

RECEIVED

STEWART & ASSOCIATES
Consulting Engineers and Surveyors

DEC 14 1987

*Approved by
Stormwater Utility
12/14/87*

December 11, 1987

Mr. Robert Smith
Storm Drainage Utility
City of Fort Collins
P.O. Box 580
Fort Collins, CO 80522

Dear Bob:

This is concerning the storm drainage at the KCOL studio at 1612 Laporte Avenue, Fort Collins, Colorado. The site is made up of a 100 foot by 155 foot (measured to centerline of Laporte Avenue) tract along with a 20 foot by 398 foot strip of land that ties their studio to their radio tower property. For the purpose of this drainage report, we are considering only the 100 foot by 155 foot tract. The tract is a part of the original City of Fort Collins drainage basin.

The studio is a non-conforming use in a R.L. zoning. KCOL would like to build a 620 square foot addition on the rear of their building. The addition would only add 333 square feet of hard surfacing since there is existing concrete on part of the proposed addition.

The rear half of the lot that is adjacent to the radio station on the North and faces Layland Court is the only offsite area that drains across the KCOL property.

The site drains from North to South at about 3.00% grade. The drainage then flows Easterly in the existing gutter pan along the North side of Laporte Avenue.

Since the impervious ground cover would only be increased by 2%, the additional runoff is very small. The existing site is considered to be historic since the radio station has been at this site for more than 40 years. There is no detention on the existing site nor in the adjacent neighborhood. However, we have included some detention along the East line of the existing building. The East half of the building and the East half of the offsite drainage area will drain into the small ponding area. The ponding area is shown on the enclosed plan and the calculations of the storm water runoff quantities are enclosed.

If you have any questions regarding this proposed addition to a non-conforming use, please call.

Sincerely,

Richard A. Rutherford

Richard A. Rutherford, P.E. & L.S.
President

James H. Stewart
and Associates, Inc.
214 N. Howes Street
P.O. Box 429
Fort Collins, CO 80521

1km

STEWART & ASSOCIATES
Consulting Engineers and Surveyors

December 11, 1987

Mr. Robert Smith
Storm Drainage Utility
City of Fort Collins
P.O. Box 580
Fort Collins, CO 80522

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The rear half of the lot that is adjacent to the radio station on the North and faces Layland Court is the only offsite area that drains across the KCOL property.

The site drains from North to South at about 3.00% grade. The drainage then flows Easterly in the existing gutter pan along the North side of Laporte Avenue.

Since the impervious ground cover would only be increased by 2%, the additional runoff is very small. The existing site is considered to be historic since the radio station has been at this site for more than 40 years. There is no detention on the existing site nor in the adjacent neighborhood. However, we have included some detention along the East line of the existing building. The East half of the building and the East half of the offsite drainage area will drain into the small ponding area. The ponding area is shown on the enclosed plan and the calculations of the storm water runoff quantities are enclosed.

If you have any questions regarding this proposed addition to a non-conforming use, please call.

Sincerely,



Richard A. Rutherford, P.E. & L.S.
President

James H. Stewart
and Associates, Inc.
214 N. Howes Street
P.O. Box 429

1 km

STEWART & ASSOCIATES
Consulting Engineers and Surveyors

November 27, 1987

RECEIVED

DEC 11 1987

Planned survey letter coming

Mr. Robert Smith
Storm Drainage Utility
City of Fort Collins
P.O. Box 580
Fort Collins, CO 80522

Dear Bob:

This is concerning the storm drainage at the KCOL studio at 1612 Laporte Avenue, Fort Collins, Colorado. The site is made up of a 100 foot by 155 foot (measured to centerline of Laporte Avenue) tract along with a 20 foot by 398 foot strip of land that ties their studio to their radio tower property. For the purpose of this drainage report, we are considering only the 100 foot by 155 foot tract. The tract is a part of the original City of Fort Collins drainage basin.

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The site drains from North to South at about 3.00% grade. The drainage then flows Easterly in the existing gutter pan along the North side of Laporte Avenue.

Since the impervious ground cover would only be increased by 2%, the additional runoff is very small. The existing site is considered to be historic since the radio station has been at this site more than 40 years. There is no detention on the existing site nor in the adjacent neighborhood. We therefore are requesting that no detention be required and that no changes be required to the drainage facilities.

The calculations of the storm water runoff quantities and a copy of the site plan are enclosed.

If you have any questions regarding this proposed addition to a non-conforming use, please call.



Sincerely,

Richard A. Rutherford
Richard A. Rutherford, P.E. & L.S.
President

James H. Stewart
and Associates, Inc.
214 N. Howes Street
Fort Collins, CO 80522

SUBJECT K.C. ^ LP.A.R.DATE 11/27/871612 LAMORTE AVE

SHEET NO. _____

PROJECT NO. _____

TOTAL AREA = 0.36 ACRES

C = 0.85

$$T_c = \frac{1.87(1.1 - 0.85)}{1.8^{1/3}} 235^{1/2} = 6 \text{ MIN.}$$

$$\text{DEV. } Q_{2yr} = 0.85 \times 3.0 \times 0.36 = 0.92 \text{ C.F.S.}$$

$$\text{DEV. } Q_{10yr} = 0.85 \times 5.2 \times 0.36 = 1.59 \text{ C.F.S.}$$

$$\text{DEV. } Q_{100yr} = 1.25 \times 0.85 \times 7.2 \times 0.36 = 2.59 \text{ C.F.S.}$$

AREA DRAINING TO DETENTION = 6600 S.F. = 0.15 AC.

ASSUME $T_c = 5 \text{ MIN.}$

$$Q_{2yr \text{ HIST.}} = 0.2 \times 3.2 \times 0.15 = 0.10 \text{ C.F.S.}$$

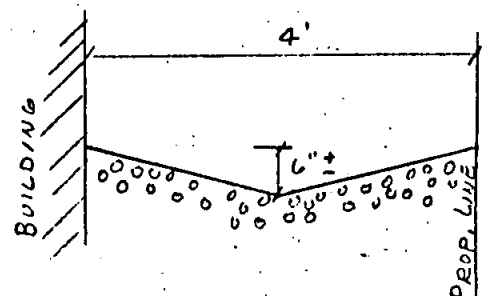
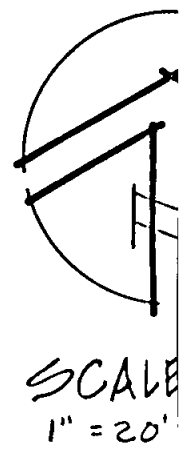
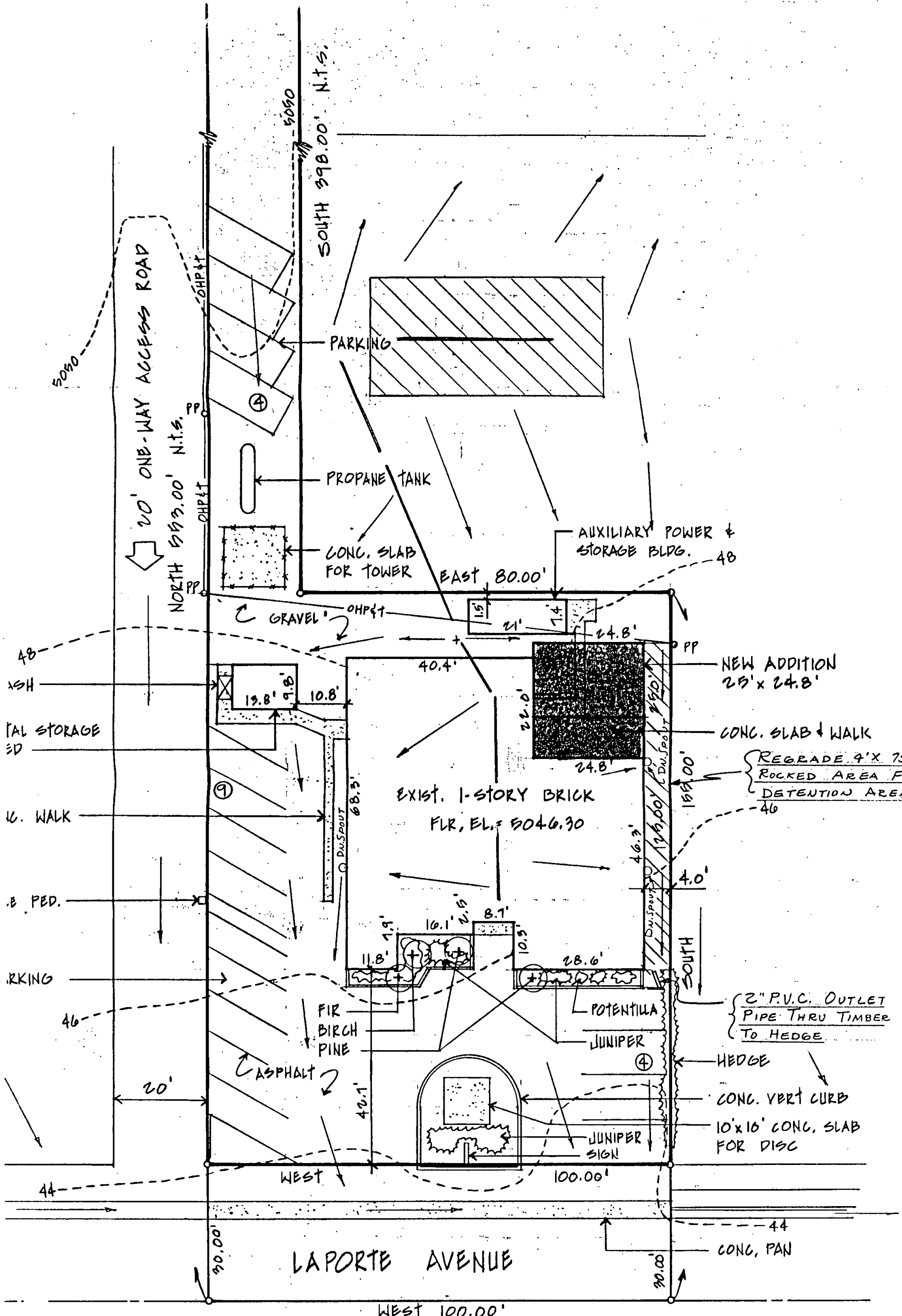
$$Q_{2yr \text{ DEV.}} = 0.5 \times 3.2 \times 0.15 = 0.24 \text{ C.F.S.}$$

$$Q_{100yr} = 1.25 \times 0.50 \times 7.2 \times 0.15 = 0.68 \text{ C.F.S.}$$

$$V = \sqrt{2gh} = \sqrt{64.4 \times 0.5} = 5.67 \text{ ft/sec.}$$

$$Q = VA \quad 0.1 = 5.67A \quad A = 2.5 \text{ in}^2$$

USE 2" F.V.C. PIPE OUTLET PIPE ←



SECTION THRU ROCK DETENTION AREA