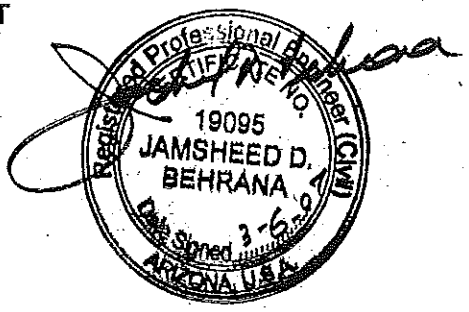
67-2047

PUBLIC WATER DISTRIBUTION REPORT

CANYON TRAILS TOWNE CENTER
GOODYEAR, ARIZONA



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GENERAL DESCRIPTION

Canyon Trails Towne Center is a 90 ± acre commercial retail center located on the NEC of Yuma Road and Cotton Lane, within the City of Goodyear, more specifically, located within a portion of Section 12, Township 1 North, Range 2 West of the Gila and Salt River Base and Meridian, City of Goodyear, Maricopa County, Arizona. The commercial center consists of a total building square footage of ≈ 860,000 SF.

WATER AVAILABILITY

Currently there is an existing 24" line on Yuma Road and an existing 12" stub on the NEC of the site on Canyon Trails Blvd. In accordance with the Master Plan prepared by Coe & Van Loo and as approved by City of Goodyear, this project will also be constructing a 16" water line from Yuma north to Canyon Trails Boulevard along the east side of Cotton Lane as a part of the offsite plans, plus the 12" will be extended west along Canyon Trails Boulevard to tie into the above described 16" water main. This project proposes an onsite loop system that will tie into the above described lines to serve the retail center.

WATER PROJECTION FOR CANYON TRAILS TOWNE CENTER

Average Daily Flows

For the purposes of this report, the average daily flow will be based on the City of Goodyear Engineering Design Standards and Policies Manual, which requires the use of 0.90 gallons per sq. ft. per day for a commercial site. Total building square footage ≈ 860,000, (see attached spreadsheet with meter sizes) therefore:

(0.90 gal/sf/day) x (860,000 sf) = 774,000 gpd

ADF = 774,000 gpd

Maximum Daily Flows

Per C.O.G. design standards, the system is required to provide maximum day demands (2 .0 times average daily flow) plus additional fire flows. Per City code and assuming a building type of V-B

(IFC building construction type), a 4-hour duration, a 50% reduction for sprinklers, and the largest building square footage, the minimum fire flow requirement would be 2,750 gpm*.

Max. Day + Fire = (Average Daily Flow * 2) + Fire Flows

Max Day = 774,000 gpd * 2 = 1,548,000 gpd (1.55 MGD)

= 1,548,000 gpd * (1 day/1440 min.) = 1075 gpm

Max Day + Fire = 1075 gpm + 2,750 gpm = 3,825 gpm

MDF + FIRE = 3,825 gpm

*Please note that this fire flow requirement is based on the assumptions listed above. The actual fire flow is to be determined by the City of Goodyear Fire Marshal.

Peak Hour Flows

Peak hour demands are equal to four (4) times that of the average daily flow:

Peak Hr = 4 * 774,000 gpd = 3,096,000 gpd (3 ± MGD)

= 3,096,000 gpd * (1 day/24 hrs) = 129,000 gal/hr

PEAK HR = 129,000 gal/hr

A fire flow test was also conducted on Yuma Road off the existing 24" line, plus a report was also prepared to ascertain the largest anchor on the site had sufficient fire flow at the base of the user. It is our opinion that these tests were taken on a single line. Once this project is constructed and the looping as proposed will increase the supply and pressure considerably.