

EXHIBIT A

STEAMBOAT SPRINGS FIRE PREVENTION SERVICES ADMINISTRATIVE POLICY & PROCEDURE MANUAL

SECTION: 4
POLICY NO.: 1257.1
DATE: April 1, 2006
PAGE: 1

SUBJECT: Fire Apparatus Access Road Standards for the City of Steamboat Springs

PERSONNEL AFFECTED: Any inspector reviewing submittals from any developer / owner of every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of the exterior wall of the first story of the building is located more than 150 feet from fire apparatus access as measured by an approved route around the exterior of the building or facility.

PURPOSE: To provide uniform guidelines for the establishment of Fire Apparatus Access Roads.

POLICY:

1.0 GENERAL PROVISIONS

Timing of installation. When fire apparatus access roads or a water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles.

- 1.1 Where required:** Fire apparatus access roads shall be required for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility. These provisions shall not apply to the addition to or remodeling, modification, upgrade, or replacement of existing structures unless such remodeling, modification, upgrade, or replacement increases the square footage of the habitable space of such existing structure by more than 50%.

EXCEPTIONS: The fire code official is authorized to increase the dimension of 150 feet (45 720 mm) where:

- 1.1.1** The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 (NFPA 13), 903.3.1.2 (NFPA 13R) or 903.3.1.3 (NFPA 13D).
- 1.1.2** Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.
- 1.1.3** There are not more than two Group R-3 or Group U occupancies. Table 1257.1 shall be used as a guide.
- 1.2** The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access. Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

1.2.1 COMMERCIAL AND INDUSTRIAL DEVELOPMENTS

1.2.1.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have at least two means of fire apparatus access for each structure.

1.2.1.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross building area of more than 62,000 square feet (5760 m²) shall be provided with two separate and approved fire apparatus access roads.

1.2.2 AERIAL FIRE APPARATUS ACCESS ROADS

1.2.2.1 Where required. Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

1.2.2.2 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building.

1.2.3 MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENTS

1.2.3.1 Projects having more than 50 dwelling units. Multiple-family residential projects having more than 50 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

Exception: Projects having up to 100 dwelling units may have a single approved fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with approved automatic sprinkler systems installed in accordance with Section 903.3.1.1(NFPA 13) or 903.3.1.2 (NFPA 13R) of the International Fire Code.

1.2.3.2 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 dwelling units shall be provided with two separate and approved fire apparatus access roads regardless of whether they are equipped with an approved automatic sprinkler system.

1.2.4 ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS

1.2.4.1 One- or two-family dwelling residential developments.

Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with separate and approved fire apparatus access roads, and shall meet the requirements of Section 1.2.

Exceptions:

1. Where there are 50 or fewer dwelling units on a single public or private access way and all dwelling units are protected by approved residential sprinkler systems, access from two directions shall not be required.
2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

1.3 Road Signs and Building Identification: Signage and identification shall be guided by the current edition of the Manual of Uniform Traffic Control Devices as utilized by the City of Steamboat Springs. The AHJ can modify requirements of this section in private subdivisions on a case-by-case basis as long as the modifications meet desired life safety requirements. Additional signage may be required by the AHJ as deemed necessary including but not limited to address directories for subdivisions. Buildings must be clearly identified with an address sign that is visible from the intersection of the building driveway with the road. If the building address sign is not clearly visible from this intersection then a separate building address sign will be required at the intersection.

2.0 SPECIFICATIONS

2.1 Dimensions (width):

2.1.1 Common Roads serving 3 or more dwelling units or any commercial establishment: Fire apparatus access roads shall have an unobstructed width of not less than 24 feet. This width shall not include snow storage, parking or road shoulders. The unobstructed vertical clearance shall not be less than 13 feet 6 inches.

2.1.2 Common Driveways serving only 2 dwelling units: Fire apparatus access roads shall have an unobstructed width of not less than 16 feet. This width shall not include snow storage, parking or road shoulders. The unobstructed vertical clearance shall not be less than 13 feet 6 inches.

2.1.3 Driveways serving only 1 dwelling unit: Fire apparatus access roads shall have an unobstructed width of not less than 12 feet. This width shall not include snow storage, parking or road shoulders. The unobstructed vertical clearance shall not be less than 13 feet 6 inches.

2.2 Surface: Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface so as to provide all-weather driving capabilities. Specifications shall meet standards defined in the City of Steamboat Springs City Road Standards.

2.3 Turning radius:

2.3.1 Common Roads serving 3 or more dwelling units or any commercial establishment: Fire apparatus access roads shall have a Minimum Centerline Turning Radius of 80 feet (see Fig. 1).

2.3.2 Common Driveways serving only 2 dwelling units: Fire apparatus access roads shall have a Minimum Centerline Turning Radius of 51 feet (see Fig. 2).

2.3.3 Driveways serving only 1 dwelling unit: Fire apparatus access roads shall have a Minimum Centerline Turning Radius of 61 feet (see Fig. 3).

2.4 Dead Ends (turnarounds):

2.4.1 Common Roads serving 3 or more dwelling units or any commercial establishment: All dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved provision for the turning around of fire apparatus (see Fig. 4, 7A or 7B). Public access roads are limited to a cul-de-sac per City of Steamboat Springs City Road Standards.

2.4.2 Common Driveways serving only 2 dwelling units: All dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved provision for the turning around of fire apparatus (see Fig. 5, 7A or 7B).

2.4.3 Driveways serving only 1 dwelling unit: All dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved provision for the turning around of fire apparatus (see Fig. 6, 7A or 7B).

2.4.4 Variations to the above designs may be submitted using the AASHTO –“Turning Path & Traveled Way Designs for City Transit Buses” as a design basis. The minimum standard for cul-de-sacs shall be a 45 foot radius.

2.5 Grades: The gradient for a fire apparatus road shall not exceed 7% and shall have a staging area with a minimum length of 75 feet and a maximum slope of 4% at intersection with a public street. This policy may be modified based on Table 1257.1 or section 1.1.2 of this policy. Table 1257.1 is intended to apply to private driveways which serve as a fire apparatus access road.

2.6 Turnouts: Driveways in excess of 200 feet in length and less than 20 feet in width shall be provided with turnouts. Turnouts shall be an all-weather road surface at least 10 feet wide and 40 feet long (see Fig. 8). Driveway turnouts shall be located as required by the AHJ.

2.7 Bridges and elevated surfaces: Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO Standard Specification for Highway Bridges. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained when required by the fire code official.

3.0 PLAN SUBMITTALS

3.1 Site construction: The provisions of this policy shall apply when building construction begins and thereafter. A site management plan shall be submitted with the building permit application showing how access shall be maintained. Applicant will need to include with the building plans a site plan showing the full length of the driveway to the residence and indicating the slope and final road material. The review process will include an initial site visit to confirm proposed layout of the driveway/roads and a final site visit when driveway/road is completed to confirm road standards

3.2 Areas requiring fire apparatus access roads or fire lanes shall be shown on the plans and shall be posted and maintained at all times.

3.3 Marking: Depending upon the nature of the access and the hazard of the occupancy, as determined by the AHJ, fire apparatus access roads may be required to post approved signs identifying and restricting obstruction of the fire apparatus access road. The cost and installation of these signs shall be the developer / owner's responsibility.

4.0 DEFINITIONS

- FIRE APPARATUS ACCESS ROAD - A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway.
- DWELLING UNIT - is any building or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and sanitation as required by the Building Code, for not more than one family, or a congregate residence of 10 or less persons.
- AHJ - is the Authority Having Jurisdiction.

APPROVED BY: Jay Muhme, Fire Marshal **SIGNATURE:** _____
DATE: _____

APPROVED BY: Bob Struble, Assnt. Fire Chief **SIGNATURE:** _____
DATE: _____

SUPERSEDES POLICY OF: July 1, 2002

Fire Apparatus Access Road Standards City of Steamboat Springs

TABLE 1257.1

Potential dwelling units served	Width	Greater than 150 feet	Greater than 200 feet	Grade	Staging area intersecting at public access
1 – DWELLING UNIT (single family drive)	12 feet	Turn around required	Turn outs required	10 % or less as approved by AHJ	25' @ 4 % max.
EXCEPTION: If these widths and grades can not be obtained due to topography or other circumstances then additional fire protection such as fire alarm systems, fire sprinkler systems etc. may be required by the AHJ. NOTE: No access road serving 1 dwelling unit shall be less than 10 feet and where applicable a wildfire mitigation plan shall also be prescribed.					
2 - DWELLING UNITS OR DUPLEX (common drive)	16 feet	Turn around required	Turn outs required	10 % or less as approved by AHJ	25' @ 4 % max.
EXCEPTION: If these widths and grades can not be obtained due to topography or other circumstances then additional fire protection such as fire alarm systems, fire sprinkler systems etc. may be required by the AHJ. NOTE: No access road serving 2 dwelling units shall be less than 12 feet and where applicable a wildfire mitigation plan shall also be prescribed.					
3 OR MORE DWELLING UNITS (common road)	24 feet	Turn around required	Turn outs not required	7 % or less as approved by the AHJ	50' @ 4 % max.
EXCEPTIONS: If these widths and grades can not be obtained due to topography or other circumstances then additional fire protection such as fire alarm systems, fire sprinkler systems etc. may be required by the AHJ. NOTE: No access road serving 3 or more dwelling units shall be less than 20 feet and where applicable a wildfire mitigation plan shall also be prescribed.					
COMMERCIAL ESTABLISHMENT (common road)	24 feet	Turn around required	Turn outs not required	7 % or less as approved by the AHJ	75' @ 4 % max.
EXCEPTION: If these widths and grades can not be obtained due to topography or other circumstances then additional fire protection such as fire alarm systems, fire sprinkler systems etc. may be required by the AHJ. NOTE: No access road serving a commercial establishment shall be less than 20 feet and where applicable a wildfire mitigation plan shall also be prescribed.					

NOTE: The intersection angle to Public Access Street shall be approved on a site-specific basis.

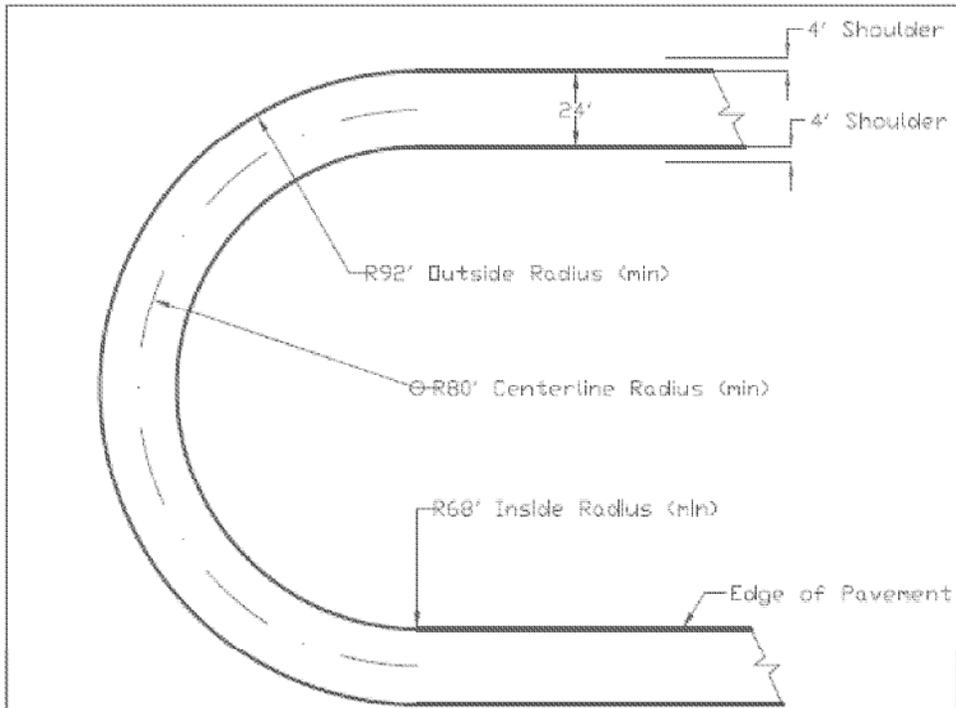


FIG. 1 - 24' COMMON ROAD

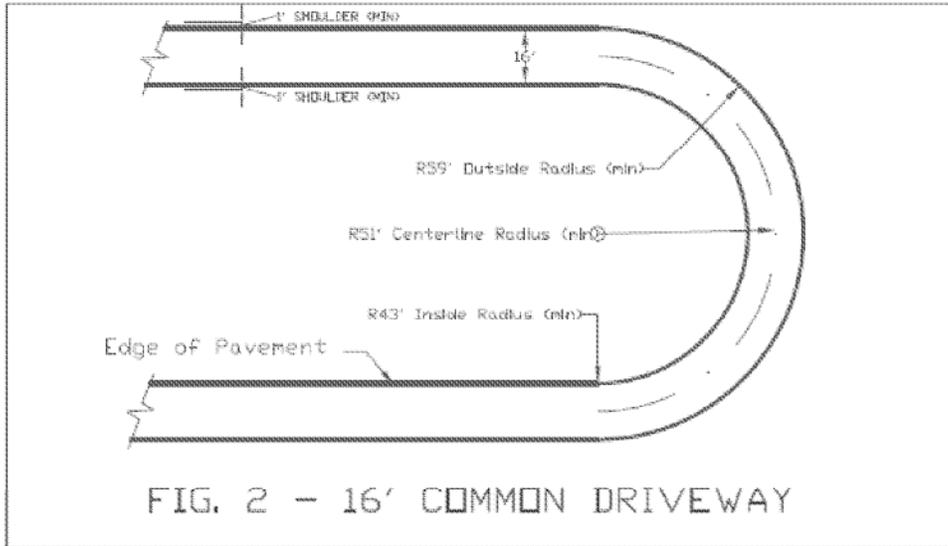


FIG. 2 - 16' COMMON DRIVEWAY

City Of Steamboat Springs Fire & Rescue	Fire Apparatus Road Standards	
	Drawn by: BSB	
PO BOX 775088 STEAMBOAT SPRINGS, CO (970) 871-8218 FAX (970) 871-8306	Scale: N.T.S.	Date: 6/27/06
	Revision description:	
	Sheet number of	

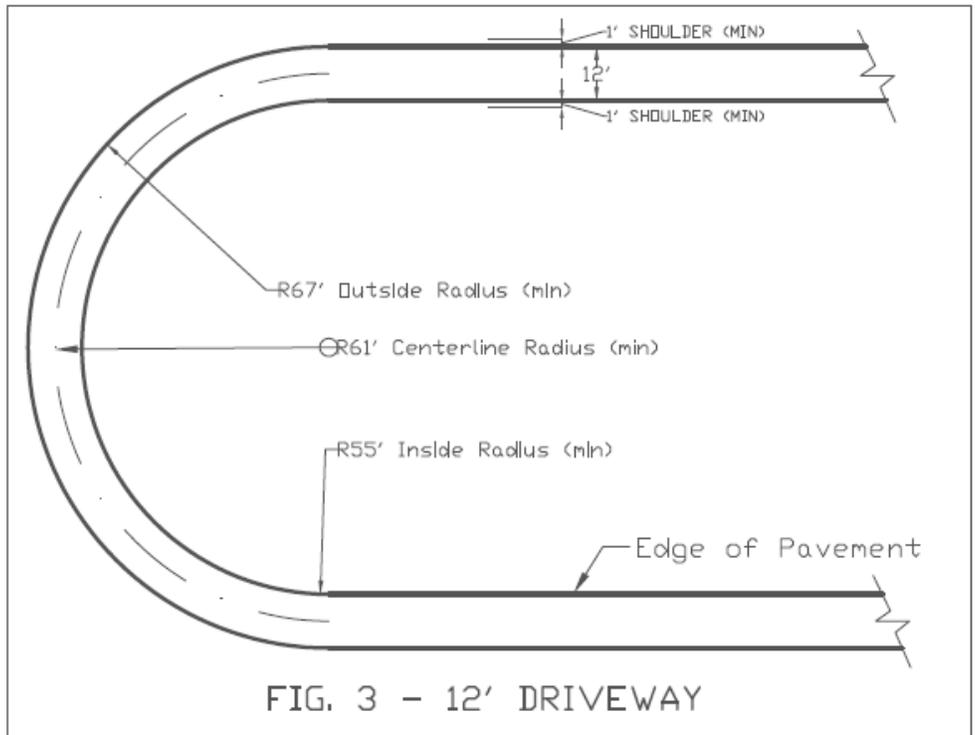


FIG. 3 - 12' DRIVEWAY

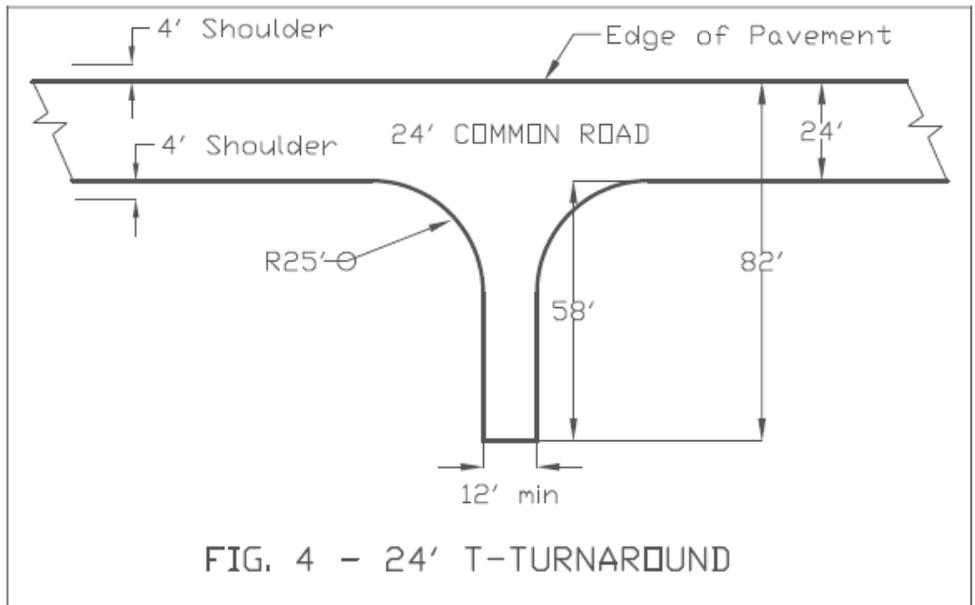


FIG. 4 - 24' T-TURNAROUND

City Of Steamboat Springs Fire & Rescue		Fire Apparatus Road Standards	
		Drawn by: BSB	Date: 6/27/06
PO BOX 775088 STEAMBOAT SPRINGS, CO (970) 871-8216 FAX (970) 871-6306		Revision description:	
		Sheet number of	

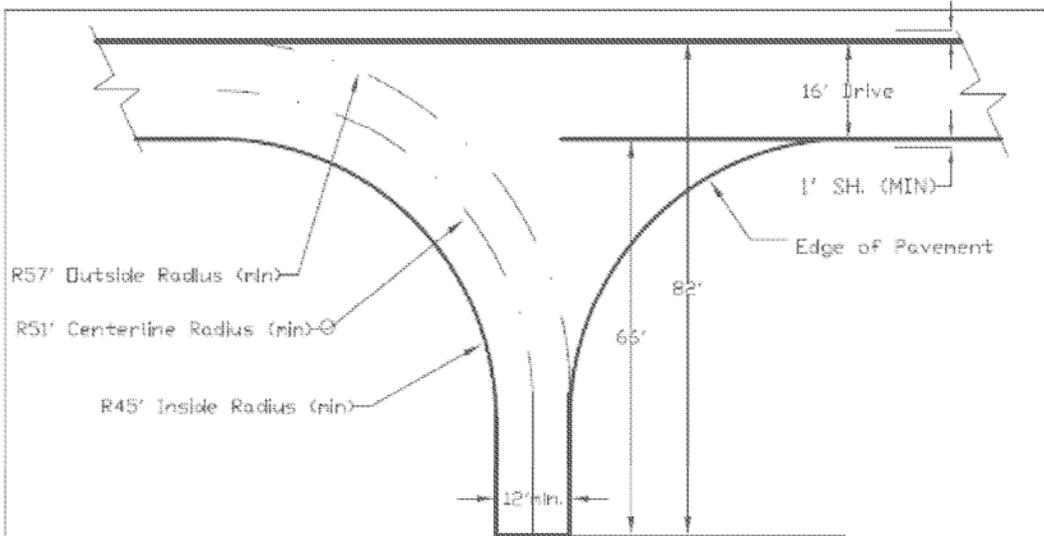


FIG. 5 - 16' T-TURNAROUND

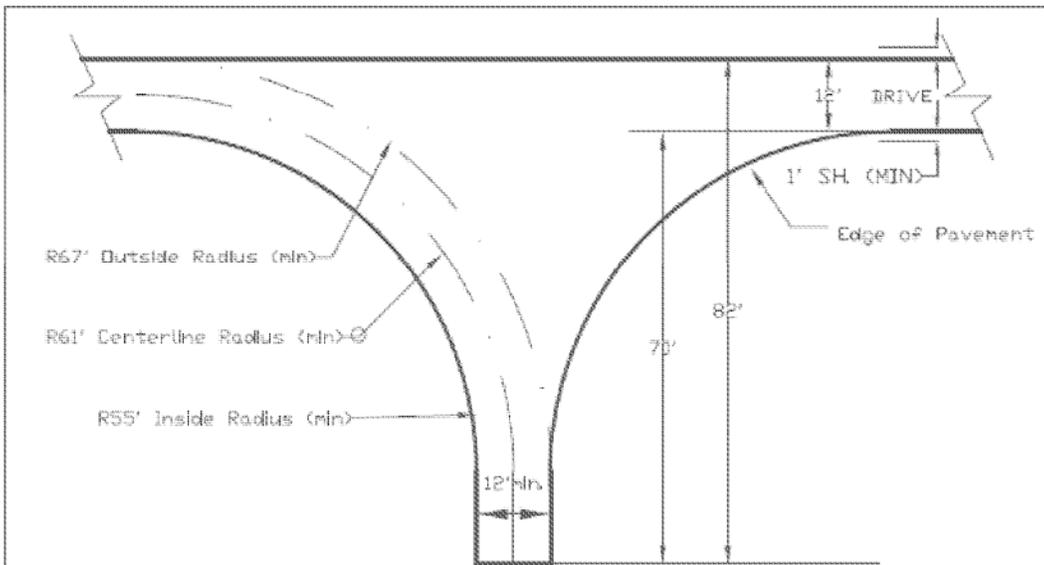


FIG. 6 - 12' T-TURNAROUND

City Of Steamboat Springs Fire & Rescue	Fire Apparatus Road Standards	
	Drawn by: BSB	
PO BOX 775088 STEAMBOAT SPRINGS, CO (970) 871-8215 FAX (970) 871-8306	Scale: N.T.S.	Date: 6/27/06
	Revision description:	
	Sheet number of	

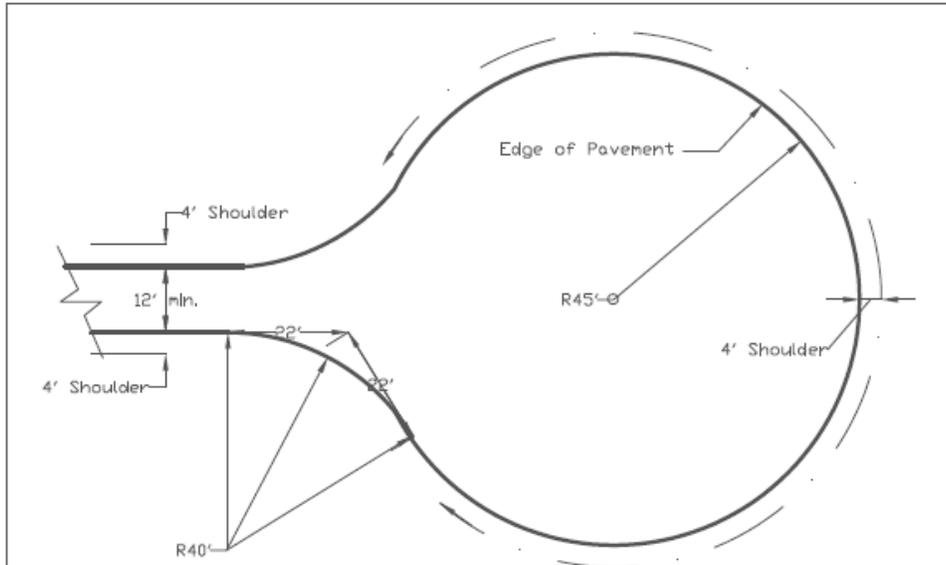
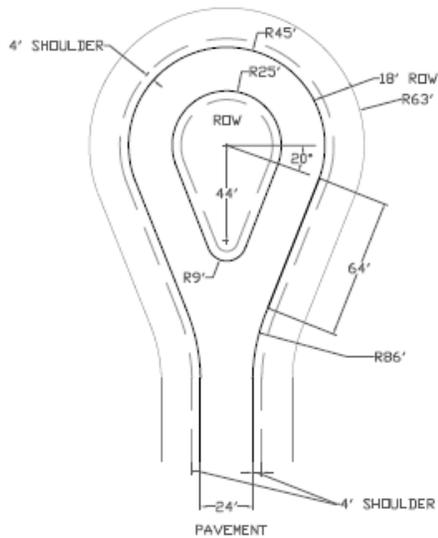


FIG. 7A - STANDARD CUL-DE-SAC



NOTE:

1. MINIMUM PARAMETERS ARE SHOWN ASSUMING IDEAL CONDITIONS BASED ON AASHTO TURNING MOVEMENTS FOR CITY TRANSIT BUS (CITY-BUS) DESIGN VEHICLE. VARIATION FROM THESE STANDARDS MAY BE REQUIRED TO ACCOMMODATE ACTUAL SITE CONDITIONS.
2. CUL-DE-SAC DESIGN MUST BE APPROVED BY THE PUBLIC WORKS DIRECTOR.
3. CUL-DE-SAC APPROACH SHALL BE ALIGNED TO ENCOURAGE COUNTER-CLOCKWISE CIRCULATION. IN NO WAY SHALL THE ROADWAY APPROACH BE ALIGNED WITH THE RETURN FLOW OF THE CUL-DE-SAC.
4. ISLAND LANDSCAPING SHALL BE PRIVATELY MAINTAINED.
5. LANDSCAPING SHALL CONSIST OF NATIVE PLANT MATERIAL OR OTHER AS APPROVED BY THE PUBLIC WORKS DIRECTOR. ALL ELEMENTS MUST PROVIDE APPROPRIATE SIGHT DISTANCE FOR CUL-DE-SAC USERS.
6. CUL-DE-SAC SHALL BE MARKED ON BOTH SIDES AS A FIRE LANE INDICATED BY PERMANENT "NO PARKING - FIRE LANE" SIGNS. SIGNS SHALL HAVE A MINIMUM DIMENSION OF 12 INCHES WIDE BY 18 INCHES HIGH AND HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND.

FIG. 7B - MODIFIED CUL-DE-SAC

City Of Steamboat Springs Fire & Rescue	Fire Apparatus Road Standards	
	Drawn by: BSB	
PO BOX 775088 STEAMBOAT SPRINGS, CO (970) 871-8216 FAX (970) 871-6306	Scale: N.T.S.	Date: 6/27/06
	Revision description:	
	Sheet number of	

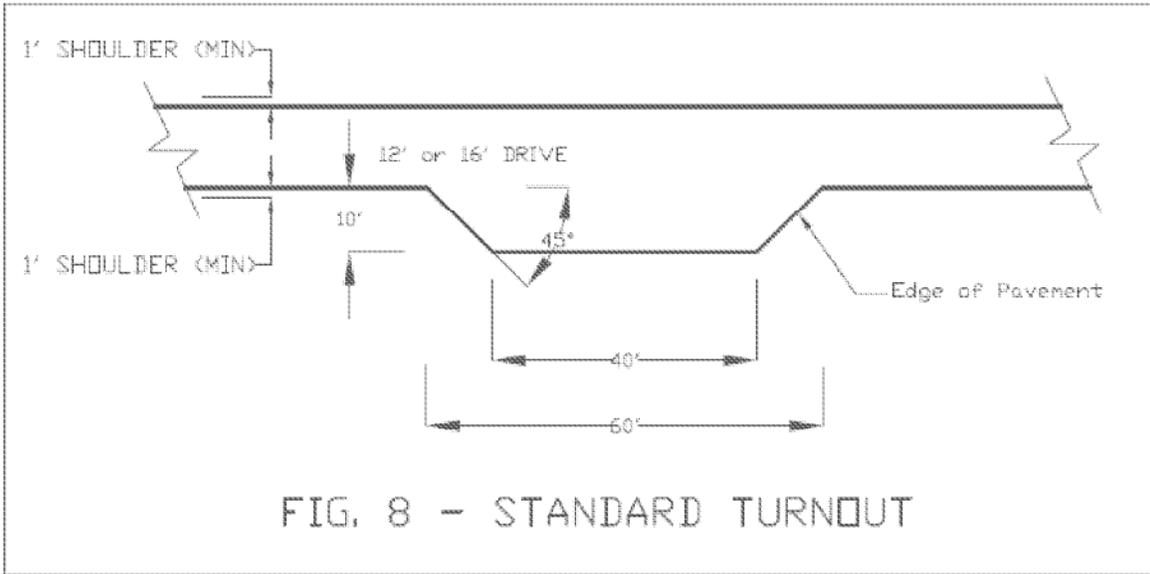


FIG. 8 - STANDARD TURNOUT

City Of Steamboat Springs Fire & Rescue	Fire Apparatus Road Standards
PO BOX 775088 STEAMBOAT SPRINGS, CO (970) 871-8216 FAX (970) 871-6306	Drawn by: BSB Scale: N.T.S. Date: 6/27/06 Revision description: Sheet number of