CITY OF NORTH LAS VEGAS FIRE DEPARTMENT
FIRE ENGINEERING
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CIVIL IMPROVEMENT PLAN REQUIREMENTS
RESIDENTIAL DEVELOPMENTS

Civil improvement plans for residential developments shall comply with the Fire Code including, but not limited to, the following:

General

1. The General Fire Department Notes from the City of North Las Vegas General Project Requirements and General Notes shall be provided on the plans.

Access

1. Fire department access roads are required to be provided to within 150 feet of all exterior ground floor walls of all buildings as the hose lays around obstructions.
2. Fire Department access roads shall have an all weather surface and be capable of supporting the weight of Fire Department apparatus.
3. A minimum of two means of fire apparatus access is required for groups of 25 or more residential dwelling units.
4. Access lanes shall have a minimum width of 24 feet, a minimum inside turning radius of 28 feet, and a minimum outside turning radius of 52 feet.
5. Dead-ends longer than 150 feet shall be provided with a clear turnaround with a diameter of 91 feet to back of curb.
6. The grade of fire apparatus access lanes shall not exceed 12 percent. Angles of approach and angles of departure must not exceed 6 percent for 25 feet before or after the grade change.
7. Red-painted curbs and appropriate signage are required to maintain the minimum required width of the access lane. For lanes having a minimum clear width of 24 feet but with clear width less than 32 feet wide, both sides of the lane shall be marked. For lanes having a minimum clear width of 32 feet but having a clear width less than 40 feet wide, one side of the lane must be marked, and parallel parking is allowed on the other side of the lane. For lanes having a clear width of 40 feet or greater, marking of the curbs and posting of fire lane signs is not required. When the measurement of the street is given from Back of Curb to Back of Curb, the measurement must be a minimum of one foot greater than the clear width required; i.e. a street measuring 41 feet wide from Back of Curb to Back of Curb has a clear width of 40 feet.

8. Where required in number 7 above, signage shall be posted at the two ends of the fire lane, and additionally as required to provide maximum separation of 100 feet between signs. Signage shall state "No Parking Fire Lane". A detail of the "No Parking, Fire Lane" sign shall be included on the plans.
9. Gates across access lanes shall have a minimum 24 feet clear opening width and be operable by the fire department. Gates shall be electrically powered, provided with an AVI loop, and have a back-up battery system in case of normal power loss. The AVI loop shall be located 10 feet perpendicularly from the face of the access gate along the route of arrival, 10 feet from the public right-of-way, and the loop shall be marked by way of a green reflective marker on the access lane. A note on the plans shall be provided stating "Gate shall be 24 ft clear opening width, electric and equipped with AVI loop opening system"
10. Where the developer chooses to provide a dedicated emergency-only access, such access must be paved or provided with suitable alternate, such as approved pavers; have a minimum width of 24 feet; be provided with electric gate with AVI and battery back-up in gated subdivisions (a manual gate with Knox box on both sides or Knox padlock accessible from both sides is acceptable for detached single family home subdivisions); and provide a driveway from the perimeter street to the access lane complying with Clark County Standard Drawing No 224 or No 226. For manual gates, a note on the plans shall be provided stating "Gate shall be 24 ft clear opening width with Knox box on both sides or Knox padlock accessible from both sides." For electric gates, a note on the plans shall be provided stating "Gate shall be 24 ft clear opening width, electric and equipped with AVI loop opening system."

<u>Water Supply</u>

1. Fire hydrants must be spaced at a maximum separation of 500 feet along the required apparatus access lane in residential areas and 1,000 feet where not required for structures to provide for transportation hazards. Hydrant spacing may be increased by 100 feet if all structures within the development are provided with fire sprinkler protection. There is no allowable increase for hydrants installed for transportation hazards.
2. A fire hydrant is required within 300 feet of each residential property, as measured along the street from the hydrant to the property line furthest from the hydrant, at a right angle to the street.
3. Sectional valves must be provided on the underground piping so that no more than two fire hydrants are out of service due to a break in the underground piping.
4. Two sources of water supply are required for every group of four or more fire hydrants.
5. A minimum of three feet of clear space is required around the entire circumference of all fire hydrants.
6. No fire hydrant shall be located within six feet of a driveway, power pole, or light standard.
7. Fire hydrants shall be located adjacent to apparatus access lanes and a minimum of four feet and a maximum of seven feet from back of curb. Provide a detail on the plans.

8. A fire flow chart is required. Indicate the maximum square footage of the proposed buildings, the type of construction, the occupancy group of each building in accordance with the Building Code, the height of each building, the number of stories, whether each building is provided with fire sprinklers, and the resulting fire flow required for the development in accordance with Appendix III-A in the Fire Code
9. The maximum allowable reduction in required fire flow for fire sprinklered facilities is 50%. The fire flow for buildings more than three stories in height may be reduced by a maximum of 25%. See Appendix III-A in the Fire Code for minimum required fire flows.
10. Any building with an area of 5,000 square feet or greater must be provided with fire sprinklers.
11. All buildings that are R-1 or R-2 Occupancy per the Building Code shall be fire sprinklered regardless of size.
12. When fire sprinklers are required for an R-3 Occupancy building and the supply is by a combined domestic and fire water service line, a minimum one inch water meter shall be provided.