 26-2, and the adjacent banks and associated riparian habitat as provided in Sec. 26-5.2 (3) and (4), which are established as the "**Regulated Areas**". If there is no encroachment within these Regulated Areas, the documentation requirements, development restrictions and mitigation requirements do not apply.

Where the Regulated Areas are based upon maps prepared for the TSMS Phase II Stormwater Master Plan, the Critical and Sensitive Wildlife Habitat Map, or similar maps prepared by Pima County, there is a presumption that riparian habitat that should be preserved has been documented on the property. Any development must therefore comply with this standard to establish the precise location of riparian habitat. It is, however, the actual documentation of the location of the habitat pursuant to this standard that will determine where the development may occur, not the maps.

If there is encroachment into the Regulated Areas, the standard requires that the riparian habitat be identified and delineated as the "**Protected Riparian Area**". This will include the submittal of an Environmental Resource Report that will document (1) the areas that contain riparian and wildlife habitat that is to be preserved and (2) those areas without such habitat. Development is permitted within the Regulated Areas that are outside the Protected Riparian Areas. Development within the Protected Riparian Area is limited as set forth in this standard.

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It is the intent of this standard that the Protected Riparian Area incorporate the Critical Riparian Habitat in ERZ watercourses, the Resource Areas in WASH watercourses, and riparian habitat within the undesignated regulatory floodplains so that there is a single process for review with consistent criteria for application.

This Standard does not waive any applicable City regulations or codes.

- 1.2 Application and Exemptions. This development standard applies in conformance with LUC Sec. 5.3.8 to all applications submitted after November 7, 2006, and accepted by DSD. Exceptions to this applicability include:
- A. This Development Standard shall not be applied to single family residential lots with dwellings constructed pursuant to building permits issued before November 7, 2006.
 - B. This Development Standard shall not be applied in a manner that conflicts with a rezoning or special exception approved by ordinance by the Mayor and Council after November 7, 2001.
 - C. This Development Standard may be applied to an exempt application at the request of the applicant.

9-06.2.0 DEVELOPMENT REGULATIONS.

2.1 Plan Requirements. The information required as part of a submittal under this development standard will be shown graphically or provided as notes on a plan, as appropriate. The required information is in addition to the plan or plat requirements of the applicable process, such as, but not limited to, a plat, a development plan, a site plan, or a plot plan.

2.2 Regulated Areas Subject to Review

The Regulated Areas are listed below.

- A. ERZ Watercourses. The Regulated Area for ERZ watercourses includes the one hundred (100) year floodplain for all watercourses. ERZ watercourses include:
 - 1. Watercourses zoned as ERZ.
 - 2. Watercourses that have been designated for preservation in the Tucson Stormwater Management Study and are delineated as proposed for ERZ designation or as under review for ERZ designation shall be considered as ERZ watercourses.
 - 3. The designated, proposed and under review watercourses are shown on the Hydrologic Data and Wash Information maps on the Tucson Department of Transportation internet web site.
- B. WASH Watercourses. The Regulated Area for WASH watercourses includes channel and banks of a watercourse and the area within fifty (50) feet of the top of the

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bank, or where there is no defined bank, fifty (50) feet from the 10-year flood boundary. WASH watercourses include:

1. Watercourses designated by name in the Watercourse Amenities, Safety and Habitat regulations in Article VIII of Chapter 29.
 2. Watercourses that have been designated for preservation in the Tucson Stormwater Management Study and delineated as proposed for WASH designation or as under review for WASH designation shall be considered as WASH designated watercourses.
 3. The designated, proposed and under review watercourses are shown on the Hydrologic Data and Wash Information maps on the Tucson Department of Transportation internet web site.
 4. The Regulated Area for watercourses under this Development Standard 9-06.2.2.B.2 and 3 above shall not extend beyond the one hundred year floodplain.
- C. Regulatory Floodplain Watercourses. Within floodplains that are not designated as ERZ or WASH watercourses Development Standard 9-06.2.2.A and B above, the Regulated Area is the area within the one hundred (100) year floodplain for watercourses with flows of one hundred (100) cfs or more including, by not limited to, those areas which contain any of the following:
1. Hydroriparian, Mesoriparian, or Xeroriparian Types A, B or C habitats as delineated by Pima County as part of Article X of the Pima County floodplain and Erosion Hazard Ordinance.
 2. Hydroriparian, Mesoriparian, or Xeroriparian High or Xeroriparian Intermediate Habitats as delineated in the TSMS Phase II Stormwater Master Plan.
 3. Xeroriparian Low Habitats as delineated in the TSMS Phase II Stormwater Master Plan or Type D habitat as delineated by Pima County for connectivity between higher habitat classes, if low-volume, high-value habitats are present, including tabosa swales or similar habitats.
 4. Unclassified or undocumented riparian habitat of equivalent value to the above criteria.

- 2.3 Protected Riparian Area (PRA). The Protected Riparian Area is the area that has riparian habitat that is to be preserved. Except for watercourses designated by ordinance as subject to ERZ and WASH regulations, the Protected Riparian Area shall not exceed the one hundred year floodplain. Protected Riparian Areas include areas that provide habitat structure, wildlife food and shelter, and that also aid in supporting wildlife connectivity, erosion control and help to improve stormwater quality. Riparian habitat may include the vegetative resources, mapped areas and wildlife habitat and corridors listed below where such habitat is riparian in nature and function.

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- A. Vegetative Resources. Vegetative Resources are groups of three or more individual plants in close proximity to each other representing any of the plant species (and any combination of associated vegetative structure) listed below,
1. Mesoriparian plant species, including Arizona walnut, Fremont cottonwood, Goodding (black) willow, Arizona sycamore, Arizona ash.
 2. Over-story vegetation consisting of closely spaced, perennial, woody (e.g., mesquite, foothill palo verde, Mexican palo verde, ironwood, netleaf hackberry), that are generally six feet or more in total height, and where the distance between canopy margins of individuals of the predominant over-story plant species is less than two times the height of the tallest individuals.
 3. Understory vegetation consisting of closely spaced, perennial woody plants (e.g., catclaw and whitethorn acacia) that are generally six feet in total height, or less, and where the distance between canopy margins of individuals of the predominant understory plant species is generally less than two times the height of the tallest individuals, excluding nearly pure stands of understory vegetation consisting of the following perennial woody plants: burrow bush, creosote bush, desert broom, or triangle-leaf bursage.
 4. Combinations of overstory and understory vegetation that together constitute valuable habitat, and tobasa swales.
- B. Mapped Areas shown on the Critical and Sensitive Wildlife Habitat Maps which contain:
1. Major segments of desert riparian habitat extending from public preserves.
 2. Major segments of desert riparian habitat not extending directly from a public preserve but containing a high density and diversity of plant and animal species.
 3. Deciduous riparian woodlands.
 4. Mesquite bosques.
 5. Lakes, ponds, or wetlands.
- C. Wildlife includes, but is not limited to, the wildlife and areas identified in the public draft or final City of Tucson Habitat Conservation Plan applicable to the Regulated Area.
- 2.4. Identification of Regulated Areas and Protected Riparian Areas. All tentative plats, development plans, site plans, plot plans or other plans providing for approval of development within property that includes any Regulated Area as defined in Development Standard 9-06.2.2.A shall identify and delineate the Regulated Areas and the Protected Riparian Area on the property and shall comply with this Development Standard. The boundary of the Regulated Area and the Protected Riparian Area should be clearly depicted on applicable submittal documents.

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- 2.5 Development Restrictions. The intent of this Development Standard is to preserve natural and existing drainage and one hundred (100) percent of the habitat areas within the Protected Riparian Areas. To accomplish this, the regulations provide for two (2) options: (1) no encroachment into the Regulated Area or (2) if encroachment is proposed into the Regulated Area, submittal of an Environmental Resource Report in conformance with this section, and, if encroachment is proposed into the Protected Riparian Areas, development in conformance with development restrictions and mitigation requirements in this section.
- A. No Encroachment in Regulated Areas. For projects where there will be no encroachment within the Regulated Areas, development is not restricted by this section except as provided herein and except that the Regulated Areas shall be identified on the site plan, plat or development plan in a surveyable manner. This plan, or a separate plan, shall also indicate the proposed location of the temporary fencing which is required to protect the Protected Riparian Areas during construction. The conditions for development with no encroachment are as follows.
1. ERZ watercourses. Applications within the ERZ watercourses described in Development Standard 9-06.2.2.A above that propose a project with no encroachment into the Regulated Area are required to indicate the one hundred (100) year floodplain on the plans submitted through the applicable process, accompanied by a floodplain report verifying the floodplain limits.
 2. WASH watercourses. Applications for WASH watercourses as described in Development Standard 9-06.2.2.B above that propose a project with no encroachment into the Regulated Area, are required to indicate the top of bank or 10-year flood boundary and the fifty foot study area beyond those lines on the plans submitted through the applicable process, accompanied by a floodplain report verifying the floodplain limits.
 3. Regulatory Floodplain watercourses. Applications within the Regulatory Floodplain watercourses described in Development Standard 9-06.2.2.C above that propose a project with no encroachment into the Regulated Area are required to indicate the one hundred (100) year floodplain on the plans submitted through the applicable process, accompanied by a floodplain report verifying the floodplain limits.
 4. Floodplain Restoration. Revegetation, restoration or enhancement under this subsection shall not constitute “encroachment” under applicable codes. A Floodplain Restoration Plan must be prepared and approved in conformance with this subsection in order to undertake floodplain revegetation, restoration or enhancement. For areas within the Regulated Areas that are to remain as open space after development, revegetation and restoration of the open spaces areas is encouraged, but not required, to enhance the riparian resources within the Regulated Area as follows.
 - a. Voluntary revegetation, restoration or enhancement should create or restore the riparian habitat through the planting of native trees, shrubs, and understory species and the distribution of seed mix native to the site or a comparable reference site to the extent possible. Additional native species may be used in the restoration effort if they are typical of intact riparian habitat in areas similar to the site.

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- b. Revegetation, restoration or enhancement efforts should include native plant material salvaged from the site or preserved in place.
 - c. Development and revegetation, restoration or enhancement efforts shall conform to the City's policies regarding water harvesting.
- B. Encroachment in Regulated Areas. If the project proposes encroachment within the Regulated Areas, it shall conform to the following.
- 1. *Environmental Resource Report*. Applicants are required to submit an Environmental Resource Report as defined in Sec. 6.2.5 of the *LUC*. The supporting material for preparation of the Environmental Resource Report is based on information from the Hydrologic Data and Wash Information maps on the Tucson Department of Transportation internet web site: The Critical and Sensitive Wildlife Habitat Map and Report, the Mayor and Council Interim Watercourse Improvement Policy and subsequent adopted policies, the Tucson Stormwater Management Study, the following Basin Management Plans: 1) West Branch, Santa Cruz; 2) Houghton East; 3) Este Wash; and 4) Arroyo Chico. the Tucson Stormwater Management Study, Phase II and field observation. An application may request that an element listed below be waived or that the report address only a specified area where a full report is not applicable to the proposed encroachment. DSD may grant such waivers where the elements or full report are not required by code. The Environmental Resource Report must include:
 - a. A table of contents, indicating all information by page or map number.
 - b. The location of the 100-year floodplain on, adjacent to, and a minimum of two hundred (200) feet upstream and downstream of the proposed development.
 - c. Soil conditions in and adjacent to the watercourse, and the erosion potential.
 - d. Existing rights-of-way or easement dedication along the wash for a distance of five hundred (500) feet upstream and downstream of the proposed development.
 - e. The existing and proposed ownership of any drainageway facilities on or adjacent to the site and identification of the persons responsible for the maintenance of such facilities.
 - f. Previous hydraulic/hydrology studies or maps prepared for the watershed and relevant floodplain studies, delineations, LOMR applications and approvals affecting the project site.
 - g. Groundwater recharge potential at this location.
 - h. Sediment transport characteristics along the watercourse centered on this location.
 - i. Existing and proposed utilities to and across the site.

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- j. Any other elements that may be characteristic of the watercourses on or adjacent to the site.
- k. A map indicating the boundaries of the proposed development and its relationship to any watercourses designated on the Hydrologic Data and Wash Information maps on the Tucson Department of Transportation internet web site.
- l. An aerial photograph no more than two (2) years old, with flight date, north arrow, project site boundaries, floodplain delineation, Protected Riparian Area and a scale no smaller than one (1) inch equals two hundred (200) feet. DSD staff may request an aerial photograph with topographic information.
- m. Ground level photographs from points identified on submitted plans that document the Protected Riparian Area and any areas within the Protected Riparian Area to be disturbed.
- n. Any applicable Basin Management Plan, which recommends that watercourses remain in a natural state, shall be referenced in the Report.
- o. A map identifying the type, location and extent of all riparian resources and plant associations, including but not limited to, hydroriparian habitat, mesoriparian habitat, xeroriparian habitat, tobosa grass habitat, mesquite bosques, individual cacti and trees with a caliper of four (4) inches or greater, and all saguaros, regardless of size. The identification of riparian habitat shall cover the entire site and is not limited to the Regulated Areas.
- p. Delineation of the proposed Protected Riparian Area and a statement of the total area of the site, the total area of the Protected Riparian Area, the area within the Regulated Area, and the total of any areas proposed to be disturbed within the Protected Riparian Areas.
- q. Delineation of the riparian resources and any proposed open space linkages or facilities recommended by parks, recreation, open space, and trails plan, for a distance of five hundred (500) feet or 0.5 times the length of the watercourses on the property, whichever is greater, both upstream and downstream from the property. This shall be based on information that is available from aerial photographs, the Hydrologic Data and Wash Information maps on the Tucson Department of Transportation internet web site and other public sources.
- r. A Plant Inventory and aerial photographs of individual woody plants and cacti rooted within the encroachment area. Both living and dead plants and cacti should be inventoried. The Plant Inventory List shall include an identification number, genus and species, and size of all plants having basal trunk diameters greater than 2 inches. All plants inventoried are to be shown on an aerial photograph at a minimum scale of 1" = 60'.
- s. A delineation, map and assessment on an aerial photograph of habitat types noted on the Critical and Sensitive Wildlife Habitat Map.

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- t. A written or mapped assessment of significant densities of wildlife by species.
 - u. A description of the impact of the encroachment on riparian resources within the property and on the adjacent property as identified in subsection q above.
 - v. A written statement from the regional office of the Arizona Game and Fish Department regarding any impacts to fish and wildlife.
 - w. A draft Mitigation Plan in conformance with subsection 3 below if development is proposed within the Protected Riparian Areas.
 - x. Other landscaping requirements established in Chapter 23 of the Tucson Code.
2. *Development Restrictions.* All development within the Protected Riparian Area shall be reviewed to insure that there is no unnecessary disturbance of the riparian resources. Development that is outside of the Protected Riparian Area but within the Regulated Area is not subject to this subsection. Necessary development shall include only the crossing of riparian habitats with roadways, bikeways, paved walkways and utilities as listed below where there is no viable alternate crossing available and the crossing is necessary for the reasonable development of the property. A written explanation as to why the development is necessary shall be submitted with the appropriate plans. Development that is permitted as necessary is subject to the following conditions:
- a. Roadway, bike path, and paved walkway improvements and utility encroachments will cross the riparian habitat areas, not to run parallel to the Protected Riparian Areas;
 - b. Encroachments that cross the Protected Riparian Area shall be located and constructed to minimize disturbance of the habitat and wildlife movement;
 - c. All utilities in Protected Riparian Area areas will be located underground; utilities will be placed either in proposed or existing public right of way along roadway, bike path, or paved walkway improvements or within approved easements.
 - d. Any roadway, bike path, or paved walkway improvement must be constructed in such a manner as to provide means for safe and accessible passage for wildlife.
 - e. Concrete, rock veneer and soil cement bank treatment for the culvert and associated drainage may be permitted within the public right of way upon approval of the City Manager.
 - f. For WASH watercourses, concrete, rock veneer and soil cement bank treatment for the culvert that is outside of the proposed or existing public right of way shall be permitted only with the approval of the Mayor and Council. For all other watercourses, concrete, rock veneer and soil cement should not be used where there is any practicable alternative.

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- g. Where a roadway, paved walkway, or bike path improvement or utility encroachment occurs within the Protected Riparian Area, mitigation in conformance with subsection section 3 below shall be provided.
 - h. Temporary Fencing Required. No grubbing, grading, or construction will occur on a project site which includes areas designated as Protected Riparian Area to be retained in a natural state until those designated areas are temporarily fenced. The temporary fencing shall remain in place during all phases of construction that could affect the Protected Riparian Area.
3. *Mitigation Plan.* Where any development, except planting solely for revegetation, restoration or enhancement with an approved Floodplain Restoration Plan, encroaches within the Protected Riparian Areas, mitigation will be required. A mitigation report shall be submitted with the Environmental Resource Report demonstrating that the proposed mitigation is in conformance with this subsection and applicable codes.
- a. Mitigation Plans shall address the following:
 - 1. Revegetation should recreate the lost functions and values of the riparian habitat through the planting of native trees, shrubs, understory plants and seed mix native to the site which will result in comparable habitat that is equal to the predisturbance habitat in area, plant density, diversity, and volume on the net site. Revegetation should be conducted over a sufficient area to accomplish the following mitigation ratios while accomplishing the specified plant density, diversity and volume of the impacted area:
 - i. Trees with basal trunk diameters ranging from 2 to 4 inches and shrubs should be replaced at a 2:1 ratio.
 - ii. Trees with basal trunk diameters larger than 4 inches should be replaced at a 3:1 ratio.
 - iii. Cacti, except cholla or prickly pear, should be replaced at a 2:1 ratio.
 - iv. Cottonwood, willow, walnut, sycamore, arizona ash, ironwood and canyon hackberry (*Celtis reticulata*) should not be removed. If removal is unavoidable and no other practicable alternative exists, then these plants shall be replaced by large, boxed trees at a 3:1 ratio and provided with at least three years of supplemental irrigation and care to ensure healthy establishment. Replacement trees shall be in 36-inch boxes and shall be at least 8 to 10 feet tall and at least 2.5 inches in diameter, measured three feet above the ground.
 - 2. Mitigation can be designed to provide native riparian habitat that is appropriate for the location and soil conditions, even where that may be enhanced beyond the predisturbance habitat in terms of native habitat area, plant density, diversity and volume on the net site.
 - 3. Revegetation should include native plant material salvaged from the site.

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4. Development and revegetation shall conform to the City's policies regarding water harvesting.
 - b. Mitigation Plans shall include:
 1. A development plan/site plan, including landscape plans, indicating proposed development; floodplain encroachment locations; location of mitigation areas; techniques used for mitigating impacts to, or preservation of, natural areas; specifications for restoration and revegetation of disturbed areas; and general compliance with the applicable standards.
 2. Landscape plans that document compliance with the mitigation plan requirements. A summary of mitigation and preservation requirements shall be included on the plans.
 3. A description of the maintenance program that provides for revegetated/restored or enhanced areas. The program shall include irrigation to establish native plants, provide for regular inspection, removal of invasive species, and native plant replacement as necessary to successfully establish the mitigation habitat. All mitigation plantings and related improvements shall be maintained for at least three years following installation.
- 2.6 Ownership of PRA. Ownership of the Protected Riparian Area shall be provided in one or more of the methods set forth below to insure continued preservation of the area. Forms of ownership of Protected Riparian Areas include:
- A. Protected Riparian Area Areas for proposed subdivisions may be either publicly owned, owned by a common association, or owned by a non-profit association which provides for conservation management.
 - B. Privately owned individual residential lots of 24,000 square feet or less may include Protected Riparian Area where (i) there is a conservation easement prohibiting private development within the Protected Riparian Areas, (ii) no more than ten percent (10%) of the total area of the Protected Riparian Area is included within individual private lots and (iii) no walls or fences are constructed within the Protected Riparian Areas. The common ownership and the location of any portion of the Protected Riparian Area within individual lots and applicable legal restrictions shall be included in a note on the final plat or development plan.
 - C. Privately owned individual residential lots that are greater than 24,000 square feet may include Protected Riparian Area where (i) the Protected Riparian Area is delineated on the plat providing a surveyed description of the location within each lot, and (ii) there is a note on the plat requiring that each purchaser of a lot shall sign a disclosure form acknowledging the prohibition upon development in the Protected Riparian Area and (iii) no walls or fences are constructed within the Protected Riparian Areas.
 - D. Where the Protected Riparian Area is on property that remains under the ownership of a single person or entity following the development, the Protected Riparian Area

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shall be protected through a conservation or public easement or other legal restriction upon further development.

- 2.7 Compliance with other Code Provisions. All development within Regulated Areas must comply with all other applicable code provisions, including obtaining floodplain use permits where necessary. Washes zoned as ERZ washes or named in the WASH regulations must also be reviewed in conformance with the DSD Full Notice Procedure, Sections 23A-50 and 51.

9-06.3.0 REVIEW. Review of submitted material will be by the Community Design Review Committee (CDRC) and the appropriate review sections within Development Services Department (DSD).

- 3.1 Staff review. Approval of plans in compliance with these requirements is the responsibility of the DSD Director. Approval of the floodplain report is the responsibility of the Engineering Section at DSD. Applications for property that is subject to adopted ERZ or WASH designations is required to be reviewed through the DSD Full Notice Procedure, Chapter 23A-50 and 51. Projects not subject to the DSD Full Notice Procedure, Chapter 23A-50 and 51 will be reviewed in concert with the timetable of the applicable process, such as, but not limited to, a plat, a development plan, a site plan, or a plot plan.

- 3.2 Stormwater Advisory Committee (SAC) Review. Development which encroaches within the Protected Riparian Areas, except for development limited to revegetation or restoration in accordance with an approved Floodplain Restoration Plan, shall be reviewed by the Stormwater Advisory Committee (SAC) as follows:

- A. All watercourses subject to adopted ERZ or WASH regulations shall be reviewed by SAC as part of the DSD Full Notice Procedure, Section 23A-51.
- B. All watercourses designated to be treated consistent with the ERZ or WASH regulations under this development standard and Regulatory Floodplain watercourses may be reviewed by SAC upon either the request of the applicant or upon the determination by the DSD Director that such review is appropriate.
- C. Review by SAC shall focus upon whether the application correctly defines, delineates and describes the Protected Riparian Area and complies with Development Standard 9-06.2.5.B.2 and 3.

9-06.4.0 PRA PLAN SUBMITTAL REQUIREMENTS.

- 4.1 Application. Applications for review of projects affected by this Development Standard shall be submitted to the CDRC Section at DSD. Review staff will evaluate submitted information for completeness and shall accept or reject the application within five (5) days of the date of submittal. The applicant will be notified if the application is found to be incomplete.

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- 4.2 Submittal Requirements. Copies of all required plans, documents, and reports are to be submitted to the CDRC staff at DSD, who will coordinate the hydrologic and resource reviews with the appropriate staff. Plans are to be folded to an 8½" x 11" size.

9-06.5.0 MODIFICATIONS.

- 5.1 A minor encroachment modification may be requested for necessary development in addition to the roadway, bike path, paved trail and utility improvements as provided in Development Standard 9-06.2.5.B.2 above. A minor encroachment under this subsection shall be approved if the loss of riparian resources does not impair the function of the habitat and the mitigation provides riparian resources of greater value if the request is granted. A modification under this subsection shall not exceed five percent (5%) of the total area of the Protected Riparian Area on the site. The mitigation shall be provided on a three to one ratio of new habitat for disturbed habitat. The mitigation shall be within the Protected Riparian Area or an area that directly connects with the Protected Riparian Areas. The mitigation shall be integrated with, and function as a part of, the Protected Riparian Areas. The requirements for the Environmental Resource Report may be modified by DSD staff as may be appropriate to document a minor encroachment under this subsection.
- 5.2 Requests for modifications to this Development Standard 9-06 shall be in accordance with Development Standard 1-01.4.7. The applicant for any such request shall provide notice of the request in accordance with Sec. 23A-50(4) at least fifteen (15) days before submitting the request. The notice required by this subsection may be concurrent with the notice required by Chapter 23A.
- 5.3 Either the applicant or the DSD Director can refer a request for a DSMR to this standard to the Stormwater Advisory Committee or the Stormwater Technical Advisory Committee for recommendation on ambiguous or disputed issues to the DSD Director.
- 5.4 The Mayor and Council shall be notified of the final, non-appealable approval of any such request prior to or at the next regularly scheduled Mayor and Council meeting following the approval.

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COMMERCIAL RAINWATER HARVESTING**

COMMERCIAL RAINWATER HARVESTING

- 10-03.1.0 GENERAL**
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-

10-03.0.0 COMMERCIAL RAINWATER HARVESTING.

10-03.1.0 GENERAL

- 1.1 INTRODUCTION. Harvesting rainwater is a useful strategy for providing supplemental irrigation water to commercial landscapes, making more efficient use of the desert's most limited resource--water. The City of Tucson Mayor and Council adopted the Commercial Rainwater Harvesting Ordinance on October 14, 2008 to increase the use of harvested rainwater at commercial sites in Tucson and to decrease use of potable and reclaimed water supplies. The ordinance takes effect June 1, 2010.
- 1.2 PURPOSE. This Development Standard has been prepared to facilitate effective use of available rainwater resources for landscape irrigation in commercial development as a means of reducing dependency on potable and reclaimed water sources. It clarifies requirements for compliance with Ordinance No. 10597, the Commercial Rainwater Harvesting Ordinance (Ordinance), including the key requirement of meeting 50% of landscape water demand using harvested water. This standard provides:
 - A. Design considerations and technical requirements for passive and active water harvesting systems;
 - B. Requirements and guidelines for the preparation and implementation of Rainwater Harvesting Plans;
 - C. Requirements for landscape and irrigation at water harvesting sites;
 - D. Recommended maintenance steps;
 - E. Elements required for compliance with the Ordinance;
 - F. Enforcement provisions;
 - G. Water budget assumptions and calculations (Exhibit A)
 - H. Annual reporting form (Exhibit B)

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- 1.3 **APPLICABILITY.** This standard applies to all commercial development plans submitted after June 1, 2010.

10-03.2.0 DEFINITIONS

Other than as provided below, definitions used in this Standard are found in the Development Standards Glossary or Sec. 6.2.0 of the *LUC*.

- 2.1 *Active Water Harvesting.* The collection of stormwater into containment systems for storage and later diversion to beneficial uses.
- 2.2 *Catchment Areas.* Areas of a site where water is harvested, including where rain falls directly on plant canopies and pervious Water Harvesting Infiltration Areas, and where rain falls on impervious rooftops, sidewalks, parking lots, driveways and other surfaces from which stormwater is directed toward Water Harvesting Infiltration Areas.
- 2.3 *Catchment Ratio.* The ratio of the water harvesting catchment area to the canopy area of the plants that use water harvested from that catchment area.
- 2.4 *Commercial development.* Any new non-residential development that is intended to be used primarily for commercial activities, and is subject to the requirements of the International Building Code.
- 2.5 *Containment systems.* Above-ground tanks, below-ground tanks, other types of above- and below-ground water-holding containers, and associated pipes and transmission equipment that enable beneficial use of harvested water.
- 2.6 *Evapotranspiration.* The transfer of water from land surface to the atmosphere through the combination of evaporation and plant transpiration.
- 2.7 *Impervious Subwatersheds.* Discrete nonporous subareas of a site--including rooftops, sidewalks, parking lots, driveways and other impervious areas--that capture stormwater and deliver it through gravity flow to discrete containment systems or Water Harvesting Infiltration Areas.
- 2.8 *Passive Water Harvesting.* The collection of stormwater directly into Water Harvesting Infiltration Areas without the temporary storage of water in a containment system.
- 2.9 *Plant Canopy Area.* The area covered by plants as indicated on the landscape plans, including understory, midstory and overstory plants.
- 2.10 *Rainwater.* Liquid precipitation falling from the sky before it lands on a surface.
- 2.11 *Stormwater.* Rainwater that has landed on a surface.
- 2.12 *Water harvesting.* The process of intercepting stormwater and putting it to beneficial use.
- 2.13 *Water Harvesting Infiltration Areas.* Pervious areas of a site where harvested water collects and soaks into the subsurface to support landscape plants. Water Harvesting Infiltration Areas include exposed soil shaped to hold and infiltrate water, permeable soil subgrades

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overlain with impervious pavement that receive water via perforated pipes or other conveyance techniques, structured soil overlain with permeable paving, and other strategies that collect water and allow it to soak into the subsurface to support landscape plants.

10-03.3.0 DESIGN CONSIDERATIONS AND TECHNICAL REQUIREMENTS

Two primary strategies for harvesting water are commonly used in the southwest US to support landscape water needs. Passive water harvesting is accomplished by infiltrating stormwater runoff directly into Water Harvesting Infiltration Areas. Active water harvesting stores harvested water in containment systems located above or below ground so the stored water is available for later beneficial use. The commercial facility may determine the strategy or strategies most appropriate for their site. Design considerations and technical requirements for passive and active water harvesting systems are described in the sections below.

3.1 **PASSIVE WATER HARVESTING.** Passive water harvesting consists of the collection of stormwater directly in Water Harvesting Infiltration Areas without the temporary storage of water in containment systems. Passive water harvesting functions through gravity-flow of stormwater. It requires no tanks, piping, metering, pumps or other infrastructure associated with containment systems. However, in passive water harvesting, infrastructure components may be needed to route overflow water, pass water under roads or parking lots, or for other purposes conducive to the effective functioning of the passive systems.

A. Passive Water Harvesting Design Considerations. An array of techniques and designs are available to accomplish passive water harvesting. Whatever techniques or designs are used, the items listed below should be considered to create safe, efficient and effective passive water harvesting systems.

1. Use Water Harvesting Infiltration Areas, where feasible, to offset the size of a retention/detention basin that may be needed at a site. Consult Appendix C of the City of Tucson Water Harvesting Guidance Manual for information on the allowed offset.
2. The area and depth of Water Harvesting Infiltration Areas should be determined according to the anticipated volume of harvested water that will enter these areas and the infiltration characteristics of the underlying soil.
3. Plants with similar water demands should be placed in the same areas within Water Harvesting Infiltration Areas.
4. Soils within Water Harvesting Infiltration Areas should be modified as needed to counteract the effects of mechanical compaction and/or poor soil infiltration conditions in order to ensure appropriate water infiltration.
5. The edge of Water Harvesting Infiltration Areas should be set back from building foundations or other structures to allow for positive drainage of water. Consult a soils professional where necessary.
6. Planting areas that harvest water should be recessed below the grade of adjacent hardscapes. Hardscape surfaces should be sloped toward adjacent recessed planting areas.

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7. Pedestrian circulation should be designed to discourage cutting across recessed planting areas to avoid soil compaction, erosion, and damage to plants and to minimize the risk of injury to pedestrians.
8. Maximum reveal at the edge of public sidewalks and pedestrian circulation paths should be 2 inches or less to minimize the risk of injury to pedestrians. A minimum 12-inch wide shoulder with a maximum two (2) percent cross-slope away from a public sidewalk or pedestrian circulation path should be provided where possible.
9. Water Harvesting Infiltration Areas should be stabilized for dust control purposes. Techniques could include spreading ½-inch or larger rock, hydroseeding with native seed mixes, or using other stabilizing techniques and materials. Fine-grained particles that could block water infiltration by clogging soil pores should be washed from materials prior to placement. Avoid the use of fine-grade decomposed granite within or directly adjacent to Water Harvesting Infiltration Areas due to the potential for shed silts and clays to reduce water infiltration.
10. Organic mulch is appropriate for reducing evaporation, controlling dust and increasing soil quality in Water Harvesting Infiltration Areas in those locations where the vegetation, water collection, erosion conditions, and slope characteristics are amenable to its use.

B. Passive Water Harvesting Technical Requirements. The following technical requirements apply to all passive water harvesting systems.

1. Water Harvesting Infiltration Areas shall be designed so that water infiltrates into soil within twenty-four (24) hours.
2. Water Harvesting Infiltration Areas shall be designed to minimize ponding in areas that may create a nuisance for pedestrians. Ponding is not allowed on or over public sidewalks or required pedestrian circulation paths.
3. Materials for erosion control shall be specified where they are necessary due to erosion potential. The ground surface treatment of spillways and other areas that convey water flows shall be able to withstand scouring.

3.2 ACTIVE WATER HARVESTING. Active water harvesting stores harvested water in containment systems located above or below ground so the stored water is available for later beneficial use. Active water harvesting systems include the tanks, piping, metering, pumps and other infrastructure elements needed to store and transmit water to a beneficial use. Active water harvesting systems might be gravity-flow based or use pumps depending on the size and needs of the site.

A. Active Water Harvesting Design Considerations. An array of techniques and designs are available to accomplish active water harvesting. Whatever techniques or designs are used, the items listed below should be considered to create safe, efficient and effective active water harvesting systems.

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1. Tanks may be constructed of metal, plastic, masonry, reinforced concrete, fiberglass, or other suitable DSD-approved material designed to store water.
 2. The dimensions of tanks may be determined by the applicant based on site-specific design needs.
 3. Above-ground tank construction material or coating should be opaque to prevent sunlight from inducing algae growth. Any portion of a subsurface tank that is exposed to sunlight should be opaque to prevent sunlight from inducing algae growth.
 4. A “first flush device” is intended to prevent the dust, grit, leaves and other materials that may accumulate on a roof from being washed into a water harvesting tank. This is accomplished by deflecting the first flush of stormwater from entering the tank inlet line. The installation of first flush devices is strongly recommended.
 5. Inlet piping may convey water overhead from a roof to a tank, or in a U-shaped configuration that conveys water to a lower entry point on the tank. The U-shaped configuration should be designed to hold standing water, and must be pressure rated and sealed to prevent leaks.
 6. Designs that involve water falling freely through the air before entering a tank may be allowed provided the design minimizes the entry of light and mosquitoes into the tank.
- B. Active Water Harvesting Technical Requirements. The following technical requirements apply to all active water harvesting systems.
1. Materials must be installed per manufacturer’s specifications.
 2. Tanks shall have a base or foundation that meets manufacturer’s specifications. If no specifications are provided by the manufacturer, the base shall be designed by an engineer.
 3. Locations of containment systems shall be in accordance with applicable codes.
 4. Consult the International Building Code for applicable regulations.
 5. Sub-surface storage tanks shall be constructed of materials designed for holding water underground. Below-ground tanks must be designed and installed under the guidance of a civil or structural engineer and/or tanks must be installed per manufacturer’s specifications regarding bedding, setting the tank, strapping or other anchoring device, load bearing characteristics and backfill requirements.
 6. If debris screening is used for inlets to tanks, screening must be configured in such a way that an unmaintained screen cannot block inlet pipes to a tank. Obstructed screens can prevent water harvesting and back water up on the roof creating unsafe weight load conditions on the roof.

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7. There must be a structured overflow device installed with the tank to automatically allow excess infill water to exit the tank safely.
8. An overflow mechanism, separate from that provided inside the tank, shall be provided to ensure that water cannot back up on a roof. Roof overflow drains shall not be connected to tanks.
9. Outlets for overflow pipes shall be positioned so as not to compromise the foundations of buildings or other structures.
10. Tanks and covers shall be constructed of materials appropriate for use for storing water.
11. Tanks must have an inspection port of sufficient size to conduct any necessary visual inspection, maintenance, cleaning, repair and other tasks as described in the manufacturer's specifications.
12. If a manhole is provided with the intent of allowing human access into a tank, it must meet any applicable size and safety requirements.
13. A means should be provided to enable particulate materials that accumulate in the bottom of tanks to be cleaned out or flushed out if needed.
14. Containment systems shall be designed, maintained and operated to prevent mosquito harboring and/or breeding.
15. A reduced-pressure backflow-preventer assembly is required when connecting irrigation from an active water harvesting system to a potable water irrigation system in order to protect the public water system and/or building water system.
16. Hose bibs connected to an active water harvesting system shall be keyed and shall be posted "NON-POTABLE, DO NOT DRINK."

10-03.4.0 RAINWATER HARVESTING PLAN

A Rainwater Harvesting Plan shall be submitted with all applications for commercial developments at which landscaping is required. The Rainwater Harvesting Plan shall consist of two elements: a Site Water Budget and a Water Harvesting Implementation Plan. Preparation of the Rainwater Harvesting Plan elements requires coordination between project managers, site engineers and landscape architects from the inception of the project. The two elements of the Rainwater Harvesting Plan shall illustrate how water harvesting will meet 50 percent of annual landscape water demand, as required by the Ordinance.

- 4.1 **SITE WATER BUDGET.** The Site Water Budget shall detail the landscape water demand and the harvested water supply needed to meet 50 percent of landscape demand. The Site Water Budget and the Water Harvesting Implementation Plan shall be consistent with one another.

A water budget format is shown in Exhibit A, along with the background data and assumptions used to develop it. This water budget format is available to applicants as an

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Excel spreadsheet at http://www.tucsonaz.gov/dsd/What_s_New/what_s_new.html.

Applicants may use this water budget format to enter site-specific data to develop their Site Water Budget. Alternatively, applicants may develop their own Site Water Budget format. Whichever format is used, the submitted Site Water Budget shall incorporate and provide the information below.

- A. Water Demand. Applicants shall use plant water demand categories and data provided in Exhibit A unless alternative assumptions are provided and satisfactorily justified.
- B. Water Supply. Applicants shall use the effective monthly rainfall assumptions shown in Exhibit A unless alternative assumptions are provided and satisfactorily justified.
- C. Output. Output of the Site Water Budget shall include calculations showing how 50 percent of landscape water demand as an average across the site will be met using harvested rainwater, and shall include assumptions and supporting calculations as necessary to document these outputs. Output of the Site Water Budget shall include total water demand and rainwater supply calculations for each Water Harvesting Infiltration Area at the site.

- 4.2 WATER HARVESTING IMPLEMENTATION PLAN. The Water Harvesting Implementation Plan (Implementation Plan) shall consist of a separate sheet with a plan view layout of the site. The format and design of the Implementation Plan shall be consistent with the base plan, be it a Development Package (DS 2-01), Plat (DS 2-03), Site Plan (DS 2-04), Development Plan (DS 2-05), or their successor documents, as applicable. The Implementation Plan shall include all details necessary and appropriate to convey the technical concept of the water harvesting system design and to facilitate proper installation and maintenance of the water harvesting system in compliance with the Ordinance and this Standard.

Submittal of the Implementation Plan shall be made concurrently with the Development Plan and Landscape Plan. Revision of the Implementation Plan may be required in conjunction with preparation of the Grading Plan in order to coordinate the construction details and specifications.

- A. General Information. The following general information will be provided on the Implementation Plan.
 - 1. The case number located in the lower right corner of the plan.
 - 2. The means by which monthly rainfall data will be obtained and recorded
 - 3. The means by which monthly irrigation data will be obtained and recorded
 - 4. Soil pretreatment techniques, locations and schematics
 - 5. Maintenance notes
 - 6. Monitoring and Annual Reporting Requirements

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- B. Tabulated Data. The Implementation Plan shall include a table detailing information for each identified Water Harvesting Infiltration Area (WHIA) at the site, and for the site as a whole, as described below.
1. General WHIA information:
 - a) WHIA identifier
 - b) Spatial size (square feet) of WHIA
 - c) Average depth (feet) of WHIA
 - d) Capacity (gallons) of WHIA
 - e) Type and general location where any sensors that control the irrigation system will be placed
 2. Plant canopy information:
 - a) Plant canopy area (square feet) that is served by each WHIA, consisting of the sum of understory, midstory and overstory plant canopies at 60 percent of the mature plant sizes
 - b) Plant water demand category
 - c) Total annual plant water demand (gallons)
 3. Information about passive and/or active water harvesting systems serving each WHIA:
 - a) For the Subwatershed passively serving each WHIA:
 - i. Subwatershed identifier
 - ii. Spatial size (square feet) of the subwatershed
 - iii. Material the subwatershed is made of or covered with
 - iv. Percent of annual plant water demand provided by this subwatershed to the WHIA
 - b) For the containment system actively serving each WHIA:
 - i. Tank Identifier
 - ii. Tank capacity (gallons)
 - iii. Tank location
 - iv. Percent of annual plant water demand provided by this tank to the WHIA

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- c) Any additional information needed to document how 50% of irrigation demand will be met using harvested water.
 - d) Data tabulated for the entire site:
 - i. Percent of annual landscape water demand met using harvested water
 - ii. Water harvesting capacity that will offset standard retention/detention basin size, if applicable
 - e) Additional plan information may be requested or required by the Development Services Department (DSD) Director to evaluate rainwater-harvesting Implementation Plan
- C. Mapped Data. The Implementation Plan shall graphically show the following information drawn from tabulated data.
- 1. For the WHIA:
 - a) Indicate the boundary of each WHIA and show its identifier
 - b) Use arrows to show water flow directions within WHIA, including flow direction at inlets and outlets
 - c) Show location where any sensors that control the irrigation system will be placed
 - 2. Indicate the boundary of the plant canopy area to be served by each WHIA
 - 3. Information about Passive and/or Active Water Harvesting Systems serving each WHIA:
 - a) Passively supplied water:
 - i. Indicate the Subwatershed Area serving each WHIA and show its identifier
 - ii. Use arrows to indicate the flow path water will take from source to WHIA
 - iii. Indicate spot elevations for the bottoms of water harvesting structures, at spillways, and to define other grades as needed
 - iv. Indicate the location of all surface or subsurface infiltration structures, pipelines, spillways, French drains, scuppers, curb cuts and other infrastructure elements needed to convey, store or overflow passively supplied water, or to control erosion
 - b) Actively supplied water:
 - i. Show tank and show its identifier

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- ii. Label tank as delivering water by gravity flow or pump
 - iii. Use arrows to indicate flow path water will take from source to WHIA
 - iv. Show additional piping, pump and other infrastructure needed to store, overflow, and convey water to WHIA
- D. Additional Information. Additional notes shall be provided on the Implementation Plan to ensure current and subsequent site owners and operators are informed of the inspection and maintenance required in Section 6 of this development standard.

10-03.5.0 LANDSCAPE AND IRRIGATION REQUIREMENTS

5.1 LANDSCAPE REQUIREMENTS.

- A. Soil pretreatment. Due to construction site compaction, the soils in planting areas might need to be pretreated to ensure adequate infiltration of harvested water. Soil Pretreatment techniques, locations and schematics should be provided on the Implementation Plan.
- B. Plant selection and placement. Plants selected for use within discreet Water Harvesting Infiltration Areas should have compatible water needs. Drought tolerant plants native to Tucson are adapted to the seasonal rainfall patterns present in the Sonoran Desert and present an advantage over low-water-use plants from other climates. Plants should be positioned to account for the level of expected inundation. They may be placed on the bottoms or sides of recessed areas or the tops of adjacent soil where their roots can grow toward adjacent moist soil. Other placement considerations should include sun exposure, maintenance requirements, shape, form and aesthetics.
- C. Mulch placement. Mulch shall be positioned away from the base of plant trunks to avoid excessive moisture there.

5.2 IRRIGATION REQUIREMENTS.

- A. Irrigation control. Irrigation systems shall be fitted with irrigation controllers and shall be capable of monitoring and responding to plant water needs through the use of soil moisture gauges, tensiometers, weather stations and/or evapotranspiration data. The irrigation technology chosen should be capable of preventing the irrigation system from running if sufficient soil moisture is present to support the vegetation. All systems shall include rain shut-off devices. Instruments shall be correctly placed to ensure plants are kept healthy using a combination of harvested and non-harvested water and to ensure the stated water-saving goal of the Ordinance is met.
- B. Irrigation timers. Irrigation timers, where used, shall be used in conjunction with other irrigation controls to ensure compliance with the provisions of this development standard.

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- C. Water-use calculations. Irrigation Plans must include calculations for estimated water use based on assumptions about plant water demand and canopy size used in the Site Water Budget.
- D. Drip system efficiency. Drip irrigation systems shall meet and maintain a minimum 80% emission uniformity.

10-03.6.0 MAINTENANCE

6.1 MAINTENANCE REQUIREMENTS. All Passive and Active Water Harvesting System components, Water Harvesting Infiltration Areas, and other site improvements necessary for the water harvesting system to function properly, should be regularly inspected and maintained. The following maintenance requirements should be addressed on the Implementation Plan.

- A. All systems. Periodically inspect and clean gutters, leaf screens, and filters. Inspect systems following heavy rains to check for leaks and/or overflow problems. Periodically inspect and maintain Water Harvesting Infiltration Areas to ensure proper infiltration, overflow, and prevention of erosion, if occurring. Repair and correct problems.
- B. Passive Systems. In addition to requirements for all systems, to ensure proper functioning of Passive Water Harvesting Systems, periodically inspect and maintain Subwatershed surfaces and infrastructure associated with the system such as French drains, spillways, scuppers and other elements. Repair and correct problems as needed.
- C. Active Systems. In addition to requirements for all systems, to ensure proper functioning of Active Water Harvesting Systems periodically inspect tanks, access hatches and associated locks, overflow devices, pipes, pipe joints and connectors, pumps, vents, controllers, and other associated infrastructure. Empty first flush devices as needed after rainfalls to ensure correct operation in the next rainfall. Inspect systems following heavy rains to check for leaks and/or overflow problems. Determine whether sludge should be removed from tanks. Repair and correct problems as needed.
- D. Irrigation systems. Irrigation systems and associated controllers, soil moisture sensors, tensiometers, weather stations, and any other associated instruments shall be properly maintained and replaced as needed to ensure the potable and reclaimed water-saving goal of the Ordinance is met.

10-03.7.0 COMPLIANCE

7.1 MONITORING. Monitoring of water use and related information at the site shall be the responsibility of the property owner. Monitoring is required to verify compliance with the approved Water Harvesting Implementation Plan. Monitoring data shall be compiled, along with other necessary information, into an annual report to be submitted to the City by January 30 of each year. The site conditions described below shall be monitored.

- A. Monthly water use. Monthly water use for landscape irrigation shall be monitored.

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1. Monitoring of monthly potable water use for irrigation of landscape plants is required at sites subject to the Ordinance. Sites shall monitor water use with a Tucson Water Irrigation Service Meter, an equivalent meter from another water provider, or a private sub-meter that meets Accuracy Standards for Private Sub-meters.
 2. Monitoring of monthly water use for irrigation of landscape plants is required at sites served by private wells or reclaimed water. Sites shall monitor water use with a private submeter that meets Accuracy Standards for Private Sub-meters.
- B. Monthly rainfall. Monthly rainfall shall be monitored using an on-site rain gauge, or a monthly rainfall estimate shall be developed using data from the closest available rain gauge recorded at www.rainlog.org.
- 7.2 ANNUAL REPORTING. An Annual Report shall be submitted to the Tucson Water Conservation Office by January 30 of each year, on a form provided by that Office (Exhibit B). Each Annual Report shall, at a minimum, contain the following information for the previous calendar year.
- A. Name and contact information for site and owner.
 - B. Name, title and contact information for person who prepares the annual report.
 - C. Source of rainfall data (on-site gauge or www.rainlog.org).
 - D. Sources of metered irrigation water other than harvested rainwater used at the site.
 - E. Monthly and total annual readings of the following: rainfall, projected landscape water demand shown in the approved Rainwater Harvesting Plan, actual metered water use, difference between these amounts.
 - F. Explanation for any exceedence of annual metered irrigation water use projected in the approved Rainwater Harvesting Plan.
 - G. Changes to the landscape or irrigation system in the reporting year.
 - H. Other information as deemed necessary.

10-03.8.0 ENFORCEMENT

The steps described below are required to ensure the site is constructed according to the requirements of the approved Implementation Plan.

8.1 INSPECTIONS.

- A. All site-scale grading related to water harvesting Subwatersheds and Water Harvesting Infiltration Areas must be inspected and accepted by DSD prior to application of any surface treatment (e.g concrete, asphalt, rock, etc.) to verify that slopes, recessed areas, overflows and other design elements have been properly graded.

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- B. All landscape-scale grading in Water Harvesting Infiltration Areas where planting will be conducted must be inspected and accepted by DSD prior to plant installation and application of organic mulch or rock to verify they have been properly graded.
- C. DSD will inspect the site for compliance with the provisions of the Rainwater Harvesting Plan prior to issuance of a final certificate of occupancy.

8.2 AUDITS AND REPORTING.

- A. Landscape Irrigation Audit. In the event the site fails to meet the percent water harvesting in a reporting year required in the approved Rainwater Harvesting Plan, Tucson Water may request that additional information or documentation be submitted to assist in determining the cause of the violation. A site visit and a landscape irrigation audit may be required to verify the Rainwater Harvesting Plan is being adhered to and all components are properly functioning.
- B. Non-compliance. Sites determined to be in non-compliance may be required to submit monitoring reports monthly and may be required to provide Owner's annual certification of continued maintenance and proper operation of water harvesting systems and the irrigation system and associated controls.

8.3 DROUGHT CONTINGENCY. The 50 percent landscape budget provision shall not apply in any calendar year in which the annual precipitation has fallen below nine (9) inches at the site, as reported in the site's annual report.

EXHIBITS

- Exhibit A Site Water Budget Assumptions and Calculations
- Exhibit B Annual Report Form for Commercial Water Harvesting Sites

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EXHIBIT A. SITE WATER BUDGET ASSUMPTIONS AND CALCULATIONS

Designing water harvesting systems at a commercial site requires coordination between site developers, site engineers and landscape architects from the inception of the site design process. The information below is provided to inform site designers and engineers of the assumptions and methods the City recommends for use in designing and engineering water harvesting for a commercial site. This approach can be used both in preparation of the two components of the Rainwater Harvesting Plan: the Site Water Budget and the Water Harvesting Implementation Plan.

Preparing a Site Water Budget that meets the requirements of Commercial Rainwater Harvesting Ordinance and Development Standard 10-03 requires projecting yearly plant water demand for the site landscape then determining how much harvested water supply is needed to meet at least 50% of this demand. Sites may choose to use passive water harvesting (earthworks), active water harvesting (tanks), or a combination of both methods to accomplish this goal. Because most sites will be able to accomplish the 50% goals with passive water harvesting alone, the site design calculations provided at the end of this exhibit focus on data for passive water harvesting sites. An example Site Water Budget is shown in Table A-1. This example is provided to serve as a model for sites undertaking water-harvesting design. An excel spreadsheet of this water budget is available from http://www.tucsonaz.gov/dsd/What_s_New/what_s_new.html for use by site designers in preparing their Site Water Budget. This information in turn should be used to prepare the Water Harvesting Implementation Plan. Calculations

1.0 WATER DEMAND ASSUMPTIONS

Multiple techniques can be used to determine how much water is needed to support plants at a site. For purposes of complying with City requirements, the methods and assumptions described below are recommended.

1.1 REFERENCE EVAPOTRANSPIRATION.

To determine how much water plants need, a measurement of how much water plants consume through evapotranspiration is needed. Evapotranspiration is the transfer of water from land surface to the atmosphere through the combination of evaporation and plant transpiration. In the Reference Evapotranspiration Method (ET_o Method), water use by plants is estimated for a high-water-use grass cover crop (such as alfalfa) for which evapotranspiration can be directly measured. Monthly Reference ET_o values for a high-water-use grass crop in Tucson have been tabulated in Table A-2.

Table A-2. Reference Evapotranspiration (ET_o) for Tucson

MONTHLY REFERENCE EVAPOTRANSPIRATION (Inches)											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3.0	3.72	6.0	8.04	9.96	10.56	9.36	7.92	7.20	5.76	3.60	2.64

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Table A-1. Site Water Budget Format

Line	DESCRIPTIONS OF WATER BUDGET COMPONENT	SOURCES FOR EACH WATER HARVESTING INFILTRATION AREAS (WHIAs)	EXAMPLE WHIA
PLANT WATER DEMAND			
1	Individual WHIA identifier	APPLICANT PROVIDE	WHIA - 1
2	Plant water demand category for this WHIA	APPLICANT PROVIDE USING ADWR PLANT LIST	low
3	Plant canopy area (square feet) for this WHIA. Add the canopies of understory, midstory and overstory plant areas to get total canopy for each WHIA. Assume 60% of mature plant size	APPLICANT PROVIDE. CAN BE BASED ON LANDSCAPE PLAN OR PLANT LIST	1250
4	Plant water demand per year (vertical feet of water per year per square foot of canopy) for this WHIA	APPLICANT USES APPROPRIATE NUMBER BASED ON PLANT WATER DEMAND CATEGORY FOR THIS WHIA	1.7
5	<i>CALCULATE:</i> Annual plant water demand for this WHIA based on plant canopy area (gallons)	= line 3 times line 4 times 7.48 gallons/cubic foot of water	15,895
OVERALL WATER HARVESTING SUPPLY			
7	WHIA area (square feet)	APPLICANT PROVIDE	1000
8	WHIA average depth (feet)	APPLICANT PROVIDE	0.5
9	<i>CALCULATE:</i> WHIA capacity (gallons)	line 7 times line 8 times 7.48 gallons/cubic foot of water	3,740
10	If Passive water harvesting is used:		
11	Subwatershed identifier	APPLICANT	S-1
12	Ratio of subwatershed area to plant canopy area needed to meet plant water demand in this WHIA in July through March (use March plant water demand as the indicator month) (no units)	APPLICANT USES APPROPRIATE NUMBER BASED ON PLANT WATER DEMAND CATEGORY FOR EACH WHIA	3.85
13	<i>CALCULATE:</i> Total catchment area ideally needed to meet plant water demand in March (square feet)	= line 3 x line 12	4,813
14	Actual total catchment area designed for this WHIA including the WHIA area itself (square feet)	APPLICANT PROVIDE	1500
15	<i>CALCULATE:</i> Actual catchment ratio for this WHIA	= line 14 divided by line 3	1.20
16	<i>CALCULATE:</i> Actual percent of plant water demand that will be met for this WHIA	= 64% times line 15 divided by line 12	20%
17	If Active water harvesting is used:		
18	Tank identifier	APPLICANT PROVIDE	T-1
19	above or below ground?	APPLICANT PROVIDE	above
20	tank height (feet)	APPLICANT PROVIDE	8
21	tank diameter (feet)	APPLICANT PROVIDE	6
22	tank capacity (gallons)	APPLICANT PROVIDE	1619
23	tank location	APPLICANT PROVIDE	East corner
24	<i>CALCULATE:</i> Percent of plant water demand for this WHIA met by this tank	(Assume tank will be filled and emptied 4 times per year). Total water provided = 4 times line 22 divided by line 5	41%
25	<i>CALCULATE:</i> Percent of plant water demand for this WHIA met using harvested rainwater from passive systems and active systems (as applicable)	= line 16 + line 24	61%
26	TOTAL SITE INFORMATION		
27	Percent to total site annual landscape demand met using harvested water	Prorate percent of water harvesting supply based on area of each WHIA	61%
28	Water harvesting capacity offsetting retention basin size capacity	APPLICANT PROVIDE	

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1.2 PLANT COEFFICIENTS.

Four categories of plant types are typically used in Tucson. These categories are established based on their water use characteristics (Table A-3). Plant coefficients are an estimate of the water needed by each plant type expressed as a fraction of the water needed for the reference high-water-use grass crop. Plant types and corresponding plant coefficients are shown in Table A-3.

Table A-3. Plant Coefficients for use in Tucson

PLANT TYPE	PLANT COEFFICIENT
Very low water use	0.13 times monthly Reference ETo
Low water use	0.26 times monthly Reference ETo
Moderate water use	0.45 times monthly Reference ETo
High water use	0.65 times monthly Reference ETo

1.3 PLANT WATER DEMAND.

Plant water demand is the water needed over a given period of time to support a landscape. The first step in determining plant water demand is to calculate the inches of water needed per year for each square foot of plant canopy (as seen from a bird's eye view). This is calculated by multiplying Tucson's monthly reference ETo by the plant coefficient for each plant type to be used at a site (Table A-4). Add monthly amounts to get the total annual plant demand per square foot of canopy (Table A-4).

Table A-4. Plant water demand per square foot of plant canopy for Tucson

PLANT TYPE	MONTHLY PLANT WATER DEMAND (Inches)												ANNUAL DEMAND (Inches)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Very low water use	0.39	0.48	0.78	1.05	1.29	1.37	1.22	1.03	0.94	0.75	0.47	0.34	10.11
Low water use	0.78	0.97	1.56	2.09	2.59	2.75	2.43	2.06	1.87	1.50	0.94	0.69	20.22
Moderate water use	1.35	1.67	2.70	3.62	4.48	4.75	4.21	3.56	3.24	2.59	1.62	1.19	34.99
High water use	1.95	2.42	3.90	5.23	6.47	6.86	6.08	5.15	4.68	3.74	2.34	1.72	50.54

To calculate various plant water demands for large planted areas, the inches of water needed per square foot of one type of plant canopy is multiplied by the total canopy area for that plant type to get plant water demand. Plant Water Demand should be calculated for each individual Water Harvesting Infiltration Areas. These can then be added together to get total plant water demand for the site.

1.4 ALTERNATIVE CALCULATIONS.

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Applicants wishing to use alternative values and methods from those described above may do so. Along with the alternative calculations, they should provide justification for deviation from the assumptions and methods recommended above.

2.0 RAINWATER SUPPLY ASSUMPTIONS

2.1 FACTORS AFFECTING RAINFALL.

Rainfall in the Sonoran Desert is highly variable. Between 1993 and 2008, Tucson’s annual rainfall ranged from 7.62 inches to 14.99 inches and averaged 12.17 inches per year. Tucson sites experience localized differences in rainfall primarily due to widely spaced summer monsoon storms. Winter rains tend to cover larger areas with more even distribution of rainfall. The amount of water that can be harvested also depends on how much rain falls each time it rains. Very light rains might not create sufficient runoff to reach waterharvesting basins, while runoff from heavy rains might overflow basins.

2.2 EFFECTIVE AVERAGE ANNUAL RAINFALL.

To comply with the City’s Commercial Rainwater Harvesting Ordinance, average rainfall for Tucson should be adjusted to a lower effective average rainfall. Two adjustments should be made: reduce average rainfall by 25% to address localized variability and reduce average rainfall by an additional 25% to remove very light and very heavy rainfall events from monthly rainfall. Tucson’s average rainfall and the calculation of effective average rainfall are shown in Table A-5 month-by-month and totaled for the year.

Table A-5. Effective average rainfall for Tucson for use in Site Water Budget calculations

RAINFALL ASSUMPTIONS	MONTHLY AVERAGE RAINFALL (Inches)												ANNUAL TOTAL (inches)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Average rainfall	0.99	0.88	0.81	0.28	0.24	0.24	2.07	2.3	1.45	1.21	0.67	1.03	12.17
Effective Average Rainfall	0.50	0.44	0.41	0.14	0.12	0.12	1.04	1.15	0.73	0.61	0.34	0.52	6.09

1.3 ALTERNATIVE CALCULATIONS.

Applicants wishing to use alternative values and methods from those described above may do so. Along with the alternative calculations, they should provide justification for deviation from the assumptions and methods recommended above.

3.0 DETERMINING WATER HARVESTING CATCHMENT NEEDS FOR PASSIVE WATER HARVESTING

3.1 DEFINITION OF CATCHMENT AREA AND CATCHMENT RATIO

Because most commercial sites should be able to accomplish the Ordinance’s 50 percent water harvesting goal using passive water harvesting strategies alone, the following information focuses on data for passive water harvesting sites.

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Passive water harvesting sites typically consist of an array of Water Harvesting Infiltration Areas, each served by a catchment area that provides harvested water to support the plants within it. To meet the City Ordinance requirements, the site needs to be designed so that 50% of annual plant water demand is met with harvested rainwater as an average across the site. If the 50 percent goal cannot be met at some Water Harvesting Infiltration Areas due to site conditions, then other Water Harvesting Infiltration Areas should be designed to exceed the 50 percent goal in order to achieve 50 percent overall.

Catchment areas are locations at a site from which water is harvested for beneficial use. These locations include areas where rain falls directly into earthen basins and infiltrates into the ground (these are known as Water Harvesting Infiltration Areas. Catchment areas also include locations where rain falls on rooftops, sidewalks, parking lots, driveways and other hard surfaces then flows toward Water Harvesting Infiltration Areas where the water infiltrates into the soil. The catchment ratio for any given Water Harvesting Infiltration Area is the ratio between the water harvesting catchment area serving it and the canopy area of the plants located within it. As one example, runoff from 100 square feet of sloped parking lot and soil drains to a Water Harvesting Infiltration Area that is planted with trees that have a canopy area of 20 square feet (as seen from a bird's eye view). The catchment ratio for this example is 100 to 20, which can be simplified as 5 to 1.

3.2 CALCULATION OF CATCHMENT AREAS

In Tucson, different types of plants need different amounts of water each month because rainfall and temperature vary from month-to-month (Table A-4). Table A-6 shows the catchment area needed to provide harvested water for each square foot of plant canopy area for different plant types in different months. The data on Table A-6 was calculated using the following equation for each month and each plant type:

$$\text{Catchment area needed} = \frac{\text{Monthly water demand per square foot of plant type}}{\text{Effective monthly rainfall}}$$

Table A-6 . Catchment area needed to meet monthly plant water demand in Tucson

PLANT TYPE	SQUARE FEET OF CATCHMENT AREA NEEDED TO MEET WATER DEMAND FOR EACH SQUARE FOOT OF CANOPY AREA											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Very low water use	0.8	1.0	1.8	7.1	10.3	10.9	1.1	0.9	1.2	1.2	1.3	0.6
Low water use	1.5	2.1	3.7	14.2	20.6	21.8	2.2	1.7	2.5	2.4	2.7	1.3
Moderate water use	2.6	3.6	6.3	24.6	35.6	37.7	3.9	3.0	4.3	4.1	4.6	2.2
High water use	3.8	5.2	9.2	35.6	51.4	54.5	5.6	4.3	6.1	5.9	6.7	3.2

3.3 CALCULATION OF CATCHMENT RATIOS

In Tucson, plants need around 37 percent of their annual water supply in the hot dry months of April, May and June. The remainder of their annual water supply, about 63 percent, is needed in July through March. Figure A-1 illustrates the relationship between plant water demand and

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effective rainfall supply in Tucson. In April, May and June there is a large gap between plant water demand and effective rainfall supply. There is a smaller, but still substantial gap between demand and supply in March. The rest of the year, rainwater supply lags behind demand, but not as much as in March through June.

By designing a site that has catchment areas sized to fully meet March plant water demand, the harvested water supply would typically exceed plant water demand in July through February (Figure A-2). This design strategy provides a cushion in meeting the 50 percent goal for the site and is recommended by the City as a general approach.

Based on Table A-6, a landscape composed of low water use plant types would need a catchment ratio of 3.7 to 1 to meet March water demand. This means that for each square foot of plant canopy area (as seen from a bird's eye view), 3.7 square feet of catchment area is needed to collect rainwater from. This area includes the dirt Water Harvesting Infiltration Area the plants are located in, and any parking lot, roof-top, or other hard surface around the plant that drains to that area.

It is best to locate plants of the same type in a Water Harvesting Infiltration Area, though sites may have different plant types in other Water Harvesting Infiltration Areas. Table A-6 can be used to determine appropriate catchment ratios for the plant types used in Tucson.

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Figure A-1. Monthly Low-Water-Use Plant Demand vs Adjusted Rainfall, Tucson, Arizona

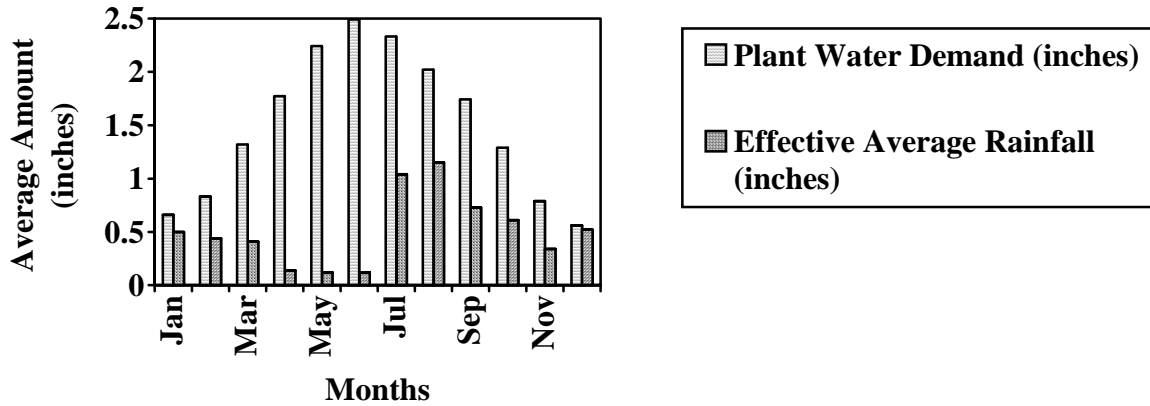
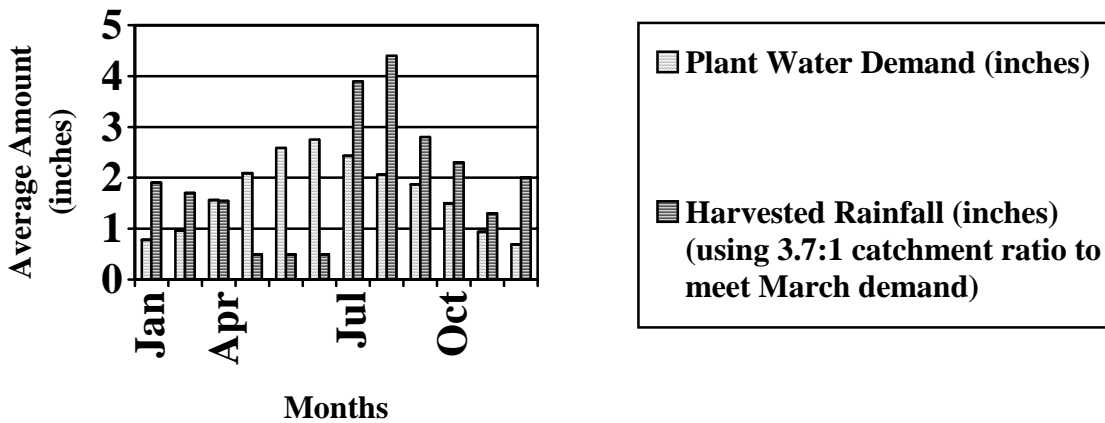


Figure A-2. Monthly Low-Water-Use Plant Demand vs Harvested rainfall, Tucson, Arizona



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ATTACHMENT B. ANNUAL REPORT FORM FOR COMMERCIAL WATER HARVESTING SITES

Annual Water Use Report				
Reporting period (month/day/year): from _____ to _____				
Project Name				
Project Address				
Owner name				
Report Preparer name			Preparer title	
Preparer address				
Preparer email			Preparer phone	
Source of rain data (check all that apply): ___ on site raingage ___ www.rainlog.org station: note the closest cross streets _____				
Source of metered irrigation water (check all that apply): ___ Tucson Water, acct # _____ ___ water from another water utility ___ well water ___ reclaimed water				
MONTHS	RAINFALL (inches)	IRRIGATION WATER USE		
		Projected landscape water demand shown in the Rainwater Harvesting Plan (gallons)	Actual metered use (gallons)	Difference (gallons)
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
ANNUAL TOTAL				
Explanation for any exceedence of annual irrigation water use projected in the approved Rainwater Harvesting Plan:				
Changes to the landscape or irrigation system in the reporting year:				
AREA BELOW FOR STAFF USE ONLY				
Drought conditions exist at the site:				
Compliance with Rainwater Harvesting Plan:				
Audit required/date/outcome				

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Sec. 23A-50. Application, notice, public comment and review.

An application for and review of a special zoning request that requires full notice procedure shall comply with the following.

(1) *Pre-application conference.* A pre-application conference with city staff to review requirements for the proposal under this chapter, the LUC, development standards and other applicable policies and regulations is required on all full notice procedure applications.

(2) *Neighborhood meeting.* The applicant shall offer to meet at a specified time and place to discuss the proposed project with the persons and entities entitled to notice of the application. The offer shall be made at least ten (10) days prior to the date of the meeting. The meeting shall occur at least fifteen (15) and not more than (60) days prior to the submittal of the application. The neighborhood meeting shall be held at a location near the property that is the subject of the application. Notice of the meeting shall also be provided by the applicant to the office of the council ward in which the subject site is located. Documentation of the offer to meet and a summary of the meeting shall be submitted with the application.

(3) *Application.* Applications shall conform to the requirements set forth in the LUC, this chapter and appropriate development standards. An application is accepted or rejected within seven (7) days of the date of receipt unless the applicant consents to additional time. An application may, in the discretion of the director, be conditionally accepted.

(4) *Public notice of the application.* Applications for full notice procedure shall be provide public notice as follows.

a. *Mailed notice.*

1. Shall be sent to the applicant, public service agencies affected by the application, all property owners within the subject site and within three hundred (300) feet of the subject site, the neighborhood association(s) which includes or are within one (1) mile of the subject site, any person or organization that has filed a request and paid a fee to receive notification of public meetings and hearings on a particular process and any other person the director determines has an interest in the matter.

2. Property owners shall be determined from the records of the Pima County Assessor that are available to the public no more than forty-five (45) days prior to the application or public hearing.

3. Shall be provided to all parties of record on a previous hearing on the same application and to other affected property owners as required by each process.

4. Shall be sent whether or not the properties are within the corporate limits of the city.

5. Adjoining land under the same ownership as the subject site and public right-of-way abutting the site shall be included as part of the subject site in determining the boundaries from which the notice area is measured.

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6. For sites within the Airport Environs Zone (AEZ), notice shall be provided to the Tucson International Airport or to the Davis Monthan Airforce Base, whichever is applicable.

b. *Posted notice.* Notice shall be posted in such locations on the subject property as to be visible to the public. The posted notice shall identify the request, the date, time and location of any public comment period or public hearings and a telephone number for the city and the applicant where further information may be obtained.

(5) *Public comment period.* There shall be a period of twenty (20) days following the date on which notice is mailed for submission of comments on the proposal to the development services department.

(6) *Review process.* Review is conducted by the development services department staff and other agencies, committees or advisory boards as specified in this chapter, the LUC and as may be deemed appropriate by the director.

(7) *Denial of plan compliance appeal.* if an application is rejected because it is not consistent with the general plan or any applicable specific plan, the rejection of the application may be appealed by the applicant to the mayor and council in accordance with [section] 23A-62.

(Ord. No. 9967, § 9, 5-17-04)

Sec. 23A-51. DSD full notice procedure.

This procedure applies to approvals within overlay zones, such as, but not limited to, the Hillside Development Zone (HDZ), Scenic Corridor Zone (SCZ), Environment Resource Zone (ERZ) and Historic Preservation Zone (HPZ). This section does not apply to applications for development subject to the Major Streets and Routes Setback Zone or the Gateway Corridor Zone, to the Rio Nuevo and Downtown Development (RND) Zone or the Drachman School Overlay (DSO) Zone. This procedure also applies to development applications subject to the watercourse, amenities, safety and habitat (WASH) regulations in section 29-12 et seq. and approvals of mitigation plans for certain restaurants serving alcohol.

(1) *Application, notice, public comment and review.* The pre-application conference, neighborhood meeting, application, notice, public comment, review and denial of plan appeal shall be in conformance with section 23A-50.

(2) *Maintenance and protection.* Prior to approval of a subdivision plat or issuance of building permits, such measures as covenants, assurances, or homeowners' associations, as may be necessary to ensure the long-term maintenance and control measures, may be required.

(3) *Alteration of the property prohibited.* No grubbing, grading, excavation or construction shall occur nor shall the city issue any approval or permit for grubbing, grading, excavation or construction on any lot or parcel subject to the overlay zone unless and until the city approves a plat or plan in conformance with this chapter, the LUC and the development standards.

(4) *WASH development.* Development subject to the watercourse, amenities, safety and habitat (WASH) regulations in section 29-12 et seq. shall be subject to review and approval in accordance with the DSD full notice procedure, section 23A-51, and to the standards for review set forth in section 29-17.

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(5) *Time for issuance of decision.* The director shall not make any decision prior to the expiration of the twenty (20) day period for public comment. The director shall make a decision on applications no later than twenty (20) days after the expiration of the comment period or five (5) days after the latest recommendation from a city advisory board, whichever is later.

(6) *Notice of decision.* Notice of the decision on an application shall be mailed within three (3) days of the decision to all persons entitled to notice of the application.

(7) *Appeal.* The decision of the director may be appealed to the mayor and council on the grounds that the decision is not in conformance with the criteria established by the LUC. The notice of intent to appeal shall be in accordance with section 23A-62 and shall be filed with the city clerk no later than fourteen (14) days after the date of the decision. The complete appeal materials must be filed within thirty (30) days of the decision. A copy of the appeal shall be provided to the director at the time it is filed.

(8) *Site inspection.* Prior to the issuance of an occupancy permit, the site will be inspected by the development services department (DSD) for compliance with the plans approved for the issuance of building permits and any changes authorized by the DSD director to those approved plans during construction.

(Ord. No. 9967, § 9, 5-17-04; Ord. No. 10387, § 4, 4-10-07)

Sec. 23A-52. Board of adjustment full notice procedure.

Applications for certain design development options, modifications of development regulations in the RND and for variances before the board of adjustment shall be in conformance with section 23A-50 and the following.

(1) *Director's recommendation.* The director shall prepare a recommendation in accordance and forward it, together with the DRB and STAC recommendations when required, to the applicant and the board of adjustment not less than five (5) days prior to the scheduled public hearing. The recommendation shall be a written report that includes the request and present plans, policies, regulations, and other information relating to the request. The recommendation shall include a recommended action by the board of adjustment or a statement that the development services department has no objection to the request.

(2) *Advisory board review.* Variance requests from the Environmental Resource Zone regulations require review by the design review board (DRB) and the stormwater technical advisory committee (STAC) as provided in LUC section 2.8.8.6. Variance requests from Scenic Corridor Zone (SCZ), the Gateway Corridor Zone, the landscaping and screening regulations, and the native plant protection regulations require DRB review as provided in LUC sections 2.8.2.14, 2.8.4.5, 3.7.7.5, and 3.8.8.3, respectively.

(3) *Board of adjustment public hearing.* The board of adjustment shall hold a public hearing in accordance with the following and the board of adjustment's rules and regulations.

a. Notice of the public hearing shall be provided at least fifteen (15) and no more than thirty (30) days before the date of the public hearing to all parties who received notice of the application. Notice shall be provided in the same manner as the application. The notice of the public hearing may be consolidated with the notice of the application.

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b. Except as permitted in the public hearing and the procedures for submission of written materials, no person shall communicate with a member of the board of adjustment regarding a matter to be decided by the board any time prior to the expiration of the time for reconsideration of a decision.

c. The chair of the hearing body or person presiding may administer oaths and may compel the attendance of witnesses and the production of relevant information, including witnesses requested by any party.

d. The chair or person presiding may impose any reasonable limitations on the number of speakers heard and may establish the nature and length of testimony by speakers.

e. Comments may be given by any person, either verbally or in writing.

f. Following the close of the hearing and prior to making a decision or recommendation, the hearing body may discuss the matter and further question staff or any party submitting comment.

g. A record of the hearing is made and retained as a public record.

(4) *Board of adjustment decision.* The board of adjustment may close the public hearing or continue it to a specific date, time, and place provided the continuance is not for more than one hundred twenty (120) days. The board of adjustment shall issue a decision in accordance with the findings required for approval of the application at the conclusion of the public hearing.

(5) *Notice of decision.* Notice of the decision shall be mailed within three (3) days of the decision to the applicant and any persons requesting the notice.

(6) *Reconsideration.* The board of adjustment may consider one request for reconsideration by the applicant or a party of record, provided:

a. A written request is filed with the zoning administrator within fourteen (14) calendar days after the board has rendered its decision, and

b. The request is based upon new evidence or materials which were not presented and could not reasonably have been presented at the public hearing on the case.

(7) *Change of condition.* After a DDO or a variance has been granted by the board, the property owner/applicant may request a change to a condition for approval as imposed by the board based upon changed circumstances which affect the condition. The request shall be heard by the board and the board shall initially determine whether the request is for a minor change of condition that does not materially alter the variance and does not materially affect any other properties. If the board determines that the request is for a minor change of condition, it may decide whether to approve or deny the change. If the board determines that the request is not a minor change of condition and there are reasonable grounds for the request, the case shall be scheduled for a public hearing and notice provided in conformance with this section.

(Ord. No. 9967, § 9, 5-17-04; Ord. No. 10295, § 3, 6-27-06)

Sec. 23A-53. Zoning examiner special exception full notice procedure.

Applications for special exception land uses that are decided by the zoning examiner, "zoning examiner special exceptions", and for expansions of nonconforming uses and substitutions of nonconforming uses (uses not within the same land use class) shall be decided by the zoning examiner in accordance with the pre-application conference, neighborhood meeting, application, notice, public comment, review and denial of plan appeal shall be in conformance with section 23A-50 and the following.

(1) *Director's recommendation.* The director shall prepare a recommendation and forward it to the applicant and the zoning examiner not less than fifteen (15) days prior to the scheduled public hearing.

(2) *Zoning examiner's public hearing.* The public hearing shall be held before the zoning examiner within seventy (70) days of acceptance of the application. Public hearings are held in accordance with the following and the zoning examiner's rules and procedures.

a. Notice of the public hearing shall be provided at least fifteen (15) and no more than thirty (30) days before the date of the public hearing to all parties who received notice of the application. The notice of the public hearing may be consolidated with the notice of the application.

b. The zoning examiner may administer oaths and may compel the attendance of witnesses and the production of relevant information, including witnesses requested by any party.

c. The zoning examiner may impose any reasonable limitations on the number of speakers heard and may establish the nature and length of testimony by speakers.

d. Comments may be given by any person, either verbally or in writing.

e. A record of the hearing is made and retained as a public record.

(3) *Conduct of the zoning examiner.* The zoning examiner shall have the ability to obtain information from all parties, including public agencies, prior to the public hearing, provided all requests for information are in writing and the request and information are included as part of the public record. The zoning examiner shall also have the ability, after the close of the public hearing, to obtain additional information or clarify information presented and of record at the hearing provided the request for additional information or clarification is requested in writing and such request and information are included as part of the record or in the report to the mayor and council.

Beyond these limitations, the zoning examiner shall not communicate, directly or indirectly, with any party or party's representative in connection with any issue involved with a particular request, except upon notice and opportunity for all parties to participate; use or rely upon any communication, report, staff memorandum, or other material prepared in connection with the particular case, unless it is made a part of the record; or inspect the site with any party or party's representative, unless all parties are given an opportunity to be present.

(4) *Zoning examiner's decision.* The zoning examiner may close the public hearing or continue the public hearing to a specified time, date and place provided the continuance is not for more than thirty (30) days. Within five (5) days of the close of a hearing, the zoning examiner shall make a decision to approve, approve with conditions, or deny the application.

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(5) *Notice of decision.* Notice of the decision on an application shall be mailed within three (3) days of the decision to the applicant and all persons who request the notice.

(6) *Appeal.* The zoning examiner's decision may be appealed by a party of record to the mayor and council in accordance with section 23A-62 by submitting a notice of intent to appeal to the city clerk within fourteen (14) days from the date of the decision with a copy delivered to DSD. The complete appeal materials must be filed within thirty (30) days of the decision.

(7) *Change of condition.* An applicant may request a change in a condition of approval of a zoning examiner special exception land use. The request shall be reviewed by staff for recommendation to the zoning examiner. The request shall then be considered at a public hearing in accordance with subsections 3, 4, 5, 6, 7 and 8 above.

(Ord. No. 9967, § 9, 5-17-04)

Sec. 23A-54. Conditional use: Suspension or termination of designated permitted, secondary and special exception uses.

Where a permitted, secondary or special exception land use is designated in the LUC as subject to suspension or revocation for failure to conform to adopted conditions and there is reason to believe that it is being operated in a manner that violates the conditions imposed for the use, the use may be suspended or revoked as follows:

(1) *Determination by the zoning administrator.* Upon receipt of information establishing a reasonable grounds for determining that a conditional use is operating in violation of established conditions, the zoning administrator shall initiate such further investigation as may be necessary and, based upon that investigation, shall determine if a violation of the conditions exists.

(2) *Notice of violation.* Upon determination that a violation of conditions exists, the zoning administrator shall notify the property owner and all other parties who may be identified with the operation of the use of the determination that a violation exists. The notice shall state the facts that support the determination. The notice shall further state that the use may be suspended, subject to additional conditions or revoked if the property is not brought into compliance with all use conditions. The determination shall not be final until a period of fourteen (14) days from the date it is issued or until an appeal to the board of adjustment has been completed.

(3) *Appeal to the board of adjustment.* A party who has received a determination that a conditional use will be suspended, subject to additional conditions or revoked, may appeal that decision by filing a notice of appeal with the zoning administrator within fourteen (14) days of the date of the decision. The appeal shall state the reasons for the appeal. Upon receipt of such a notice, the zoning administrator shall schedule a public hearing before the board of adjustment to consider the appeal.

(4) *Public notice.* Public notice shall be provided in accordance with section 23A-50.

(5) *Public hearing.* The board of adjustment shall conduct a public hearing to determine whether the use has complied with required conditions. The board of adjustment shall determine whether the zoning administrator's decision is supported by evidence in the record at the hearing. The board of adjustment may affirm, reverse or modify the decision of the zoning administrator and may place additional or different conditions upon the use.