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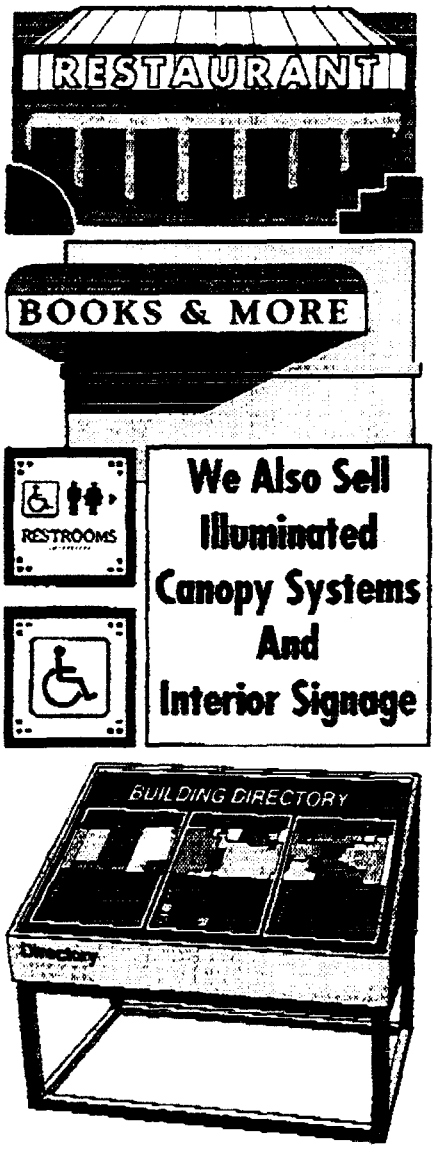
File SPR-1996-235 Name: Norwest Bank Parking Lot – 2808 North Avenue

Present	Scanned	A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, items are found on the list but are not present in the scanned electronic development file because they are already scanned elsewhere on the system. These scanned documents are denoted with (**) and will be found on the ISYS query system in their designated categories. Documents specific to certain files, not found in the standard checklist materials, are listed at the bottom of the page. Remaining items, (not selected for scanning), will be listed and marked present. This index can serve as a quick guide for the contents of each file.
X	X	**Table of Contents**
		***Review Sheet Summary**
		***Application form**
X		Review Sheets
X	X	Receipts for fees paid for anything
		***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map.
		Evidence of title, deeds, easements
		***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or non-bound reports
		Traffic studies
X	X	***Review Comments**
X	X	***Petitioner's response to comments**
		***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**

DOCUMENT DESCRIPTION:

X	X	Final Drainage Report – 12/9/96			
X	X	Sign Illustration			
X	X	Planning Clearance - ** - issued 12/20/96			
X	X	Site Plan			



Facsimile Message Coversheet

Gordon Sign Company

2930 W. 9th Ave. • Denver, CO 80204 • (303) 629-6121

DATE: 4-18-97 PAGES FOLLOW 1

TO: Kristen Ashbeck FAX NUMBER: 970-244-1599

FROM: Debra Ramirez FAX NUMBER: (303) 629-1024

RE: Norwest Bank

MESSAGE:

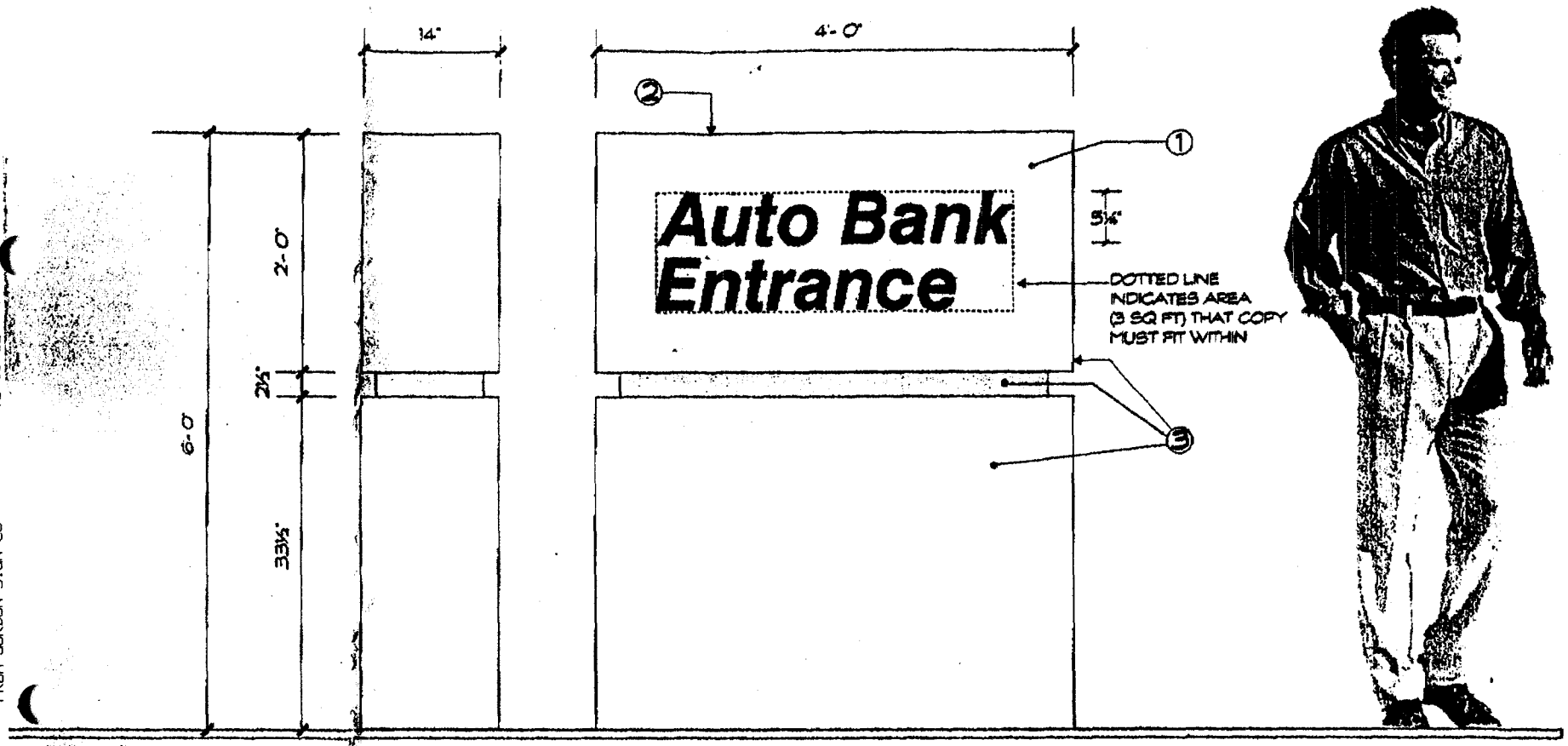
We have reduced the copy area to 3 square feet and taken off Norwest Banks name.

Please let me know as soon as you can if this is OK.

also Do we need a permit now that the sign is three square feet?

Thank you

Debra Ramirez



© D.F. ILLUMINATED DISPLAY 1"= 1'-0"

FABRICATE AND INSTALL NEW ALUM DISPLAY (VERIFY LOCATION)
T-12 ILLUMINATION

① PAINT ⅛" ALUMINUM FACE NORWEST BLUE - ROUT COPY, AND BACK UP WITH WHITE PLEX - NO VISIBLE SEAMS AND FASTENERS.

ROBERT D. JENKINS/AIA
ARCHITECT

October 24, 1996

GENERAL PROJECT REPORT

Norwest Bank - North Avenue
2808 North Avenue
Grand Junction, CO 81501

Norwest Bank - North Avenue proposes to convert the vacant lot directly north of the main Bank building and west of the Drive-Up Banking facility to a new employee parking lot providing for 47 parking spaces, and a new driveway approach to the existing Drive-Up facility.

Norwest Bank owns property east of Court Road which it currently utilizes for employee parking. The proposed new parking lot would provide for 47 employee parking spaces to replace current employee parking. The new lot would be entered from an existing curb cut on 28 Road, and would provide for close-in pedestrian access to the bank.

The new driveway to the existing Drive-Up facility would utilize an existing curb cut on 28 Road at the north end of the lot. The new Drive-Up driveway would eliminate all entering Drive-Up traffic from the main vehicle approach road north of the Main Bank Building and would serve to reduce congestion at the Bank customer parking lots and the Bank building main entrance. It would also increase Drive-Up stacking space with a two lane entrance to the Drive-Up facility.

Existing landscaping would be continued, with a 5' high wood fence and new trees along the entire north property line, new trees between the new parking lot and the existing Drive-Up facility, and shrubs at the interior parking islands. The landscaped areas would be fully sprinklered.

A new concrete sidewalk and curb, together with new concrete driveways, would be added along 28 Road and open space between sidewalk and the new parking lot would be planted in grass.

New parking lot lighting would be added, and parking lot drainage would be incorporated in the existing on-site storm sewer system with two additional catch basins.

1000 N. 9TH STREET SUITE 35 GRAND JUNCTION, COLORADO 81501
(970) 256-1980 FAX (970) 256-1953

Dave Phillips
Bill Petty
Bob Jenkins

REVIEW COMMENTS

FILE #SPR-96-235 **TITLE HEADING:** Parking Lot

LOCATION: 2808 North Avenue

PETITIONER: Norwest Bank

PETITIONER'S ADDRESS/TELEPHONE: 2808 North Avenue
Grand Junction, CO 81501
244-4808

PETITIONER'S REPRESENTATIVE: Rob Jenkins

STAFF REPRESENTATIVE: Kristen Ashbeck

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS.

CITY COMMUNITY DEVELOPMENT **11/13/96**
Kristen Ashbeck **244-1437**

1. What is the justification for the need for this new parking area? During a site visit during business hours, the existing lot appeared at least 50% vacant. In order to determine actual requirement, what is the total square footage of the bank building?
2. Will existing fencing on east and south sides of proposed lot be retained with a break for the pedestrian access or removed?
3. The total parking facility for Norwest Bank, including this proposal exceeds 50 parking spaces. Therefore, the landscaping and lighting requirements of section 5-5-1 F. shall apply to the new area. Primarily, what appears to be missing is the street frontage landscaping.

CITY DEVELOPMENT ENGINEER **11/14/96**
Jody Kliska **244-1591**

1. The Public Works Department has determined the existing curb cuts may not be reused. Section 4.2 of the Transportation Engineering Design Standards gives specific criteria for spacing of driveways, which is not met by the existing drives. It appears the current access amply provides access and circulation to the site. There are safety concerns with the traffic on 28 Road because there is no left turn lane for inbound traffic to this site.
2. If the intent is to provide on-site detention, then a drainage report prepared by a licensed engineer is required. The drainage fee may be an option, but I need to know what the existing inlet drains to.

CITY UTILITY ENGINEER **11/14/96**
Trent Prall **244-1590**

No objections.

CITY FIRE DEPARTMENT **11/4/96**
Hank Masterson **244-1414**
The Fire Department has no problems with this proposal.

CITY POLICE DEPARTMENT **10/30/96**
Lisa Dicamillo **244-3587**
No comment.

MESA COUNTY BUILDING DEPARTMENT **11/4/96**
Bob Lee **244-1656**
No comment.

PUBLIC SERVICE COMPANY **11/7/96**
John Salazar **244-2781**
GAS & ELECTRIC: No objections.

ROBERT D. JENKINS/AIA
ARCHITECT

November 21, 1996

REVIEW COMMENTS - RESPONSE

Norwest Bank - North Avenue
2808 North Avenue
Grand Junction, CO 81501

A. City Community Development
   1. Justification. Norwest Bank owns property east of Court Road which it currently utilizes for employee parking. The proposed new parking lot would provide for 45 employee parking spaces to replace current employee parking. The new lot would be entered from a new curb cut on the Bank's primary access road and would provide for close-in pedestrian access to the bank for employees.
   2. Fencing. Fencing will be removed between the new parking lot and the Bank Drive-up and will be removed on the south side of the new parking lot, between the parking lot and the east-west, three-lane access road. Fencing will be installed along the north property line as shown on the drawings.
   3. Landscaping. Street frontage landscaping is shown on 28 Road, to include a hedge, street trees, and grass.

B. City Development Engineer
   1. Curb Cuts. Curb cuts and access drives have been revised as shown on the drawings.
   2. A Drainage Report shall be submitted by Phil Hart, P.E., Civil Engineer.

C. Improvements Agreement & Guarantee
   1. The Improvements Agreement & Guarantee shall be executed by Norwest Bank for improvements in the right-of-way.

Respectfully submitted,

Robert D. Jenkins/AIA

C:\OFFICE\WPWIN\WPDOCS\NORNA.607\REVIEW.607

1000 N. 9TH STREET SUITE 35 GRAND JUNCTION, COLORADO 81501
(970) 256-1980 FAX (970) 256-1953

FINAL DRAINAGE REPORT FOR:

NORWEST BANK N.A. - PARKING LOT EXPANSION

Grand Junction, Colorado
December 9, 1996

Prepared For:

Robert Jenkins, AIA
1000 N. 9th., Unit 35
Grand Junction, CO 81501
(970) 256-1980

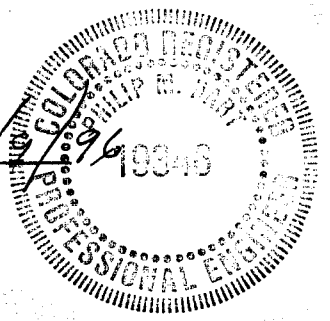
Prepared By:

LANDesign L.L.C.
259 Grand Avenue
Grand Junction, CO 81501
(970) 245-4099

Prepared By: 12/09/96
Monty D. Stroup

"I hereby certify that this report for the final drainage design of the NORWEST BANK N.A. Parking Lot Expansion was prepared under my direct supervision."

Reviewed By: 12/9/96
Philip M. Hart, P.E.
Colorado Reg. No. 19346



I. General Location and Description

A. Site and Major Basin Location:

The proposed NORWEST BANK Parking Lot Expansion is bounded to the north by an existing Dental Clinic office and parking area, to the west by 28 Road, to the south by the NORWEST BANK driveway access and parking area and to the east by the NORWEST BANK Drive Up Teller facility.

B. Site and Major Basin Description:

The project site contains approximately 0.76 acres (including 28 Road) and is planned for 45 parking spaces. The only offsite tributary sub-basin A1, (0.23 acres), 28 Road is shown on Exhibit 1.1 and was included in the calculations for total site runoff.

The project site has been striped and is currently void of vegetation.

Based on the "Soil Survey, Grand Junction Area, Colorado" (Reference 2, Exhibit 1.0) onsite soils are defined as (Ba), hydrological soil group "C" and (Bc), also hydrological soil group "C".

II. Existing Drainage Conditions

A. Major Basin:

Generally the area wide basin consists of the NORWEST BANK Building and associated parking areas. Flows from areas north of the proposed project are intercepted and conveyed by 28 Road curb and gutter north to an existing sump inlet at the intersection of 28 Road and Bunting Avenue. Runoff from areas east and south of the site are conveyed by existing parking lot improvements to an existing sump inlet centered within the NORWEST BANK driveway access south of the proposed parking area. Runoff from the site is conveyed south by 28 Road curb and gutter to an existing sump inlet located approximately 250 feet south of the project site in the east R.O.W. of 28 Road.

B. Site:

Historically the property drains in a sheetflow fashion from the northeast to the southwest at approximately 0.50% slope where it is intercepted by the 28 Road and is subsequently conveyed south to an existing sump inlet in 28 Road, north of North Avenue.

Historic use of the property is defined as commercial in nature. During the 1970's and 1980's the site was used for a 4 bay car wash with asphalt ingress and egress areas. Based on this passed use it is assumed that historically 75 percent of the site was asphalt and 25 percent was bare ground and gravel surface.

III. Proposed Drainage Conditions

A. Changes in Drainage Patterns:

Historic offsite drainage patterns and the way in which the flows exit the site shall be altered with the installation of storm sewer.

The proposed site plan divides the site into 4 sub-basins labeled as A1 (0.23 acres), A2 (0.22 acres), A3 (0.24 acres) & A4 (0.07 acres). Runoff from sub-basin A1 shall be conveyed via 28 Road curb and gutter to a proposed sump inlet labeled Inlet #1. Runoff from sub-basin A2 shall be directed via parking lot grading to a proposed sump inlet labeled Catch Basin #2. Runoff from Sub-basin A3 shall be conveyed via parking lot grading to a proposed sump inlet labeled Catch Basin #3. Runoff intercepted by these inlets shall be conveyed via proposed 12 inch RCP storm sewer to the existing sump inlet and storm sewer located in the NORWEST BANK driveway access, south of the site. Runoff from sub-basin A4 shall be conveyed on the surface via parking lot improvements directly to the existing sump inlet and storm sewer located in the NORWEST BANK driveway access, south of the site.

B. Maintenance Issues:

Access to and through the site for maintenance shall be by paved driveway access and parking lot improvements.

IV. Design Criteria & Approach

A. General Considerations:

The "Storm Water Management Manual (SWMM), City of Grand Junction" (Reference 1) was used as the basis for analysis and facility design.

Historic use of the property results in a Runoff "C" value of 0.91 verses a Developed Runoff 'C' value of 0.95. Due to the similarity of Historic and Developed uses onsite detention requirements and drainage fees in leu of for this project are considered mitigated.

B. Hydrology:

As the project is a commercial development containing approximately 0.76 acres the "Rational Method" was used to calculate historic and developed flow rates. The minor storm event was not considered relevant. The major storm is the 100 year frequency rainfall event. Because all inlets operate under sump conditions only the 100 Year storm is analyzed.

Runoff Coefficients used in the computations are based on the most recent City of Grand Junction criteria as defined in Reference 1 and shown on Exhibit 3.0.

As the project is located within the Grand Junction Urbanized area the Intensity Duration Frequency Table (IDFC) shown on Exhibit 2.0 was used for design and analysis.

Times of Concentration were calculated based on the Average Velocities For Overland Flow and the Overland Flow Curves as provided in Reference 1 and shown on Exhibit 4.0.

C. Hydraulics:

All site facilities and conveyance elements are designed in accordance with the City of Grand Junction guidelines as provided in Reference 1.

V. Results and Conclusions

A. Runoff Rates for the 100 Year Storm Event:

The calculated runoff times of concentration and runoff rates are presented on Exhibits 5.0, 6.0, 7.0 and 8.0.

The proposed storm sewers have been designed to convey the 100 storm event. Capacity calculations are shown on Exhibits 9.0, 10.0 and 11.0.

This Final Drainage Study has been prepared to address site specific drainage concerns in accordance with the requirements of the City of Grand Junction, Colorado. The Appendix of this report includes criteria, exhibits, tables and design nomographs used in the analysis and design.

VI. References

1. Storm Water Management Manual (SWMM), City of Grand Junction, Colorado, Department of Public Works, June, 1994.

2. Soil Survey, Grand Junction Area, Colorado, Series 1940, No. 19, U.S. Department of Agriculture, issued November, 1955.

REPRODUCED FROM FIGURE 15.2, SCS 1972

NORWEST BANK - PARKING LOT

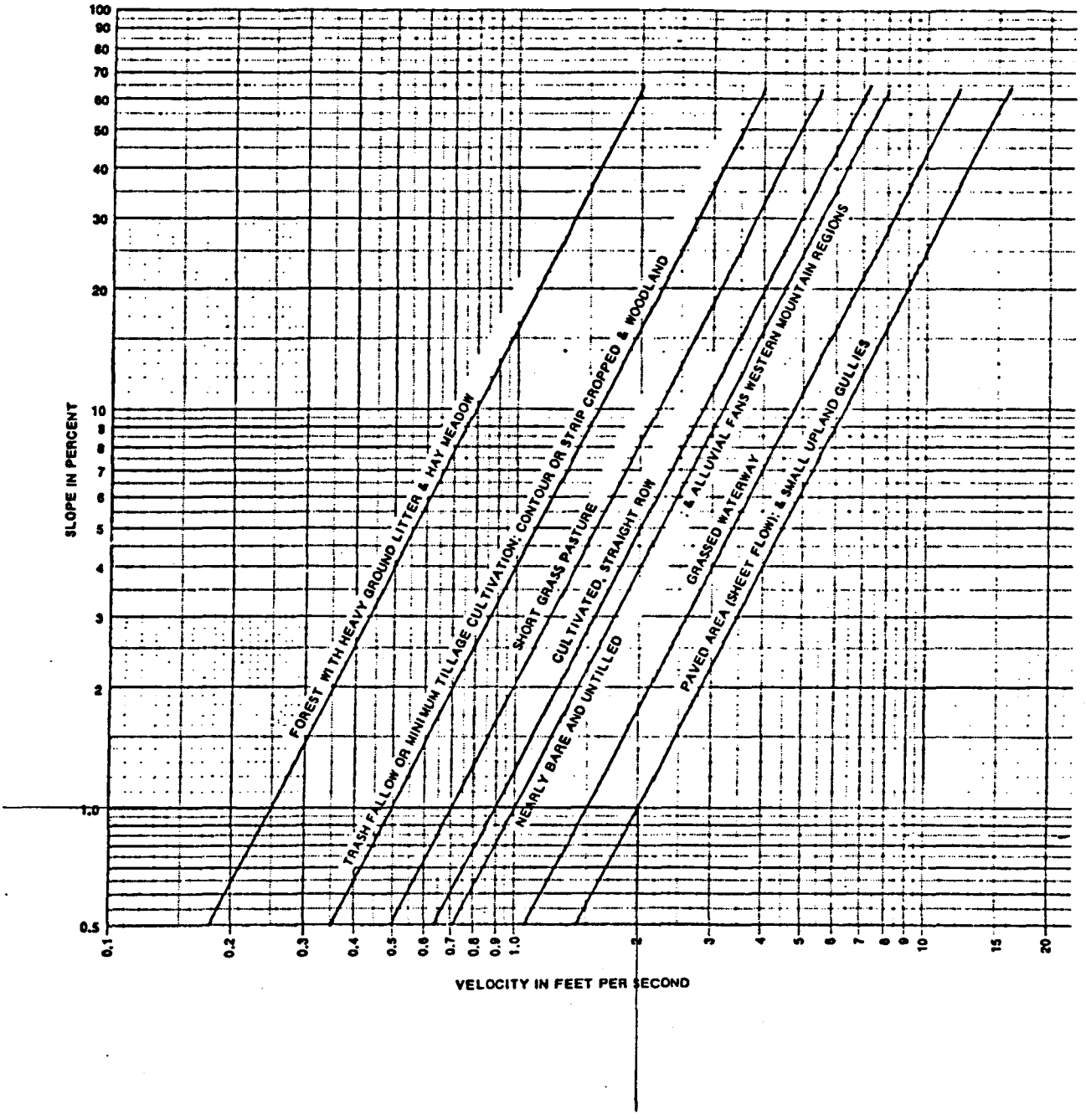


EXHIBIT 4.0

DETERMINATION OF "Ts"	FIGURE "E-3"

TIME OF CONCENTRATION CALCULATIONS

(100 YEAR STORM EVENT)

PROJECT: NORWEST BANK - PARKING LOT
JOB # 96098.40
LANDesign L.L.C.

(OVERLAND FLOW)
HISTORIC CONDITION

DATE: 09-Dec-96

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL Tc	REMARKS
BASIN	C 10	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.	
H1	0.91	0.76	235.0	0.50	6.6					6.6	235.00	11.31	6.60	SHEETFLOW - ASPHALT TO V-PAN IN 28 ROAD AT BANK DRIVEWAY
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

FORMULAS

$$Ti = \frac{1.8(1.1-C)(L)^{1/2}}{S^{1/3}}$$

$$Tt = \frac{(L)}{60 \text{ SEC/MIN. (V F.P.S.)}}$$

EXHIBIT 5.0

TIME OF CONCENTRATION CALCULATIONS

(100 YEAR STORM EVENT)

PROJECT: NORWEST BANK - PARKING LOT
JOB # 96098.40
LANDesign L.L.C.

(OVERLAND FLOW)
DEVELEOPED CONDITION

DATE: 09-Dec-96

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL Tc	REMARKS
BASIN	C 100	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.	
A1	0.95	0.23	10.0	1.00	0.85									SHEETFLOW - ASPHALT
						188.0	1.00	2.00	1.57	2.42	198.00	11.10	5.00	GUTTER FLOW TO INLET #1
--	--	--	--	--	--	--	--	--	--	--	--	--	--	----
A2	0.95	0.22	68.0	1.00	2.23									SHEETFLOW - ASPHALT PARKING
										2.23	68.00	10.38	5.00	AREA TO CATCH BASIN #2
--	--	--	--	--	--	--	--	--	--	--	--	--	--	----
A3	0.95	0.24	65.0	1.00	2.18									SHEETFLOW - ASPHALT PARKING
										2.18	65.00	10.36	5.00	AREA TO CATCH BASIN #3
--	--	--	--	--	--	--	--	--	--	--	--	--	--	----
A4	0.95	0.07	10.0	1.00	0.85									SHEETFLOW - ASPHALT
						96.0	1.00	2.00	0.80	1.65	106.00	10.59	5.00	GUTTER FLOW TO EX. PARKING LOT
--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

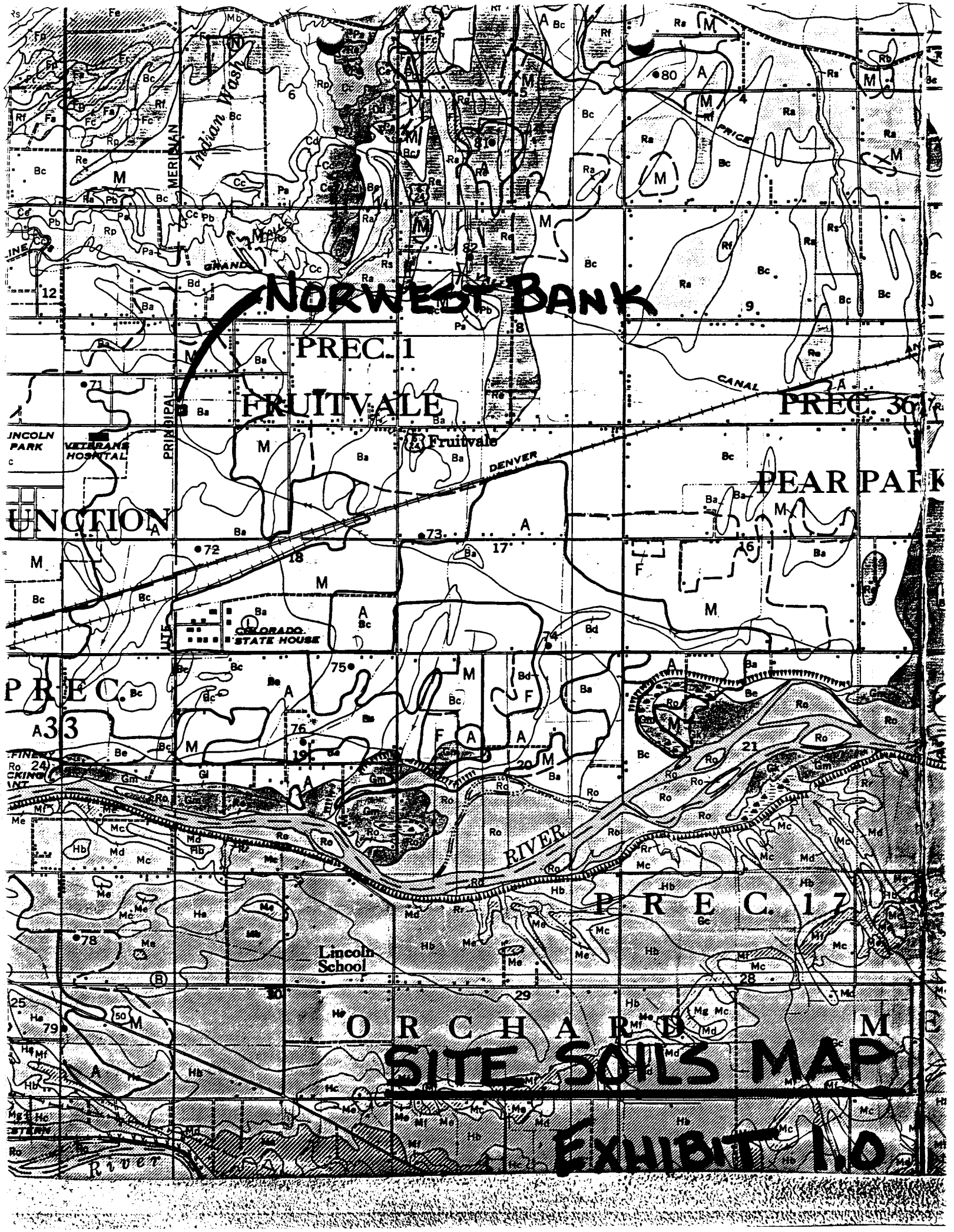
FORMULAS

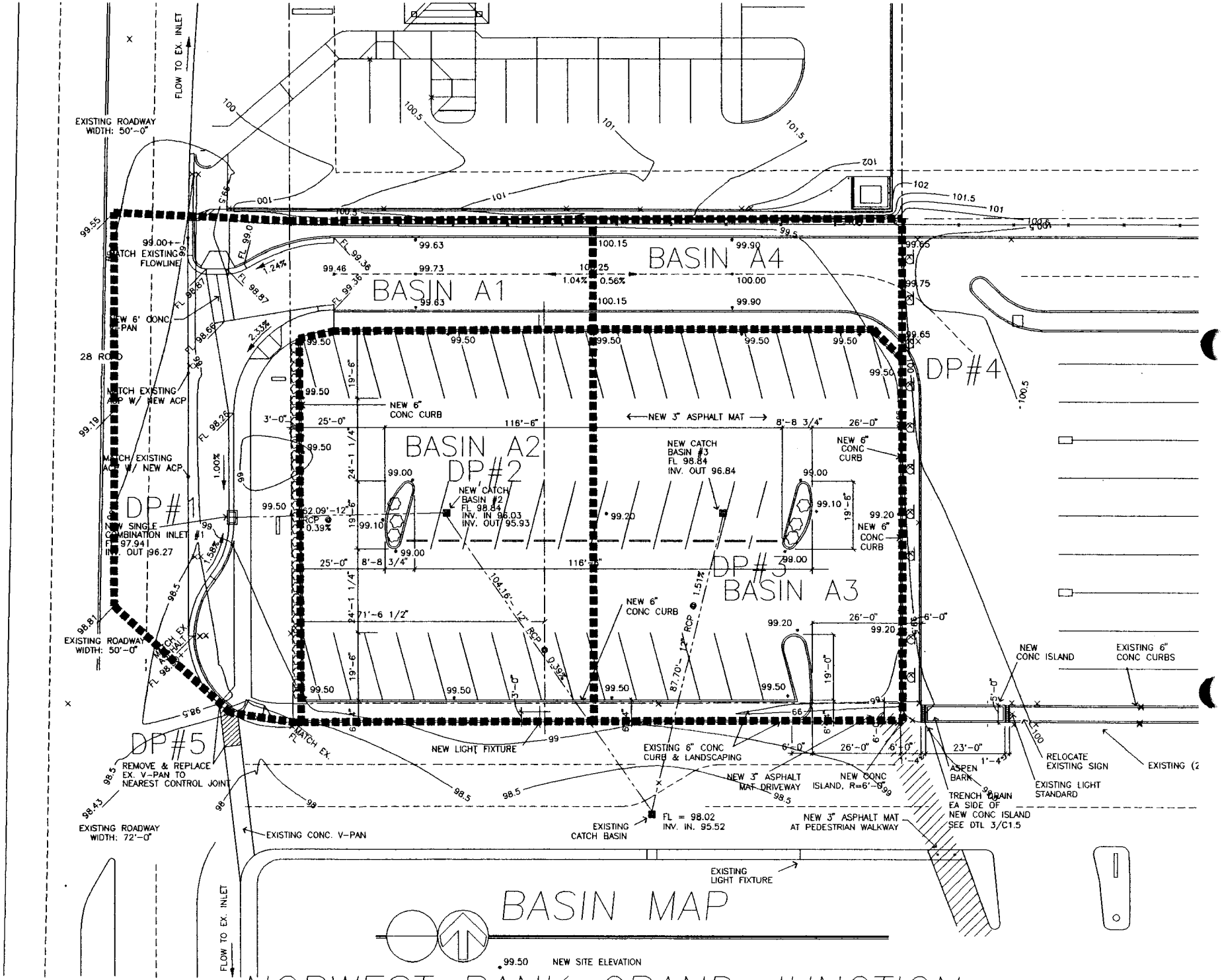
$$Ti = \frac{1.8(1.1-C)(L)^{1/2}}{S^{1/3}}$$

$$Tt = \frac{(L)}{60 \text{ SEC/MIN. } (V \text{ F.P.S.})}$$

Exhibit 6.0

APPENDIX


NORWEST BANK
SITE SOILS MAP
EXHIBIT 1.0
PREC. 1
FRUITVALE
PREC. 36
PEAR PARK
JUNCTION
PREC. A33
PREC. 17
ORCHARD M
Indian Wash
MERIDIAN
PRINCIPAL
GRAND
CANAL
DENVER
PRICE
RIVER
Fruitvale
Lincoln School
VETERANS HOSPITAL
COLORADO STATE HOUSE
LINCOLN PARK
River



BASIN MAP

NORWEST BANK GRAND JUNCTION

Exhibit 1.1

TABLE "A-1" INTENSITY-DURATION-FREQUENCY (IDF) TABLE					
Time (min)	2-Year Intensity (in/hr)	100-Year Intensity (in/hr)	Time (min)	2-Year Intensity (in/hr)	100-Year Intensity (in/hr)
5	1.95	4.95	33	0.83	2.15
6	1.83	4.65	34	0.82	2.12
7	1.74	4.40	35	0.81	2.09
8	1.66	4.19	36	0.80	2.06
9	1.59	3.99	37	0.79	2.03
10	1.52	3.80	38	0.78	2.00
11	1.46	3.66	39	0.77	1.97
12	1.41	3.54	40	0.76	1.94
13	1.36	3.43	41	0.75	1.91
14	1.32	3.33	42	0.74	1.88
15	1.28	3.24	43	0.73	1.85
16	1.24	3.15	44	0.72	1.82
17	1.21	3.07	45	0.71	1.79
18	1.17	2.99	46	0.70	1.76
19	1.14	2.91	47	0.69	1.73
20	1.11	2.84	48	0.68	1.70
21	1.08	2.77	49	0.67	1.67
22	1.05	2.70	50	0.66	1.64
23	1.02	2.63	51	0.65	1.61
24	1.00	2.57	52	0.64	1.59
25	0.98	2.51	53	0.63	1.57
26	0.96	2.46	54	0.62	1.55
27	0.94	2.41	55	0.61	1.53
28	0.92	2.36	56	0.60	1.51
29	0.90	2.31	57	0.59	1.49
30	0.88	2.27	58	0.58	1.47
31	0.86	2.23	59	0.57	1.45
32	0.84	2.19	60	0.56	1.43
Source: Mesa County 1991					

EXHIBIT 2.0

NORWEST BANK - PARKING LOT
- SOIL TYPE Ba & Bc

JUNE 1994

LAND USE OR SURFACE CHARACTERISTICS	SCS HYDROLOGIC SOIL GROUP (SEE APPENDIX "C" FOR DESCRIPTIONS)											
	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
UNDEVELOPED AREAS Bare ground	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .40 - .48	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Cultivated/Agricultural	.08 - .18 .14 - .24	.13 - .23 .18 - .28	.16 - .26 .22 - .32	.11 - .19 .16 - .24	.15 - .23 .21 - .29	.21 - .29 .28 - .36	.14 - .22 .20 - .28	.19 - .27 .25 - .33	.26 - .34 .34 - .42	.18 - .26 .24 - .32	.23 - .31 .29 - .37	.31 - .39 .41 - .49
Pasture	.12 - .22 .15 - .25	.20 - .30 .25 - .35	.30 - .40 .37 - .47	.18 - .26 .23 - .31	.28 - .36 .34 - .42	.37 - .45 .45 - .53	.24 - .32 .30 - .38	.34 - .42 .42 - .50	.44 - .52 .52 - .60	.30 - .38 .37 - .45	.40 - .48 .50 - .58	.50 - .58 .62 - .70
Meadow	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .44 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Forest	.05 - .15 .08 - .18	.08 - .18 .11 - .21	.11 - .21 .14 - .24	.08 - .16 .10 - .18	.11 - .19 .14 - .22	.14 - .22 .18 - .26	.10 - .18 .12 - .20	.13 - .21 .16 - .24	.16 - .24 .20 - .28	.12 - .20 .15 - .23	.16 - .24 .20 - .28	.20 - .28 .25 - .33
RESIDENTIAL AREAS 1/8 acre per unit	.40 - .50 .48 - .58	.43 - .53 .52 - .62	.46 - .56 .55 - .65	.42 - .50 .50 - .58	.45 - .53 .54 - .62	.50 - .58 .59 - .67	.45 - .53 .53 - .61	.48 - .56 .57 - .65	.53 - .61 .64 - .72	.48 - .56 .56 - .64	.51 - .59 .60 - .68	.57 - .65 .69 - .77
1/4 acre per unit	.27 - .37 .35 - .45	.31 - .41 .39 - .49	.34 - .44 .42 - .52	.29 - .37 .38 - .46	.34 - .42 .42 - .50	.38 - .46 .47 - .55	.32 - .40 .41 - .49	.36 - .44 .45 - .53	.41 - .49 .52 - .60	.35 - .43 .43 - .51	.39 - .47 .47 - .55	.45 - .53 .57 - .65
1/3 acre per unit	.22 - .32 .31 - .41	.26 - .36 .35 - .45	.29 - .39 .38 - .48	.25 - .33 .33 - .41	.29 - .37 .38 - .46	.33 - .41 .42 - .50	.28 - .36 .36 - .44	.32 - .40 .41 - .49	.37 - .45 .48 - .56	.31 - .39 .39 - .47	.35 - .43 .43 - .51	.42 - .50 .53 - .61
1/2 acre per unit	.16 - .26 .25 - .35	.20 - .30 .29 - .39	.24 - .34 .32 - .42	.19 - .27 .28 - .36	.23 - .31 .32 - .40	.28 - .36 .36 - .44	.22 - .30 .31 - .39	.27 - .35 .35 - .43	.32 - .40 .42 - .50	.26 - .34 .34 - .42	.30 - .38 .38 - .46	.37 - .45 .48 - .56
1 acre per unit	.14 - .24 .22 - .32	.19 - .29 .26 - .36	.22 - .32 .29 - .39	.17 - .25 .24 - .32	.21 - .29 .28 - .36	.26 - .34 .34 - .42	.20 - .28 .28 - .36	.25 - .33 .32 - .40	.31 - .39 .40 - .48	.24 - .32 .31 - .39	.29 - .37 .35 - .43	.35 - .43 .46 - .54
MISC. SURFACES Pavement and roofs	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97
Traffic areas (soil and gravel)	.55 - .65 .65 - .70	.60 - .70 .70 - .75	.64 - .74 .74 - .79	.60 - .68 .68 - .76	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.69 - .77 .77 - .85	.72 - .80 .79 - .87	.75 - .83 .82 - .90	.77 - .85 .84 - .92
Green landscaping (lawns, parks)	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .42 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Non-green and gravel landscaping	.30 - .40 .34 - .44	.36 - .46 .42 - .52	.45 - .55 .50 - .60	.45 - .55 .50 - .60	.42 - .50 .48 - .56	.50 - .58 .57 - .65	.40 - .48 .46 - .54	.48 - .56 .55 - .63	.56 - .64 .64 - .72	.44 - .52 .50 - .58	.50 - .58 .60 - .68	.60 - .68 .70 - .78
Cemeteries, playgrounds	.20 - .30 .24 - .34	.26 - .36 .32 - .42	.35 - .45 .40 - .50	.35 - .45 .40 - .50	.32 - .40 .38 - .46	.40 - .48 .47 - .55	.30 - .38 .36 - .44	.38 - .44 .45 - .53	.46 - .54 .54 - .62	.34 - .42 .40 - .48	.40 - .48 .50 - .58	.50 - .58 .60 - .68

NOTES:
1. Values above and below pertain to the 2-year and 100-year storms, respectively.
2. The range of values provided allows for engineering judgement of site conditions such as basic shape, homogeneity of surface type, surface depression storage, and storm duration. In general, during shorter duration storms (Tc ≤ 10 minutes), infiltration capacity is higher, allowing use of a "C" value in the low range. Conversely, for longer duration storms (Tc) 30 minutes), use a ""C value in the higher range.
3. For residential development at less than 1/8 acre per unit or greater than 1 acre per unit, and also for commercial and industrial areas, use values under MISC SURFACES to estimate "C" value ranges for use.

RATIONAL METHOD RUNOFF COEFFICIENTS
(Modified from Table 4, UC-Davis, which appears to be a modification of work done by Rawls)

TABLE "B-1"

EXHIBIT 3.0

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
HISTORIC CONDITION
CITY OF GRAND JUNCTION, COLORADO

PROJECT: NORWEST BANK - PARKING LOT
JOB # 96098.40
LANDesign L.L.C.

DATE: 09-Dec-96

													STREET		PIPE			STREET		PIPE		
LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW / STREET	TIME / PIPE	T C min.	COEFF "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFI C.F.S.	OTHER RUNOF C.F.S.	SUM RUNOFI C.F.S.	SLOPE %	CAPACITY ALLOWED C.F.S.	SLOPE %	SIZE IN.	CAPACITY ALLOWED C.F.S.	DESIGN F.P.S.	VELOC. F.P.S.	DESIGN F.P.S.	VELOC. F.P.S.	REMARKS
DP#5	H1					6.60	0.91	4.27	0.76	3.0		3.0										SHEETFLOW - ASPHALT TO V-PAN IN 28 ROAD AT BANK DRIVEWAY

EXHIBIT 7.0

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
DEVELOPED CONDITION
CITY OF GRAND JUNCTION, COLORADO

PROJECT: NORWEST BANK - PARKING LOT
JOB # 96098.40
LANDesign L.L.C.

DATE: 09-Dec-96

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME STREET	FLOW TIME PIPE	T C min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFI C.F.S.	OTHER RUNOF C.F.S.	SUM RUNOFI C.F.S.	STREET SLOPE %	STREET CAPACITY ALLOWED C.F.S.	PIPE SLOPE %	PIPE SIZE IN.	PIPE CAPACITY ALLOWED C.F.S.	STREET DESIGN F.P.S.	STREET VELOC. F.P.S.	PIPE DESIGN F.P.S.	PIPE VELOC. F.P.S.	REMARKS
DP#1	A1					5.00	0.95	4.95	0.23	1.1		1.1										FLOW TO INLET #1
DP#2	A2					5.00	0.95	4.95	0.22	1.0		1.0										FLOW TO CATCH BASIN #2
DP#3	A3					5.00	0.95	4.95	0.24	1.1		1.1										FLOW TO CATCH BASIN #3
DP#4	A4					5.00	0.95	4.95	0.07	0.3		0.3										FLOW TO EX. TELLER PARKING AREA.
DP#5	A1-A4					5.00	0.95	4.95	0.76	3.6		3.6										SUM OF FLOW GENERATED BY SITE IMPROVEMENTS

EXHIBIT 8.0

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: NORWEST1

Comment: INLET #1 TO CATCH BASIN #2

Solve For Full Flow Capacity

Given Input Data:

Diameter.....	1.00 ft ——— 12"
Slope.....	0.0039 ft/ft
Manning's n.....	0.013 ——— RCP
Discharge.....	2.22 cfs

Computed Results:

Full Flow Capacity.....	2.22 cfs > Q_{100} = 1.1 CFS OK
Full Flow Depth.....	1.00 ft
Velocity.....	2.83 fps
Flow Area.....	0.79 sf
Critical Depth....	0.64 ft
Critical Slope....	0.0072 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	2.22 cfs
QMAX @.94D.....	2.39 cfs
Froude Number.....	FULL

EXHIBIT 9.0

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: NORWEST2

Comment: CATCH BASIN #2 TO EXISTING STORM SEWER

Solve For Full Flow Capacity

Given Input Data:

Diameter.....	1.00 ft	12"
Slope.....	0.0039 ft/ft	
Manning's n.....	0.013	RCP
Discharge.....	2.22 cfs	

Computed Results:

Full Flow Capacity.....	2.22 cfs $> Q_{100} = 2.1$ CFS OK
Full Flow Depth.....	1.00 ft
Velocity.....	2.83 fps
Flow Area.....	0.79 sf
Critical Depth....	0.64 ft
Critical Slope....	0.0072 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	2.22 cfs
QMAX @.94D.....	2.39 cfs
Froude Number.....	FULL

EXHIBIT 10.0

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: NORWEST3

Comment: CATCH BASIN #3 TO EXISTING STORM SEWER

Solve For Full Flow Capacity

Given Input Data:

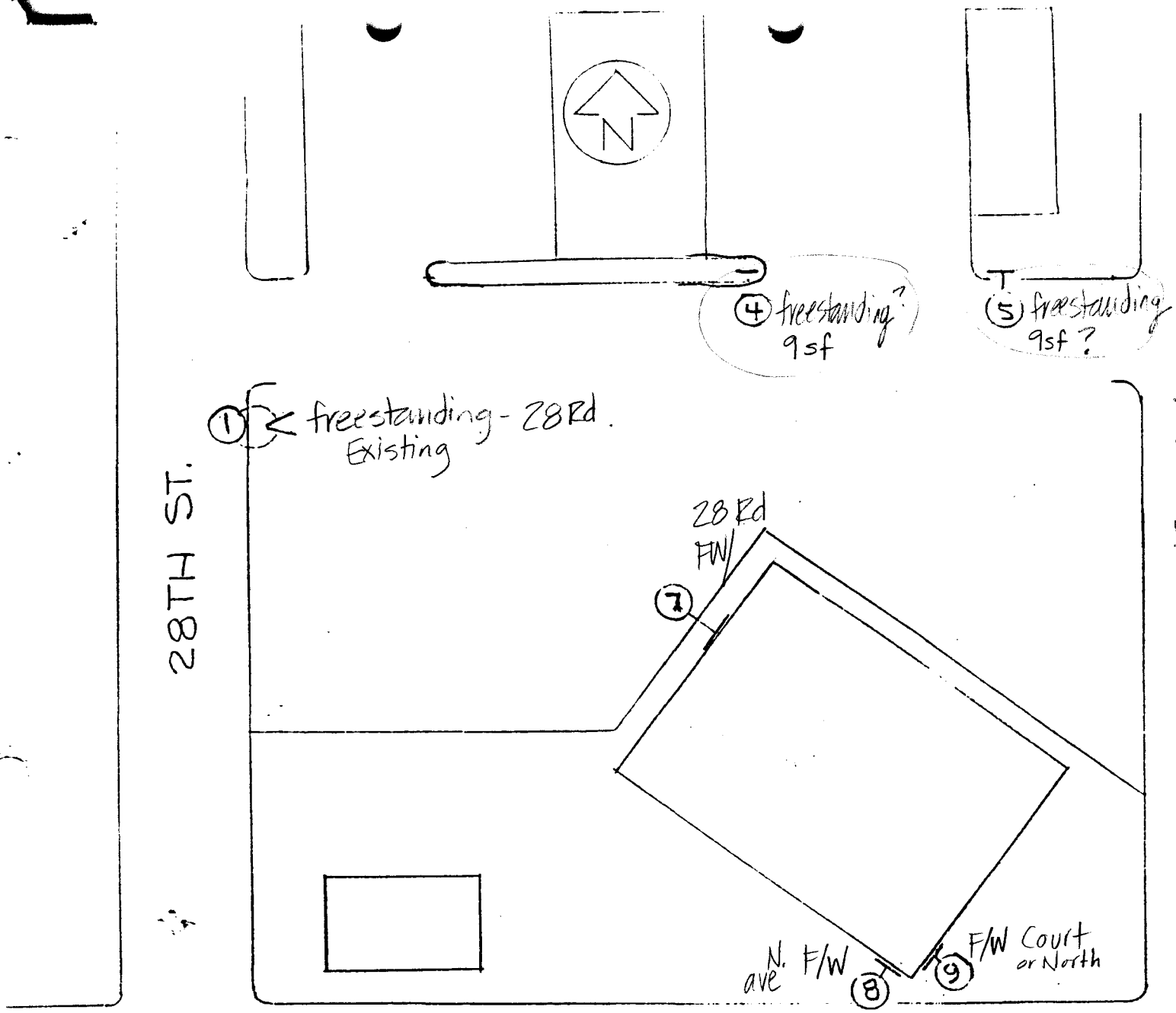
Diameter.....	1.00 ft — 12"
Slope.....	0.0151 ft/ft
Manning's n.....	0.013 — RCP
Discharge.....	4.38 cfs

Computed Results:

Full Flow Capacity.....	4.38 cfs > Q_{100} = 1.1 cfs OK
Full Flow Depth.....	1.00 ft
Velocity.....	5.57 fps
Flow Area.....	0.79 sf
Critical Depth....	0.88 ft
Critical Slope....	0.0136 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	4.38 cfs
QMAX @.94D.....	4.71 cfs
Froude Number.....	FULL

Open Channel Flow Module, Version 3.16 (c) 1990
Haestad Methods, Inc. * 37 Brookside Rd * Waterbury, Ct 06708

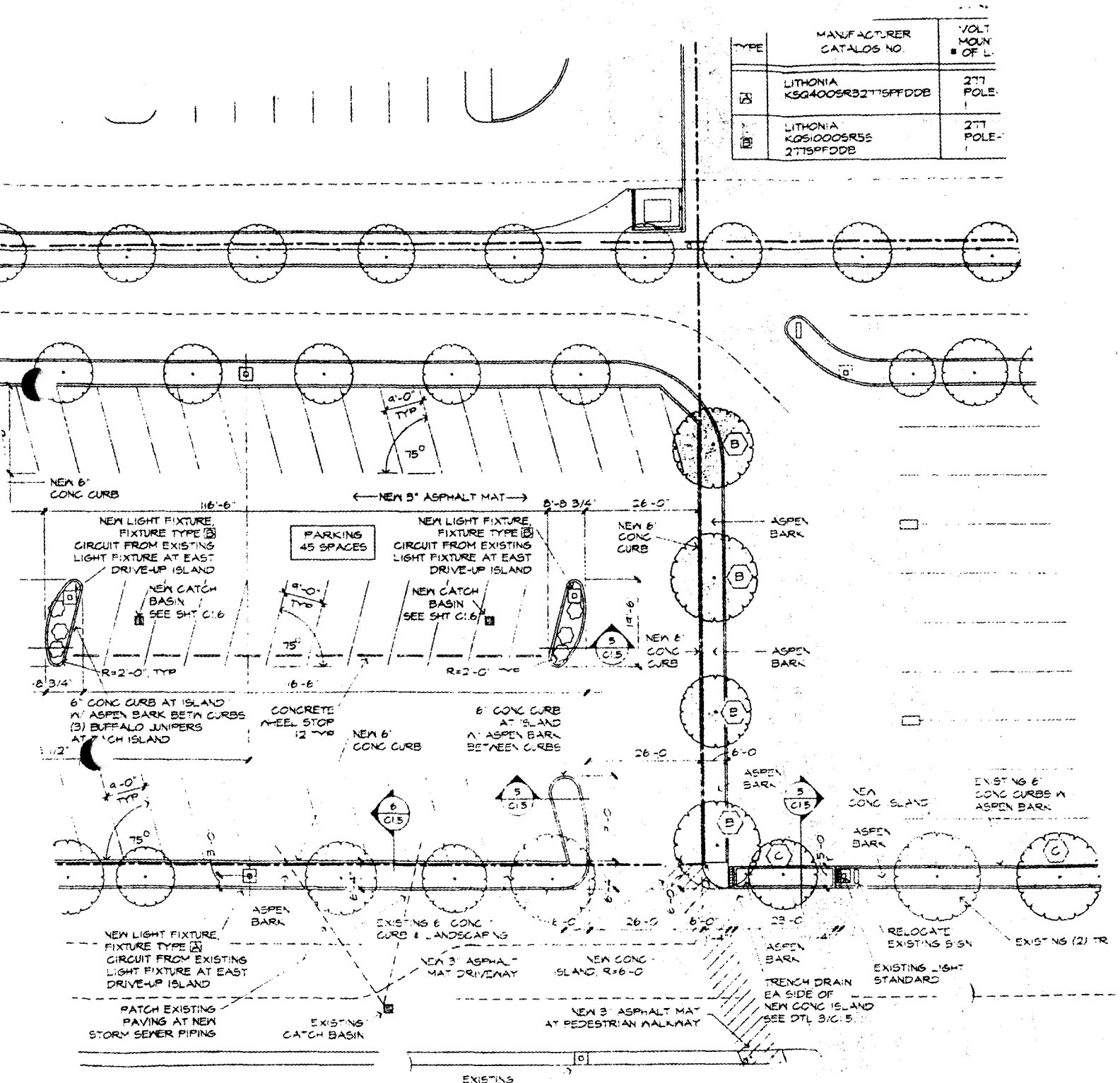
EXHIBIT 11.0



SITE PLAN N.T.S.

2808 NORTH AVE,
GRAND JUNCTION, CO.

Existing signage for the Bank Parcel.


TYPE
MANUFACTURER CATALOG NO.
VOLT MOUN # OF L
LITHONIA KSQ400SR32T5PFDDB
277 POLE
LITHONIA KQS1000SR5S 2T5PFDDB
277 POLE
NEW 6" CONC CURB
116'-6"
NEW 3" ASPHALT MAT
8'-8 3/4"
26'-0"
NEW LIGHT FIXTURE, FIXTURE TYPE B CIRCUIT FROM EXISTING LIGHT FIXTURE AT EAST DRIVE-UP ISLAND
PARKING 45 SPACES
NEW LIGHT FIXTURE, FIXTURE TYPE B CIRCUIT FROM EXISTING LIGHT FIXTURE AT EAST DRIVE-UP ISLAND
NEW CATCH BASIN SEE SHT C1.6
NEW CATCH BASIN SEE SHT C1.6
9'-0" TYP
75°
18'-6"
R=2'-0" TYP
R=2'-0" TYP
ASPEN BARK
NEW 6" CONC CURB
NEW 6" CONC CURB
ASPEN BARK
6" CONC CURB AT ISLAND W/ ASPEN BARK BETW CURBS (3) BUFFALO JUNIPERS AT EACH ISLAND
CONCRETE WHEEL STOP TYP
NEW 6" CONC CURB
6" CONC CURB AT ISLAND W/ ASPEN BARK BETWEEN CURBS
26'-0"
6'-0"
ASPEN BARK
NEW CONC ISLAND
EXISTING 6" CONC CURBS W/ ASPEN BARK
ASPEN BARK
9'-0" TYP
75°
ASPEN BARK
EXISTING 6" CONC CURB & LANDSCAPING
26'-0"
6'-0"
23'-0"
RELOCATE EXISTING SIGN
EXISTING (2) TR
NEW LIGHT FIXTURE, FIXTURE TYPE B CIRCUIT FROM EXISTING LIGHT FIXTURE AT EAST DRIVE-UP ISLAND
NEW 3" ASPHALT MAT DRIVEWAY
NEW CONC ISLAND, R=6'-0"
ASPEN BARK
EXISTING LIGHT STANDARD
TRENCH DRAIN EA SIDE OF NEW CONC ISLAND SEE DTL 3/C1.5
PATCH EXISTING PAVING AT NEW STORM SEWER PIPING
EXISTING CATCH BASIN
NEW 3" ASPHALT MAT AT PEDESTRIAN WALKWAY
EXISTING

EXISTING ROADWAY
WIDTH: 50'-0"

EXISTING CATCH BASIN
IN SUMP CONDITION

BUNTING AVENUE

BERGUIN
DENTAL
CLINIC

FLOW TO EX. INLET

EXISTING ROADWAY
WIDTH: 50'-0"

28 ROAD

NEW 6" CONC. V-PAN

MATCH EXISTING ACP W/ NEW ACP

NEW SINGLE COMBINATION INLET #1
FL. 47.96 |
INV. OUT 46.27

NEW 6" CONC CURB

NEW 5" ASPHALT MAT

NEW CATCH BASIN #2
FL. 48.84
INV. IN 46.05
INV. OUT 45.93

NEW CATCH BASIN #3
FL. 48.84
INV. OUT 46.84

NEW 6" CONC CURB

NEW 6" CONC CURB

EXISTING ROADWAY
WIDTH: 50'-0"

NEW 6" CONC CURB

NEW CONC ISLAND

EXISTING 6" CONC CURBS

EXISTING 6" CONC CURB & LANDSCAPING

NEW 5" ASPHALT MAT DRIVEWAY

NEW CONC ISLAND, R=6'-0"

ASPEN BARK

TRENCH DRAIN EA SIDE OF NEW CONC ISLAND SEE DTL 5/C15

RELOCATE EXISTING SIGN

EXISTING LIGHT STANDARD

EXISTING (2) TREES

REMOVE & REPLACE EX. V-PAN TO NEAREST CONTROL JOINT

EXISTING ROADWAY
WIDTH: 72'-0"

EXISTING CONC. V-PAN

EXISTING CATCH BASIN
FL = 48.02
INV. IN. 45.52

NEW 5" ASPHALT MAT AT PEDESTRIAN WALKWAY

EXISTING LIGHT FIXTURE

FLOW TO EX. INLET

COURT ROAD

PLAN

SECTION X-X

TYPE 'C' 24X24 REVERSIBLE GRATE FRAME

VARIES
SEE PLAN VIEW

CONCRETE BOX FOR TYPE 'C' 24X24 REVERSIBLE GRATE FRAME

C1.6 — GRADING & DRAINAGE PLAN - PHASES 1 & 2

1" = 20'-0"

•44.50 NEW SITE ELEVATION

RECEIVED GRAND JUNCTION
PLANNING DEPARTMENT
DEC 09 1996

ROBERT D. JENKINS/AIA
ARCHITECT
1000 North 9th - Suite 36
GRAND JUNCTION, COLORADO 81501
(970) 254-1960 FAX (970) 254-1951

NORWEST BANK GRAND JUNCTION
NORTH AVENUE

PROJECT NUMBER: 9607
DATE: 10/25/96
DRAWN BY: RDJ JF
REVISIONS:
▲10/21/96
▲11/20/96

DRAWING NUMBER
C1.6r