Table of Contents

File 1994-0207 Name: Refrigeration Industries – SPR /Re-Sub /Rev. Perm-SE Corner Foresight & Blichman

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**
X	X	***Application form**
X		Review Sheets
X		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
X		Reduction of assessor's map.
		Evidence of title, deeds, easements
X	X	***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
X	X	Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
X	X	***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**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**

DOCUMENT DESCRIPTION:

X	X	Correspondence	X	X	Landscape Plan
X		Treasurer's Certificate of Taxes due – 11/17/94	X	X	Parking Lot Section Map
X	X	Floor Area Breakdown	X	X	Project Manual – Located in file – Scanned the Table of Contents **ONLY**
X	X	Elevation Report	X	X	Su b-surface Soils Exploration Report – 10/25/94
X	X	Cost Estimate for ½ Residential Street	X	X	Drainage Report – 11/94
X	X	Parking Lot Lighting Report	X	X	Site Plan – to be scanned
X		UCC Meeting date – 2/1/95	X	X	Grading Plan – to be scanned
X	X	City Council Minutes – 2/1/95 - **	X		Curb and Sidewalk Detail
X	X	Certification of Plat – 2/17/95	X		Pumphouse Elevation
X	X	Planning Clearance – issued 2/15/95 - **	X	X	Revocable Permit Bk 2128 Pg 513 was recorded/scanned with Resolution No. 9-95 - **
X	X	Resolution No. 9-95 – Bk 2128 / Pg 511 - **	X	X	Ordinance No. 2761 - **

DEVELOPMENT APPLICATION

Community Development Department
250 North 5th Street Grand Junction, CO 81501
(303) 244-1430

Receipt # 1821
Date 12-2
Rec'd By RSL

File No. 207-94

We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described herein do hereby petition this:

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
[ ] Subdivision Plat/Plan	[ ] Minor [ ] Major [ ] Resub				
[ ] Rezone				From: To:	
[ ] Planned Development	[ ] ODP [ ] Prelim [ ] Final				
[ ] Conditional Use					
[ ] Zone of Annex					
[ ] Variance					
[ ] Special Use					
[ ] Vacation					[ ] Right-of-Way [ ] Easement
[X] Revocable Permit					

[X] PROPERTY OWNER [ ] DEVELOPER [X] REPRESENTATIVE

JERRY LEONARD		STEVE NEWSOM
Name	Name	Name
2749 LOS PINOS		437 MAIN ST.
Address	Address	Address
CAMARILLO, CA 93012		GRAND JCT., CO 81501
City/State/Zip	City/State/Zip	City/State/Zip
805.491.2302		242.6804
Business Phone No.	Business Phone No.	Business Phone No.

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all hearings. In the event that the petitioner is not represented, the item will be dropped from the agenda, and an additional fee charged to cover rescheduling expenses before it can again be placed on the agenda.

Signature of Person Completing Application — 22 NOV 94 Date

Signature of Property Owner(s) - Attach Additional Sheets if Necessary

DEVELOPMENT APPLICATION

Community Development Department
250 North 5th Street Grand Junction, CO 81501
(303) 244-1430

Original
Do NOT Remove
From Office

Receipt #1824
Date 12/2
Rec'd By TBC
File No 207 94

We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described herein do hereby petition this:

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
[X] Subdivision Plat/Plan	[ ] Minor [ ] Major [X] Resub				
[ ] Rezone				From: To:	
[ ] Planned Development	[ ] ODP [ ] Prelim [ ] Final				
[ ] Conditional Use					
[ ] Zone of Annex					
[ ] Text Amendment					
[ ] Special Use					
[ ] Vacation					[ ] Right-of-Way [ ] Easement

[X] PROPERTY OWNER [ ] DEVELOPER [X] REPRESENTATIVE

JERRY LEONARD		STEVE NEWSOM
Name	Name	Name
2749 LOS PINOS		431 MAIN ST.
Address	Address	Address
CAMARILLO, CA 93012		GRAND JCT., CO 81501
City/State/Zip	City/State/Zip	City/State/Zip
805-491-2302		242-6804
Business Phone No.	Business Phone No.	Business Phone No.

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all hearings. In the event that the petitioner is not represented, the item will be dropped from the agenda, and an additional fee charged to cover rescheduling expenses before it can again be placed on the agenda.

Signature of Person Completing Application — 22 NOV. 94 Date

Signature of Property Owner(s) - Attach Additional Sheets if Necessary

SUBMITTAL CHECKLIST

SITE PLAN REVIEW /Resubdivision

Location: SE corner Foresight Circle / Blichman Ave. Project Name: Refrigeration Industries

ITEMS — DISTRIBUTION 207 94

Original Do NOT Remove From Office

DESCRIPTION	SSID REFERENCE	City Community Development	City Dev. Eng.	City Utility Eng.	City Property Agent	~~City Parks/Recreation~~	City Fire Department	City Attorney	City Downtown Dev. Auth.	County Planning	County Bldg. Dept.	Irrigation District	Drainage District	Water District - Ute	Sewer District	U.S. West	Public Service	GVRP	CDOT	Corps of Engineers	Walker Field	City Police Dept.	Foresight ACCO	TOTAL RECD
		●	●	●	●	●	●	●	○	●	●	●	○	●	○	●	●	○	○	○	○	●	●	
● Application Fee $160	VII-1	1																						
● Submittal Checklist*	VII-3	1																						
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	/	1	
● Planning Clearance*	VII-3	1																						
● 11"x17" Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	/	1	
● Evidence of Title	VII-2	1			1			1																
○ Appraisal of Raw Land	VII-1	1			1	1																		
○ Deeds	VII-1	1			1			1																
○ Easements	VII-2	1	1	1	1			1																
○ Avigation Easement	VII-1	1			1			1																
○ ROW	VII-3	1	1	1	1			1																
○ Improvements Agreement/Guarantee	VII-2	1	1	1				1																
○ CDOT Access Permit	VII-3	1	1																					
○ Industrial Pretreatment Sign-off	VII-4	1		1																				
● General Project Report	X-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	/	1	
○ Elevation Drawing	IX-13	1	1																					
● Site Plan	IX-29	2	2	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1	
○ 11"x17" Reduction of Site Plan	IX-29					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	/	1	
● Grading and Drainage Plan	IX-16	1	2										1							1			1	
● Storm Drainage Plan and Profile	IX-30	1	2										1			1	1	1					1	
● Water and Sewer Plan and Profile	IX-34	1	2	1			1							1	1	1	1	1					1	
○ Roadway Plan and Profile	IX-28	1	2										1											
○ Road Cross-Sections	IX-27	1	2																					
○ Detail Sheet	IX-12	1	2																					
● Landscape Plan	IX-20	2	1	1																				
● Geotechnical Report	X-8	1	1								1													
● Final Drainage Report	X-5,6	1	2										1											
○ Stormwater Management Plan	X-14	1	2										1							1				
○ Phase I and II Environmental Report	X-10,11	1	1																					
○ Traffic Impact Study	X-15	1	2																1					
● Names and Addresses		1																						
● County Treasurer's Tax Cert		1																						
● Final Plat		1	2	1	1					1		1				1	1					1	1	
● Application Form -to All		1	1	1	1		1	1		1		1				1	1					1	1	

NOTES:
1) An asterisk in the item description column indicates that a form is supplied by the City.
2) Required submittal items and distribution are indicated by filled in circles, some of which may be filled in during the pre-application conference. Additional items or copies may be subsequently requested in the review process.
3) Each submitted item must be labeled, named, or otherwise identified as described above in the description column.

MAY 1993

PRE-APPLICATION CONFERENCE

Date: 10-31-94
Conference Attendance: Steve Newsom, M. Drollinger
Proposal: Warehouse/Office - Refrigeration Ind.
Location: SE corner Foresight Circle & Blichman Ave.

Tax Parcel Number: 2945-03-12-6,788
Review Fee: $160
(Fee is due at the time of submittal. Make check payable to the City of Grand Junction.)

Additional ROW required? —
Adjacent road improvements required? As per Engineer
Area identified as a need in the Master Plan of Parks and Recreation? —
Parks and Open Space fees required? — Estimated Amount: _____
Recording fees required? Yes Estimated Amount: _____
Half street improvement fees required? TCP Estimated Amount: _____
Revocable Permit required? Yes
State Highway Access Permit required? —

Applicable Plans, Policies and Guidelines Devel Code

Located in identified floodplain? FIRM panel # —
Located in other geohazard area? —

Located in established Airport Zone? Clear Zone, Critical Zone, Area of Influence? —
Avigation Easement required? —

While all factors in a development proposal require careful thought, preparation and design, the following "checked" items are brought to the petitioner's attention as needing special attention or consideration. Other items of special concern may be identified during the review process.

O Access/Parking	O Screening/Buffering	O Land Use Compatibility
O Drainage	O Landscaping	O Traffic Generation
O Floodplain/Wetlands Mitigation	O Availability of Utilities	O Geologic Hazards/Soils

O Other _____
Related Files: _____

It is recommended that the applicant inform the neighboring property owners and tenants of the proposal prior to the public hearing and preferably prior to submittal to the City.

PRE-APPLICATION CONFERENCE

WE RECOGNIZE that we, ourselves, or our representative(s) must be present at all hearings relative to this proposal and it is our responsibility to know when and where those hearings are.

In the event that the petitioner is not represented, the proposed item will be dropped from the agenda, and an additional fee shall be charged to cover rescheduling expenses. Such fee must be paid before the proposed item can again be placed on the agenda. Any changes to the approved plan will require a re-review and approval by the Community Development Department prior to those changes being accepted.

WE UNDERSTAND that incomplete submittals will not be accepted and submittals with insufficient information, identified in the review process, which has not been addressed by the applicant, may be withdrawn from the agenda.

WE FURTHER UNDERSTAND that failure to meet any deadlines as identified by the Community Development Department for the review process may result in the project not being scheduled for hearing or being pulled from the agenda.

X _____ X _____
Signature(s) of Petitioner(s) Signature(s) of Representative(s)

SUBMITTAL CHECKLIST

REVOCABLE PERMIT

Location: SE Corner Foresight Circle & Blichman Ave Project Name: Refrigeration Ind.

ITEMS		DISTRIBUTION																		
DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	● City Fire Department	● City Police Department	● City Attorney	● ~~City Sanitation~~	O City Downtown Dev. Auth.	● City Council	O County Planning	O Irrigation District	O Drainage District	● Water District - Ute	O Sewer District	● U.S. West	● Public Service	O GVRP	TOTAL REQ'D. 11
● Application Fee NONE	VII-1	1																		
● Submittal Checklist*	VII-3	1																		
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	
● Application Form*	VII-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● 11"x17" Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Names and Addresses	VII-3	1																		
● Legal Description	VII-2	1			1															
● General Project Report	X-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Vicinity Sketch - Site Plan	IX-30	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
↓ 11'x17'																				

NOTES:
1) An asterisk in the item description column indicates that a form is supplied by the City.
2) Required submittal items and distribution are indicated by filled in circles, some of which may be filled in during the pre-application conference. Additional items or copies may be subsequently requested in the review process.
3) Each submitted item must be labeled, named, or otherwise identified as described above in the description column.

1480 Welton Inc.
c/o Property and Local Taxes
P.O. Box 840
Denver, CO 80201-0840

Mesa County Sheriff's
Posse, Inc.
c/o Brad Franklin
P.O. Box 1386
Grand Junction, CO 81502

Western Slope Industries
2524 Foresight Circle
Grand Junction, CO 81505-1019

POMA of America, Inc.
2510 Foresight Circle
Grand Junction, CO 81505-1008

Mubeta Development Co.
Ast. Manager-Real Estate
1005 17th Street, Rm. 1550
Denver, CO 80202-2002

Mesa County Valley School Dist.
2115 Grand Avenue
Grand Junction, CO 81501-8007

State Colleges in Colorado Trust
Attn: Mesa State College Pres.
1175 Texas Avenue
Grand Junction, CO 81501-7605

Colorado West Improvements
360 Grand Avenue
Grand Junction, CO 81501-2465

C H A M B E R L I N
A R C H I T E C T S

207 94

REFRIGERATION INDUSTRIES
Design Narrative

Refrigeration Industries is an office/warehouse building providing wholesale distribution of commercial refrigerator components. They also do assembly and light manufacturing of some of the components sold. The bulk of their business is generated through phone sales with packing and shipping occurring in an area of the warehouse space. Walk-in clients are rare due to the nature of the business.

The building will be a combination of tilt-up concrete panels with an exposed aggregate finish and dark tinted windows. The shipping and receiving area will be on the less visible south side, while the more visible north and west sides will have the greater architectural treatment. All parking for employees and clients will be provided on site with landscaped areas creating a buffer between Blichmann and Foresight Circle and the parking lot. A single sign at the northwest corner of the property, complying with design regulations, will identify the building.

· A P R O F E S S I O N A L C O R P O R A T I O N ·

437 MAIN STREET
GRAND JUNCTION, COLORADO 81501-2511
TELEPHONE (303) 242-6804
FAX (303) 245-4303

C H A M B E R L I N
A R C H I T E C T S

207 94

REFRIGERATION INDUSTRIES
Evidence of Title

The owner of Refrigeration Industries is currently working with the City and the Mesa County Economic Development Council to establish an equitable title transfer. Several incentives created by the City and MCEDC for Refrigeration Industries are being finalized and title transfer is eminent. Please consider all other aspects of this submittal for review and Evidence of Title will be delivered as soon as possible.

evidtitl.454

A PROFESSIONAL CORPORATION

437 MAIN STREET
GRAND JUNCTION, COLORADO 81501-2511
TELEPHONE (303) 242-6804
FAX (303) 245-4303

ATTACHMENT C
FLOOR AREA BREAKDOWN

Space	Size	Parking Spaces Required Per 5-5-1-H
Office	13,800 s.f.	46
Warehouse	33,600 s.f.	14*
		60 spaces required

OK MTD

* Based on number of employees

SN/attachC.454

REVIEW COMMENTS

FILE # **207-94** **TITLE HEADING:** Site Plan Review - New Office/Warehouse

LOCATION: SE corner of Foresight Circle & Blichmann Avenue

PETITIONER: Steve Newsom

PETITIONER'S ADDRESS/TELEPHONE: 437 Main Street
Grand Junction, CO 81501
242-6804

PETITIONER'S REPRESENTATIVE: Chamberlin Architects

STAFF REPRESENTATIVE: Michael Drollinger

NOTE: WRITTEN RESPONSE BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED. A PLANNING CLEARANCE WILL NOT BE ISSUED UNTIL ALL ISSUES HAVE BEEN RESOLVED.

MESA COUNTY BUILDING DEPARTMENT **12/05/94**
Bob Lee **244-1656**

No comments. We are working with Chamberlin Architects on this project.

GRAND JUNCTION DRAINAGE DISTRICT **12/06/94**
John Ballagh **242-4343**

The Drainage District has existing tile lines in F 1/2 Road (South side of pavement) from 25 to 25 1/2 road and in 25 Road (on the East side of the pavement) from F 1/2 Road to just North of F Road. The project site does not abut a drainage district facility.

CITY FIRE DEPARTMENT **12/06/94**
Hank Masterson **244-1414**

A Fire Flow Survey is required. Submit a complete set of construction drawings to the Fire Department so that fire flow calculations can be completed.

On site fire hydrant requirements if any, will be based on fire flow requirements for this building.

Fire Department access roads are required to within 150' of all exterior portions of the building at ground level. The site plan show adequate access roads, however access to the building along Blichmann Avenue must not be blocked by any fencing.

Fire sprinkler contractor must submit complete plans, calculations and specifications to the Fire Department for review. Design of sprinkler system in warehouse area to be according to NFPA 231 or 231C standards.

PUBLIC SERVICE COMPANY **12/13/94**
Dale Clawson **244-2695**

Electric: Require 10' wide easement from North side of transformer pad south to southerly boundary of Lot 1 Block 8.
Gas: No objections.

CITY UTILITY ENGINEER **12/14/94**
Bill Cheney **244-1590**

Plant Investment Fee for sewer is based on the maximum number of employees per shift. No other comments.

UTE WATER DISTRICT **12/13/94**
Gary Mathews **242-7491**

Ute water has a 8" main line on the North side of Blichmann. This main is a looped system and should supply sufficient fire flow requirements.

Contact with Ute Water is needed to discuss cost and domestic and fire protection needs.

All domestic meters and fire protection check valves are installed at the property lines.

POLICIES AND FEES IN EFFECT AT THE TIME OF APPLICATION WILL APPLY.

CITY DEVELOPMENT ENGINEER **12/08/94**
Jody Kliska **244-1591**

Sheet C2 was not included with submittal.

Site Plan - See attached checklist. Three handicap spaces are required and must meet dimensioning, signing and marking standards. No parking lot lighting is indicated on the Site plan. Asphalt and concrete pavement sections need to be included in details and should reflect the recommendations of the soils report. The driveway radii may need to be increased depending on the size of trucks anticipated to be using this site.

Grading Plan - Needs to be consistent with the drainage report. Plan indicates retention, study says detention. The plan does not show how the water gets to the retention area. Indicate the storage volume.

Landscape Plan - Some kind a plant probably doesn't meet the Code.

COMMUNITY DEVELOPMENT DEPARTMENT **12/14/94**
Michael Drollinger **244-1439**

See attached comments.

#207-94 Site Plan Review/Resubdivision and Revocable Permit - Refrigeration Industries
COMMUNITY DEVELOPMENT DEPARTMENT COMMENTS

Site Plan Review

1. Section 5-4-15H of the Zoning and Development Code (ZDC) requires that one street tree be provided for every 40 feet of street frontage. The petitioner shall provide street trees at the required spacing.

2. Section 5-5-1F2a requires that a landscape barrier be provided to shield the parking lot from the street. The landscape barrier shall be a minimum of 2 1/2 ft. high but not greater than 3 1/2 ft. high at maturity. The landscape barrier can be accomplished with a combination of landscaping and/or berming.

3. Regarding parking lot interior landscaping, the Code requires that one tree be provided for each 100 square feet of required interior landscaping, thus based on our calculations 11 trees need to be provided and planted in the interior of the parking lot.

4. Section 5-5-1F2c(2) requires a 2 1/2 foot overhang be provided in planting areas where bumper or door overhang are anticipated. The overhang may be constructed of concrete or paving blocks, asphalt paving is not permitted.

5. City standards for planting islands between parking rows require a minimum width of 10 feet, however, only 9 feet is provided.

6. Code requires that landscape plan contain a note stating that "all landscaped areas shall be provided with a pressurized, underground irrigation system."

7. The parking lot lighting requirements have not been meet. Section 5-5-1Fi contains parking lot lighting submittal requirements and standards (copy attached).

8. Petitioner should provide the type of plantings proposed; "somekindaplant" is not sufficient. All plantings must meet the size requirements in Section 15-4-15B of the ZDC, minimum sizes provided shall be indicated on the Landscape Plan.

9. Petitioner shall provide written confirmation of the breakdown of floor area for each type of use in the proposed building to determine the adequacy of the provided parking.

10. Section 5-5-1H1 requires the following regarding bicycle parking: "bicycle rack(s) sufficient to hold three bicycles or the number of bicycles equal to ten percent of the required off-street parking spaces for the use, whichever is greater." The locations and amount of bicycle parking provided shall be indicated in the Site Plan.

11. City Public Works standards require that three (3) accessible parking stalls be provided for parking lots with between 51 and 75 spaces.

12. At least one (1) concrete path should be provided in the planting island between the parking rows to facilitate pedestrian circulation to/from the building.

NOTE: REVISED PLANS WILL BE REQUIRED WHICH ADDRESS THE ABOVE COMMENTS

Resubdivision

1. The requirements for resubdivison, namely the Final Plat, has not been submitted. Final Plat submittal requirements are attached. The Final Plat will require approval from the County Surveyor and the Utility Coordinating Committee (UCC). Community Development will require recording of the Final Plat prior to issuance of a Planning Clearance for the Site Plan Review and the Revocable Permit.

Revocable Permit

No Comments

DRAWING STANDARDS CHECKLIST

SITE PLAN

ITEM		GRAPHIC STANDARDS	OK	NA
SECTION VIII	A	Scale: 1" = 10', 20', 30', 40', or 50'		
	B	Drawing size: 24" x 36"		
	C	Primary features consist only of proposed facilities except those related to drainage		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally (See Comment 1)		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by registered professional competent in the work		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	R	Neatness and legibility		

ITEM		FEATURES	OK	NA
	1	Site boundary, and adjacent property lines, land use, and zoning		
	2	Total site acreage and proposed land use breakdown		
	3	All existing and proposed easements, streets and ROW's		
	4	Identify utility vendors to the site		
	5	Identify existing and proposed utilities, including fire hydrants, meters, and service taps		
	6	Show existing and proposed drainage inlets, pipes, channels, and manholes		
	7	Top and toe of slopes for retention/detention basins or other embankments		
	8	Traffic ingress, egress, traffic flow patterns, and traffic control features		
	9	All paving and concrete walks, pads, ramps, wheel chocks		
	10	Building footprint, roof line, exterior doorways, and roof drain location		
	11	Parking areas, striping, stalls, lighting		
	12	Areas to receive gravel		
	13	Signage, trash collection areas, bike racks and paths, crosswalks, fire lanes		
	14	Miscellaneous structures, fences, walls		
	15	Other non-landscaping surface facilities		
	16	Do not show existing or proposed contours		
	17	For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, ROW width, and the monument or section line.		
	18	When applicable, identify the maximum delivery or service truck size and turning radius, hours of anticipated deliveries, and show truck turning radii on the plan to show adequacy of entry/exit and on-site design.		
	19	Identify trash dumpster type, anticipated pick-up time, and accessibility.		
	20	Space for signature approval by City Engineering with date and title.		
	21	Space for signature of County Clerk and Recorder (when required)		

COMMENTS

1 All angle, curvature, tangency, grade break and change, and other primary features must be fully located horizontally. However, these may be identified on the Grading and Drainage Plan, or may be put on a separate "Staking Plan".

2 If the scale is 1" = 10' or 20', instead of preparing a separate Landscaping Plan, that information may be provided hereon if it will not be too cluttered and confusing. Also, add space for signature approval by Community Development with date and title.

Reviewed by: MTD
1-5-95

C H A M B E R L I N
A R C H I T E C T S

December 14, 1994

REFRIGERATION INDUSTRIES
Responses to Community Development Department Comments #207-94

Comment	Response
OK ~~1.~~	See Sheet L1. Trees are provided at a more frequent interval than 40 feet.
OK ~~2.~~	See Sheet C2. The street elevation begins at 4575 feet at the south driveway on Foresight Circle. It climbs to an elevation of 4577 feet at Blichmann. Our landscaped berm along Foresight Circle is an undulating form which provides adequate screening of the parking lot from the street.
OK ~~3.~~	See Sheet L1.
NO 4.	See Attachment A. We are providing a larger area for car maneuvering and believe a grass overhang would be more attractive.
OK ~~5.~~	See Sheet C1.
OK ~~6.~~	See Sheet L2. -Irrigation Plan provided
OK ~~7.~~	See Isofootcandle Diagram - Attachment B, four pages.
OK ~~8.~~	See Sheet L1.
OK ~~9.~~	See Attachment C.
~~10.~~	See Sheet C1. The model specified holds six (6) bicycles. → check specs
OK ~~11.~~	See Sheet C1.
OK ~~12.~~	See Sheet C1.

SN/comresp.454

· A P R O F E S S I O N A L C O R P O R A T I O N ·

437 MAIN STREET
GRAND JUNCTION, COLORADO 81501-2511
TELEPHONE (303) 242-6804
FAX (303) 245-4303

To: MICHAELD (Michael Drollinger)
From: Jody Kliska
Subject: Re: refrigeration industries
Date: 12/19/94 Time: 8:16a

Originated by: MICHAELD 12/16/94 10:31a
Replied by: JODYK 12/19/94 8:16a

Sorry - just saw the e-mail this morning. TCP is calculated at $10435.39. This is based on 42,768 square feet of building and ITE trip rate of 4.88/1000 sf building for warehouse which includes office and maintenance.

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(303) 244-1430 FAX (303) 244-1599

January 9, 1994

Attn: Steve Newsom
Chamberlin Architects, P.C.
437 Main Street
Grand Junction, CO 81501

Re: Our File #207-94 Refrigeration Industries

Dear Steve,

We have reviewed your response to comments and have identified the remaining outstanding items below including the City Development Engineer's comments.

OUTSTANDING ITEMS

Community Development

1. The "minimum parking lot section" as detailed on Attachment "A" in the response to comments which includes the paved overhang will be required as per Code.

2. A note shall be added to the shrubs identified on the plant list in the Landscape Plan indicating a five gallon minimum size for all shrubs.

3. The location of the bicycle rack shall be indicated on the Site Plan.

4. The items circled on the attached Site Plan Drawing Standards Checklist need to be shown on the Site Plan or provided in writing (as indicated).

Development Engineer

1. A retaining wall design for the loading ramp shall be provided. The drawing shown does not indicate all dimensions and does not indicate size and spacing of reinforcing steel.

2. The curb openings shall be shown on the drainage plan. It appears from the spot elevations that ponding will occur in the southwestern part of the parking lot.

Revised plans will be required. It is my understanding from our telephone conversation last week that the plat will be submitted to our office in about a week. No Planning Clearance can be issued for this project prior to recording of the plat.

If you have any questions please feel free to contact me at 244-1439.

Sincerely yours,

Michael T. Drollinger
Senior Planner

cc: Jody Kliska, City Development Engineer (w/enclosure)
File #207-94

Enclosure

207-942

DRAWING STANDARDS CHECKLIST

SITE PLAN

	ITEM	GRAPHIC STANDARDS	OK	NA
SECTION VIII	A	Scale: 1" = 10', 20', 30', 40', or 50'		
	B	Drawing size: 24" x 36"		
	C	Primary features consist only of proposed facilities except those related to drainage		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally (See Comment 1)		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by registered professional competent in the work		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	R	Neatness and legibility		

ITEM	FEATURES	OK	NA
1	Site boundary, and adjacent property lines, land use, and zoning		
2	Total site acreage and proposed land use breakdown		
3	All existing and proposed easements, streets and ROW's		
4	Identify utility vendors to the site - IN WRITING OR ON PLANS		
5	Identify existing and proposed utilities, including fire hydrants, meters, and service taps		
6	Show existing and proposed drainage inlets, pipes, channels, and manholes		
7	Top and toe of slopes for retention/detention basins or other embankments		
8	Traffic ingress, egress, traffic flow patterns, and traffic control features		
9	All paving and concrete walks, pads, ramps, wheel chocks		
10	Building footprint, roof line, exterior doorways, and roof drain location - ON plan		
11	Parking areas, striping, stalls, lighting		
12	Areas to receive gravel		
13	Signage, trash collection areas, bike racks and paths, crosswalks, fire lanes - ON Site Plan		
14	Miscellaneous structures, fences, walls		
15	Other non-landscaping surface facilities		
16	Do not show existing or proposed contours		
17	For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, ROW width, and the monument or section line.		
18	When applicable, identify the maximum delivery or service truck size and turning radius, hours of anticipated deliveries, and show truck turning radii on the plan to show adequacy of entry/exit and on-site design.		
19	Identify trash dumpster type, anticipated pick-up time, and accessibility. - ON Site Plan		
20	Space for signature approval by City Engineering with date and title.		
21	Space for signature of County Clerk and Recorder (when required)		

COMMENTS

1 All angle; curvature, tangency, grade break and change, and other primary features must be fully located horizontally. However, these may be identified on the Grading and Drainage Plan, or may be put on a separate "Staking Plan".

2 If the scale is 1" = 10' or 20', instead of preparing a separate Landscaping Plan, that information may be provided hereon if it will not be too cluttered and confusing. Also, add space for signature approval by Community Development with date and title.

PRELIMINARY

#207-94 Site Plan Review/Resubdivision and Revocable Permit - Refrigeration Industries
COMMUNITY DEVELOPMENT DEPARTMENT COMMENTS

Site Plan Review

1. Section 5-4-15H of the Zoning and Development Code (ZDC) requires that one street tree be provided for every 40 feet of street frontage. The petitioner shall provide street trees at the required spacing.

2. Section 5-5-1F2a requires that a landscape barrier be provided to shield the parking lot from the street. The landscape barrier shall be a minimum of 2 1/2 ft. high but not greater than 3 1/2 ft. high at maturity. The landscape barrier can be accomplished with a combination of landscaping and/or berming.

3. Regarding parking lot interior landscaping, the Code requires that one tree be provided for each 100 square feet of required interior landscaping, thus based on our calculations 11 trees need to be provided and planted in the interior of the parking lot.

4. Section 5-5-1F2c(2) requires a 2 1/2 foot overhang be provided in planting areas where bumper or door overhang are anticipated. The overhang may be constructed of concrete or paving blocks, asphalt paving is not permitted.

5. City standards for planting islands between parking rows require a minimum width of 10 feet, however, only 9 feet is provided.

6. Code requires that landscape plan contain a note stating that "all landscaped areas shall be provided with a pressurized, underground irrigation system."

7. The parking lot lighting requirements have not been meet. Section 5-5-1Fi contains parking lot lighting submittal requirements and standards (copy attached).

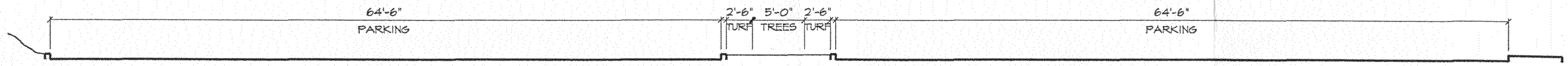
8. Petitioner should provide the type of plantings proposed; "somekindaplant" is not sufficient. All plantings must meet the size requirements in Section 15-4-15B of the ZDC, minimum sizes provided shall be indicated on the Landscape Plan.

9. Petitioner shall provide written confirmation of the breakdown of floor area for each type of use in the proposed building to determine the adequacy of the provided parking.

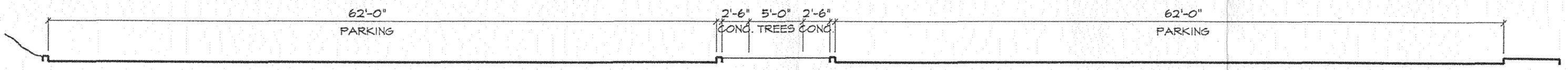
10. Section 5-5-1H1 requires the following regarding bicycle parking: "bicycle rack(s) sufficient to hold three bicycles or the number of bicycles equal to ten percent of the required off-street parking spaces for the use, whichever is greater." The locations and amount of bicycle parking provided shall be indicated in the Site Plan.

11. City Public Works standards require that three (3) accessible parking stalls be provided for parking lots with between 51 and 75 spaces.

ATTACHMENT A



PROPOSED PARKING LOT SECTION

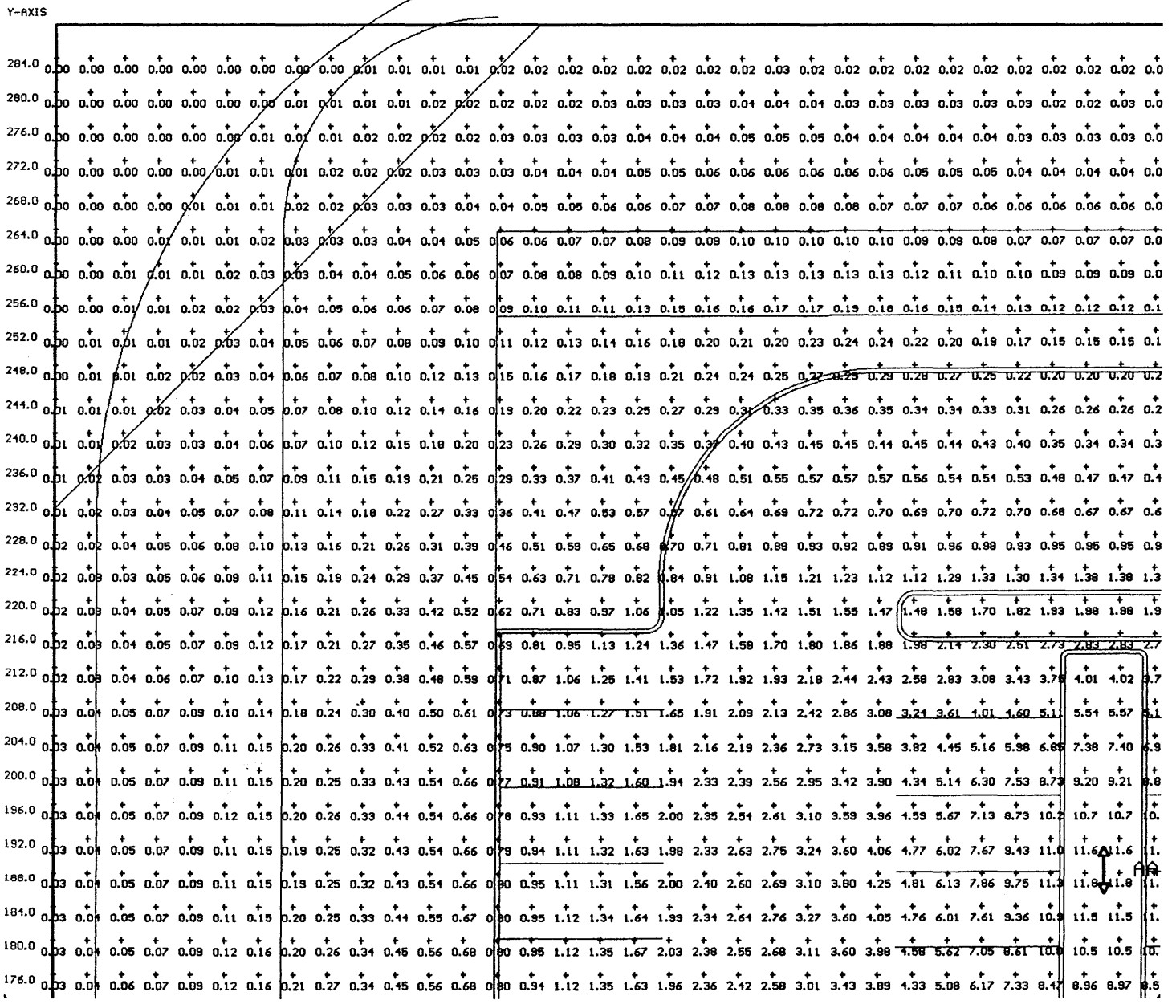


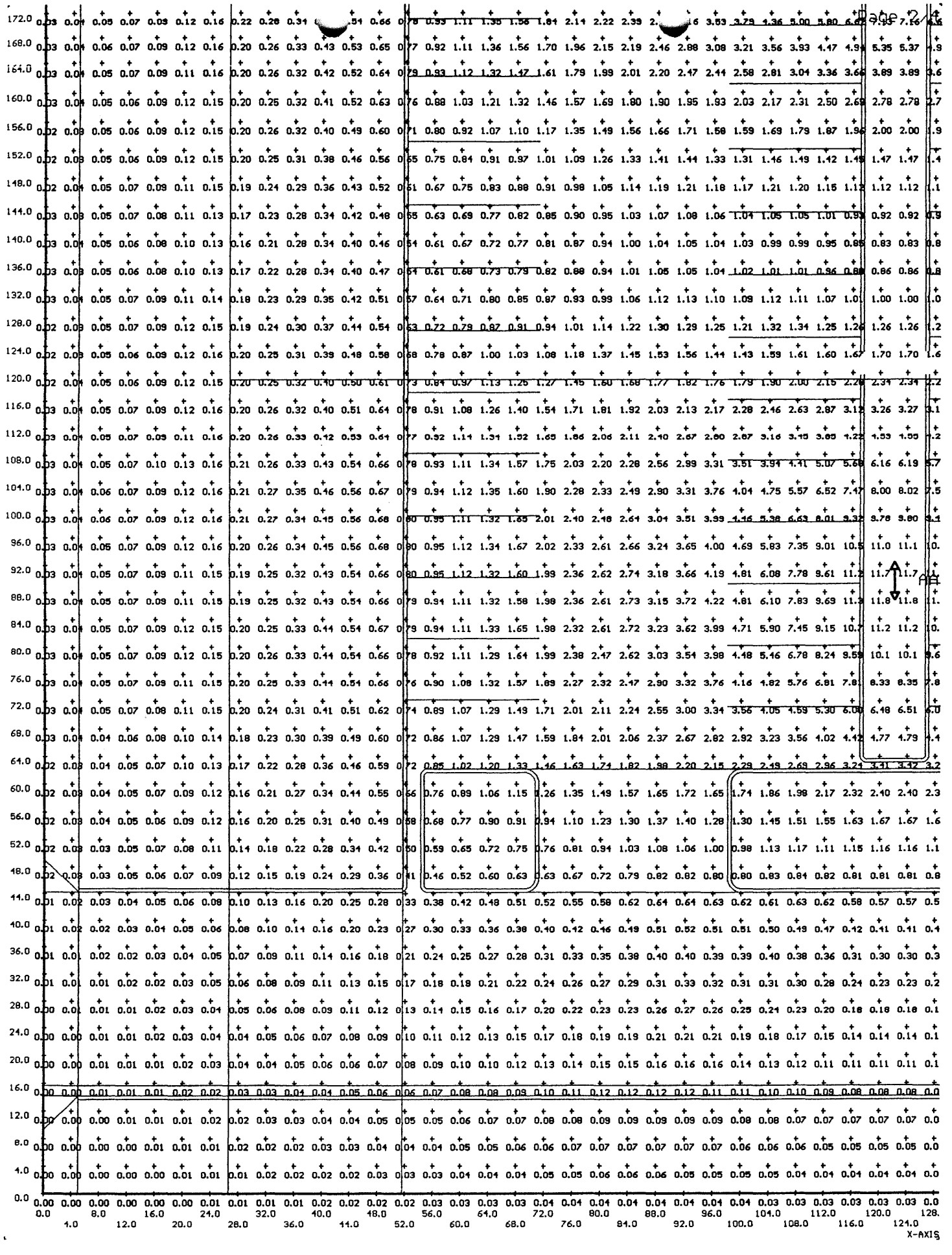
MINIMUM PARKING LOT SECTION

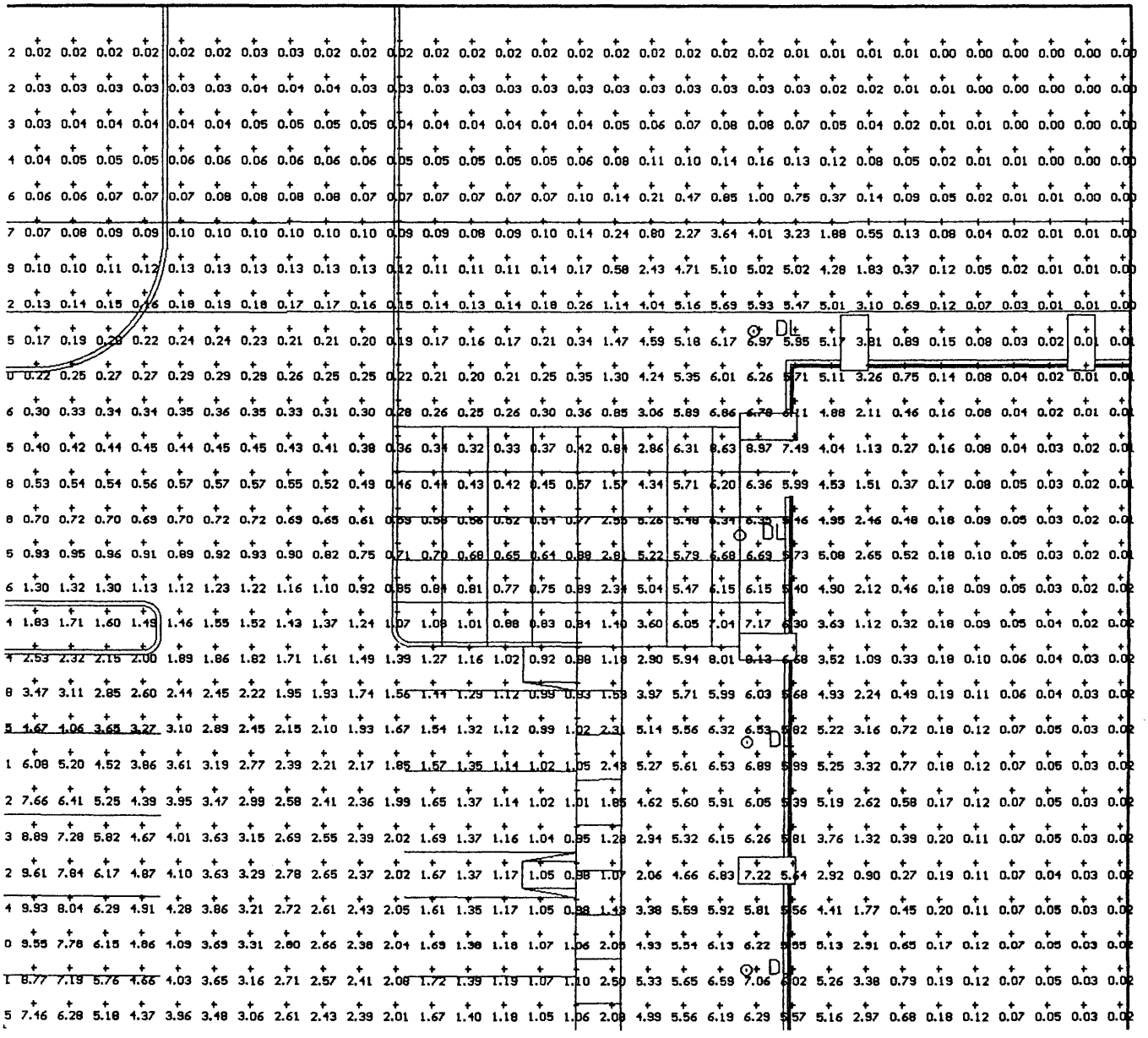
USI's LITE*PRO V2.20E Point-By-Point Numeric Output 16:08 13-Dec-94
PROJECT: 9438OUT AREA: PARKING LOT GRID: GROUND
Values are FC, SCALE: 1 IN= 18.0FT, HORZ GRID (U), HORZ CALC, Z= 0.0
Computed in accordance with IES recommendations

+ MIN=0.00 MAX=11.8 AVE=1.26 AVE/MIN= 745.43 MAX/MIN=6973.95

AA= KIM LIGHTING 2 TYPE A2, 23', 2' <2>
DL= PRESCOLITE DOWN LIGHT, NONE, NONE <5>
J= GE LIGHTING WALL PACK, NR, NR <1>




X-AXIS


DL
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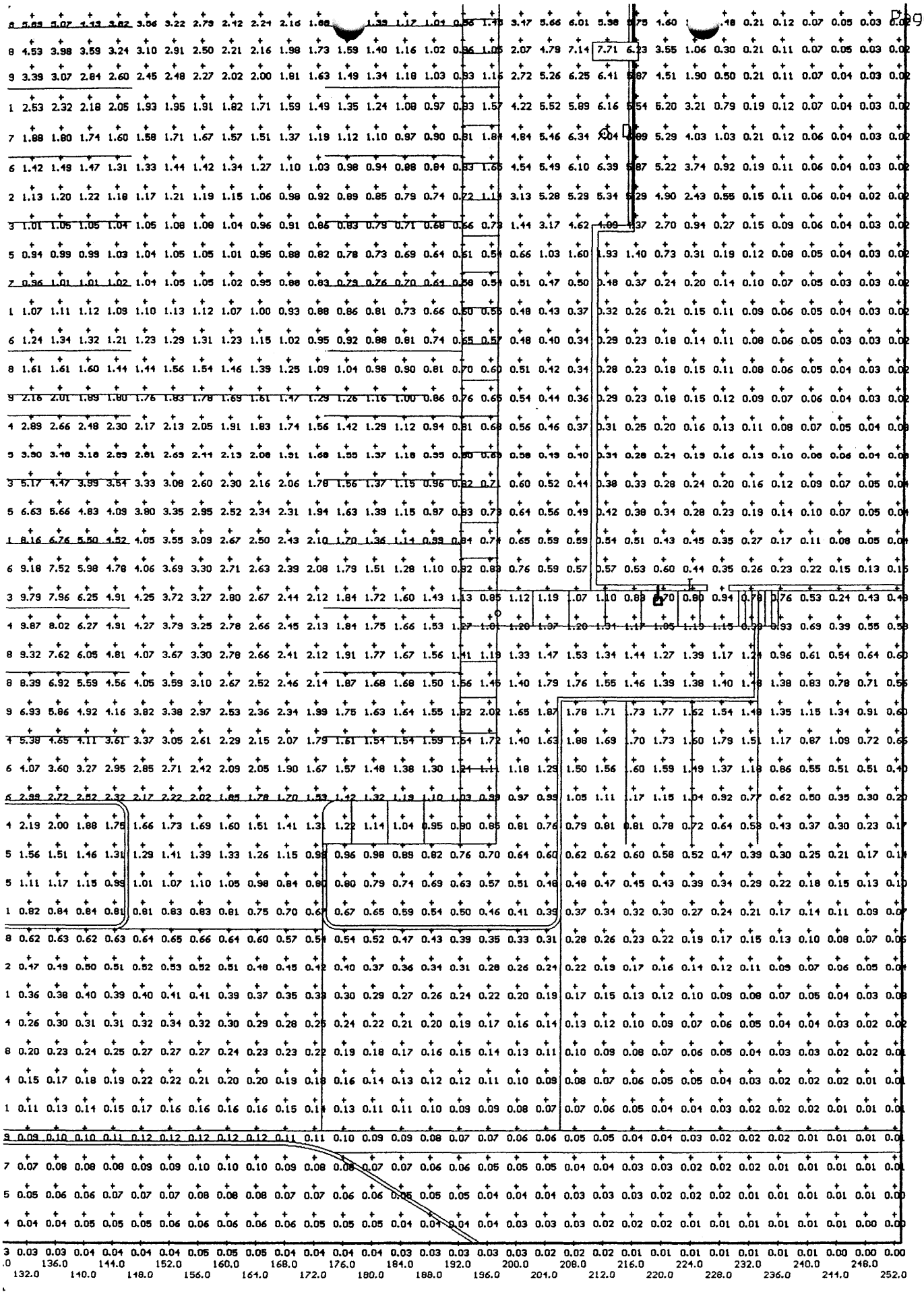

ATTACHMENT C
FLOOR AREA BREAKDOWN

Space	Size	Parking Spaces Required Per 5-5-1-H
Office	13,800 s.f.	46
Warehouse	33,600 s.f.	14*
		60 spaces required

* Based on number of employees

SN/attachC.454

Responses to Review Comments
File No. 207-94

Grand Junction Drainage District

The site will drain to the west on Foresight Circle through a detention area that will release water at the historic rate.

City Fire Department

1. See attached set of drawings to use for fire flow calculations.

2. No fence will be installed on the north side of the site.

3. Specifications will indicate NFPA 231 or 231C as indicated in your comments.

Public Service Company

Ten-foot wide easement will be included on final plat.

Ute Water District

Our engineer is in touch with Ute Water regarding domestic and fire protection needs and meter and check valve locations.

City Development Engineer

1. See attached set of drawings for accessibility, paving sections and details. The electrical drawings indicate parking lot lighting. Small trucks and vans are primary delivery vehicles.

2. See Sheet C2 for grading which reflects design indicated in the drainage report. The plan shows grades which direct water to the Detention Area. The grades were designed to hold the volumes indicated in the drainage report.

3. See Sheet L1 for plant types.

Community Development Department

These comments were addressed in a previous submittal.

sn/comments.454

REVIEW COMMENTS

FILE # 207-94 **TITLE HEADING:** Site Plan Review - New Office/Warehouse

LOCATION: SE corner of Foresight Circle & Blichmann Avenue

CHAMBERLIN
DEC 16 1994
ARCHITECTS P.C.

PETITIONER: Steve Newsom

PETITIONER'S ADDRESS/TELEPHONE: 437 Main Street
Grand Junction, CO 81501
242-6804

PETITIONER'S REPRESENTATIVE: Chamberlin Architects

STAFF REPRESENTATIVE: Michael Drollinger

NOTE: WRITTEN RESPONSE BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED. A PLANNING CLEARANCE WILL NOT BE ISSUED UNTIL ALL ISSUES HAVE BEEN RESOLVED.

MESA COUNTY BUILDING DEPARTMENT **12/05/94**
Bob Lee **244-1656**

No comments. We are working with Chamberlin Architects on this project.

GRAND JUNCTION DRAINAGE DISTRICT **12/06/94**
John Ballagh **242-4343**

The Drainage District has existing tile lines in F 1/2 Road (South side of pavement) from 25 to 25 1/2 road and in 25 Road (on the East side of the pavement) from F 1/2 Road to just North of F Road. The project site does not abut a drainage district facility.

CITY FIRE DEPARTMENT **12/06/94**
Hank Masterson **244-1414**

A Fire Flow Survey is required. Submit a complete set of construction drawings to the Fire Department so that fire flow calculations can be completed.

On site fire hydrant requirements if any, will be based on fire flow requirements for this building.

Fire Department access roads are required to within 150' of all exterior portions of the building at ground level. The site plan show adequate access roads, however access to the building along Blichmann Avenue must not be blocked by any fencing.

Fire sprinkler contractor must submit complete plans, calculations and specifications to the Fire Department for review. Design of sprinkler system in warehouse area to be according to NFPA 231 or 231C standards.

PUBLIC SERVICE COMPANY **12/13/94**
Dale Clawson **244-2695**

Electric: Require 10' wide easement from North side of transformer pad south to southerly boundary of Lot 1 Block 8.
Gas: No objections.

CITY UTILITY ENGINEER **12/14/94**
Bill Cheney **244-1590**

Plant Investment Fee for sewer is based on the maximum number of employees per shift. No other comments.

UTE WATER DISTRICT **12/13/94**
Gary Mathews **242-7491**

Ute water has a 8" main line on the North side of Blichmann. This main is a looped system and should supply sufficient fire flow requirements.

Contact with Ute Water is needed to discuss cost and domestic and fire protection needs.

All domestic meters and fire protection check valves are installed at the property lines.

POLICIES AND FEES IN EFFECT AT THE TIME OF APPLICATION WILL APPLY.

CITY DEVELOPMENT ENGINEER **12/08/94**
Jody Kliska **244-1591**

Sheet C2 was not included with submittal.

Site Plan - See attached checklist. Three handicap spaces are required and must meet dimensioning, signing and marking standards. No parking lot lighting is indicated on the Site plan. Asphalt and concrete pavement sections need to be included in details and should reflect the recommendations of the soils report. The driveway radii may need to be increased depending on the size of trucks anticipated to be using this site.

Grading Plan - Needs to be consistent with the drainage report. Plan indicates retention, study says detention. The plan does not show how the water gets to the retention area. Indicate the storage volume.

Landscape Plan - Some kind a plant probably doesn't meet the Code.

COMMUNITY DEVELOPMENT DEPARTMENT **12/14/94**
Michael Drollinger **244-1439**

See attached comments.

#207-94 Site Plan Review/Resubdivision and Revocable Permit - Refrigeration Industries
COMMUNITY DEVELOPMENT DEPARTMENT COMMENTS

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11. City Public Works standards require that three (3) accessible parking stalls be provided for parking lots with between 51 and 75 spaces.

12. At least one (1) concrete path should be provided in the planting island between the parking rows to facilitate pedestrian circulation to/from the building.

NOTE: REVISED PLANS WILL BE REQUIRED WHICH ADDRESS THE ABOVE COMMENTS

Resubdivision

1. The requirements for resubdivison, namely the Final Plat, has not been submitted. Final Plat submittal requirements are attached. The Final Plat will require approval from the County Surveyor and the Utility Coordinating Committee (UCC). Community Development will require recording of the Final Plat prior to issuance of a Planning Clearance for the Site Plan Review and the Revocable Permit.

Revocable Permit

No Comments

C H A M B E R L I N
A R C H I T E C T

January 11, 1995

REFRIGERATION INDUSTRIES
Response to Outstanding Items
File #207-94

Community Development

1. See attached Drawing C1.1 which indicates the required paved area at the parking lot median. This drawing will be included as part of an addendum to the contract documents.

2. See attached Drawing L1.1 which indicates the five gallon minimum shrub size. This drawing will be included as part of an addendum to the contract documents.

3. See attached Drawing C1.1 which indicates the bicycle rack location near the intersection of Grids B and 4.

4. Utilities shall be supplied by the following:
   Gas and Electricity: Public Service
   Irrigation Water: Foresight Owner's and Tenant's Association
   Domestic Water: Ute Water

Roof drain locations are indicated on Drawing A5 (previously submitted).

The dumpster for the building will be located in the enclosure shown on drawing C1.1 near the intersection of Grids D and 4, and detailed as 1/C1. The dumpster type will be a three- to five-yard metal unit.

Development Engineer

1. See attached Drawing S2 (previously submitted) which indicates reinforcing. Drawing C.1. indicates length of ramp and Detail 2/S2 shows vertical dimensions.

· A P R O F E S S I O N A L C O R P O R A T I O N ·

437 MAIN STREET
GRAND JUNCTION, COLORADO 81501-2511
TELEPHONE (303) 242-6804
FAX (303) 245-4303

2. The Drainage Plan (Drawing C2) is for use by the earthwork and paving contractors. Drawing C1 shows all concrete work for the site which includes the curb openings. Repeating the detail reference is repetitious and can cause mistakes in the Drawings. No ponding will occur in the southwest portion of the lot based on our analysis of the grading plan.

The final plat is being completed and should be available the beginning of the week of January 16.

SCN/1-11resp.454

DATE: 1-17-1995 TIME: 10:13

Replat of Lot 1-2-3, Block 8
Foresight Park for Industry,
Filing No. 3

CLOSURE LOT 1

CLOSURE TYPE: Closed Loop

ADJUSTMENT RULE: Compass rule

ERROR SUMMARY:

Relative	1 :	228697856
Angular	89°57'00"	
Linear	0.0000	(ft)
Northing*	0.0000	(ft)
Easting*	-0.0000	(ft)
Elevation*	0.0000	(ft)
Bearing*	N 0°46'25"W	

* from: correct ending pt
to: actual ending pt

TRAVERSE SUMMARY:

Length:	*	2013.3432 (ft)
	**	2023.2532 (ft)
Points:	*	6
Area:		198627 (sq ft)
		4.560 (acres)
	**	198805.101 (sq ft)
	**	4.564 (acres)

* Beginning pt to Ending pt
** Includes Curved Sides

CLOSING PTS:	PT	NORTHING	EASTING	ELEVATION
Beginning	508	4999.6332	9999.7886	3.9037
Ending (actual)	513	4999.6332	9999.7886	3.9037
Ending (correct)	513	4999.6332	9999.7886	3.9037

SURVEY NAME: 94035
SURVEY FILE: 94035.TRV

Replat of Lot 2-3, Block 8
Foresight Park for Industry
Filing No. 3

TRAVERSE NAME: CLOSURE LOT 1

S	PT	BEARING	HORIZ DIST (feet)	NORTHING (feet)	EASTING (feet)	
	508			4999.6332	9999.7886	
				(N.E.COR. LOT 1 P.O.B.		3
		S 0°00'00"E	525.270			
	505			4474.3632	9999.7886	
				(S.E. COR. LOT 1		3
		N45°00'00"W	282.840			
	504			4674.3613	9799.7905	
				(ANGLE POINT S. LINE LOT 1		3
		S90°00'00"W	350.530			
	503			4674.3613	9449.2605	
				(S.W. COR. LOT 1		3
		N 0°00'00"E	299.813			
	511			4974.1745	9449.2605	
				(P.C. N.W. COR. LOT 1		3
		N44°58'30"E	35.340			
	510			4999.1746	9474.2388	
				(P.T. N.W. COR. LOT 1		3
		N89°57'00"E	525.550			
	513			4999.6332	9999.7886	
				(CLOSURE CHECK POINT (508)		3

PROJECT MANUAL
(LOCATED IN FILE)

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SUBSURFACE SOILS EXPLORATION

REFRIGERATION INDUSTRIES

GRAND JUNCTION, COLORADO

Prepared For:

MR. JERRY LEONARD
2749 LOS PINOS
CAMARILLO, CALIFORNIA

Prepared By:

LINCOLN-DeVORE, INC.
1441 Motor Street
Grand Junction, CO 81505

OCTOBER 25, 1994

SUBSURFACE SOILS EXPLORATION

REFRIGERATION INDUSTRIES

GRAND JUNCTION, COLORADO

Prepared For:

MR. JERRY LEONARD
2749 LOS PINOS
CAMARILLO, CALIFORNIA

Prepared By:

LINCOLN-DeVORE, INC.
1441 Motor Street
Grand Junction, CO 81505

OCTOBER 25, 1994

October 25, 1994

Mr. Jerry Leonard
2749 Los Pinos
Camarillo, CA 93012

Re: SUBSURFACE SOILS EXPLORATION

REFRIGERATION INDUSTRIES

GRAND JUNCTION, COLORADO

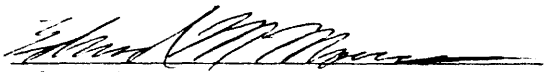
Dear Sir:

Transmitted herein are the results of a Subsurface Soils Exploration for the proposed Industrial/Warehouse structure, at the intersection of Birchman Avenue and Foresight Circle.

If you have any questions after reviewing this report, please feel free to contact this office at any time. This opportunity to provide Geotechnical Engineering services is sincerely appreciated.

Respectfully submitted,

LINCOLN-DeVORE, INC.

By: 
Edward M. Morris, E.I.T.
Western Slope Branch Manager
Grand Junction, Office

Reviewed by: _____
George D. Morris, P.E.
Colorado Springs Office

LDTL Job No. 81754-J

EMM/bh

TABLE OF CONTENTS

INTRODUCTION

PROJECT DESCRIPTION

This report presents the results of our geotechnical evaluation performed to determine the general subsurface conditions of the site applicable to construction of a single story industrial/warehouse facility. A vicinity map is included in the Appendix of this report.

To assist in our exploration, we were provided with a site plan prepared by Chamberlin Architects of Grand Junction, Colorado. The Boring Location Plan attached to this report is based on that plan provided to us.

We understand that the proposed structure will consist of a single story, masonry or possibly tilt up concrete structure with a concrete floor slab on grade. The roof system will be supported by the exterior walls and two interior beams with associated interior pads. Lincoln DeVore has not seen a full set of building plans, but structures of this type typically develop wall loads on the order of 1600-2800 plf and column loads on the order of 60-90 kips.

The characteristics of the subsurface materials encountered were evaluated with regard to the type of construction described above. Recommendations are included herein to match the described construction to the soil characteristics found. The information contained herein may or may not be valid for other purposes. If the proposed site use is changed or types of construction proposed, other than noted herein, Lincoln DeVore should be contacted to determine if the information in

this report can be used for the new construction without further field evaluations.

PROJECT SCOPE

The purpose of our exploration was to evaluate the surface and subsurface soil and geologic conditions of the site and, based on the conditions encountered, to provide recommendations pertaining to the geotechnical aspects of the site development as previously described. The conclusions and recommendations included herein are based on an analysis of the data obtained from our field explorations, laboratory testing program, and on our experience with similar soil and geologic conditions in the area.

This report provides site specific information for the construction of a single story industrial/warehouse structure approximately 160 X 270 feet in outside dimension, with some interior office space. Included in this report are recommendations regarding general site development and foundation design criteria.

The scope of our geotechnical exploration consisted of a surface reconnaissance, a geophoto study, subsurface exploration, obtaining representative samples, laboratory testing, analysis of field and laboratory data, and a review of geologic literature.

Specifically, the intent of this study is to:

1. Explore the subsurface conditions to the depth expected to be influenced by the proposed construction.

2. Evaluate by laboratory and field tests the general engineering properties of the various strata which could influence the development.

3. Define the general geology of the site including likely geologic hazards which could have an effect on site development.

4. Develop geotechnical criteria for site grading and earthwork.

5. Identify potential construction difficulties and provide recommendations concerning these problems.

6. Recommend an appropriate foundation system for the anticipated structure and develop criteria for foundation design.

FIELD EXPLORATION AND LABORATORY TESTING

A field evaluation was performed on October 3 & 4 1994, and consisted of a site reconnaissance by our geotechnical personnel and the drilling of 4 exploration borings. Three exploration borings were drilled within the proposed building and one shallow boring was placed in exterior parking area, near the locations indicated on the Boring Location Plan. The exploration borings were located to obtain a reasonably good profile of the subsurface soil conditions. All exploration borings were drilled using a CME 45B, truck mounted drill rig with continuous flight auger to depths of approximately 20-64 feet. Samples were taken with a standard split spoon sampler, California Lined Spoon Sampler, Thin Walled Shelby Tubes and by bulk methods. Logs describing the subsurface conditions are presented in the attached figures.

Laboratory tests were performed on representative soil samples to determine their relative engineering properties. Tests were performed in accordance with test methods of the American Society for Testing and Materials or other accepted standards. The results of our laboratory tests

are included in this report. The in-place moisture content and the standard penetration test values are presented on the attached drilling logs.

FINDINGS

SITE DESCRIPTION

The project site is located in the North half of the Southwest Quarter of Section 3 , Township 1 South, Range 1 West of the Ute Principal Meridian, Mesa County, Colorado. More specifically the site is located in the Northern portion of the Foresight Park for Industry and is bounded on the North by Blichmann Avenue and on the West by Foresight Circle. The site is located approximately 2 miles North, Northwest of the main downtown Grand Junction Business District and is located within the city limits of Grand Junction.

The topography of the site is relatively flat, with a slight overall gradient to the South Southwest. In general, surface runoff is expected to travel toward the South, eventually entering the storm drainage features of Foresight Circle, eventually the Independent Ranchman's Ditch and the Colorado River. Surface and subsurface drainage on this site would be described as poor.

GENERAL GEOLOGY AND SUBSURFACE DESCRIPTION

The geologic materials encountered under the site consist of approximately 60-63 feet of Alluvial Soils which overlie the Mancos Shale Bedrock. The geologic and engineering properties of the materials found in our 4 exploration borings will be discussed in the following sections.

The soils on this site consist of a coarse grain cobble alluvial deposit placed by the action of the Colorado River, covered with colluvium (debris fan deposits)

transported from the hills to the North. This stratification of upper soils results in a layered system of silts and clays with thin, interbedded sand lenses overlying a sand/gravel deposit. Generally, the silts and clays are soft, wet and of low density. Soil density decreases and the moisture content increases with increasing depth. The upper 3-12 feet of the soil profile are stiffer and relatively dry due to surface desiccation.

The surface Alluvial soils on this site consist of a series of silty clay and sandy clay soils which are a product of mud flow/debris flow features which originate on the south-facing slopes of the Bookcliffs. These mud flow/debris flow features are a small part of a very extensive mud flow/debris flow complex along the base of the Bookcliffs and extending to the Colorado River. Utilizing recent events and standard evaluation techniques, this tract is not considered to be within with an active debris flow hazard area.

The surface soils are an erosional product of the upper Mancos Shale and the Mount Garfield Formations which are exposed on the slopes of the Bookcliffs. The soils contained within these mud flow/debris flow features normally exhibit a metastable condition which can range from very slight to severe. Metastable soil is subject to internal collapse and is very sensitive to changes in the soil moisture content. Based on the field and laboratory testing of the soils on this site, the severity of the metastable soils can be described as slight.

The surface soils have been grouped as 2 soil types, based on engineering properties and laboratory clas-

sification procedures.

Soil Type I is the predominate Alluvial soil type encountered on this site.

This Soil Type was classified as a silty (CL) under the Unified Classification System. This material is of low plasticity, of low to moderate permeability, and was encountered in a low density, moist to wet condition. If this soil is found in a relatively dry condition, it may undergo mild expansion with the entry of small amounts of moisture, as exhibited in the consolidation swell sample in exploration boring #2 at 8 feet. This soil will undergo long-term consolidation upon the addition of larger amounts of moisture. This soil will settle after being loaded. The maximum allowable bearing capacity for this soil as a site average was found to be 1600 psf, with 400 minimum dead load pressure required. The finer grained portion of Soil Type No. I contains sulfates in detrimental quantities.

Soil Type No. II is somewhat similar to Soil Type No. I but is often quite sandy. This soil type is often encountered as thin to medium strata within Soil Type I. Soil Type II was found to be the primary soil type in the upper 2-3 feet of the soil profile in the parking area and was subjected to testing for use as subgrade soils for the pavement sections.

This Soil Type was classified as a very silty, occasionally sandy silty clay and clay silt mixture (ML-CL) under the Unified Classification System. This material is of

low to very low plasticity, of moderate permeability, and was encountered in a low to medium density, moist condition. If this soil is found in a relatively dry condition, this soil type will undergo long-term consolidation upon the addition of moisture. This soil will settle after being loaded. The maximum allowable bearing capacity for this soil was found to be 1600 psf, with 200 minimum dead load pressure required. The finer grained portion of Soil Type No. II contains sulfates in detrimental quantities.

Soil Type III is representative of the Coarse Grained Sandy Cobbles and Cobbley Sands of the Ancient Colorado River Terrace. This soil was encountered at depths ranging from 53-55 feet below the existing ground surface and was found to be 8-9 feet thick. In other exploration borings near this site, 3-8 feet of course grained sand has been encountered immediately on top of this gravel deposit.

This Soil Type is classified as a poorly graded Silty, Sandy Gravel of coarse grain size under the Unified Classification System. This soil type is non-plastic and of medium density. This soil will have virtually no tendency to expand upon the addition of moisture. Settlement will be minimal under the recommended foundation loads. This soil will undergo elastic settlement upon application of static foundation pressures. Such settlement is characteristically rapid and should be virtually complete by the end of construction. If the recommended allowable bearing values are not exceeded, and if all other recommendations are followed, differential movement will be within tolerable limits. At deep foundation depths this soil was

found to have an average allowable bearing capacity of 6000 psf for drilled piers and lightly driven H piles. Closed end pipe, displacement type, piles usually compact the soils resulting in a higher bearing capacity. Under most circumstances in this particular area, piles are driven through this gravel and cobble deposit into the underlying Mancos Shale Formation.

The Alluvial soils are deposited over the dense formational material of the Mancos Shale Formation. The Mancos Shale is described as a thinbedded, drab, light to dark gray marine shale, with thinly interbedded fine grain sandstone and limestone layers. Some portions of the Mancos Shale are bentonitic, and therefore, are highly expansive. The majority of the shale, however, has only a moderate expansion potential. Formational shale was encountered in Test Boring No's 2 & 3 at a depths of approximately 60-62 feet. It is anticipated that this formational shale will affect the construction and the performance of deep foundations systems on the site. If a shallow foundation system is utilized, the expansive shale should not effect the construction and performance of foundations on this site.

The Mancos Shale Formation is designated Soil Type IV. This soil type was classified as a Silty Clay (CL) under the Unified Classification System. The soil is very firm to hard to drill and of medium to high density. The moisture content varies from near saturation at the Shale/Alluvial Soil contact and rapidly decreased with depth. This soil is plastic and is sensitive to changes in moisture content. With

decreased moisture, it will tend to shrink, with some cracking upon desiccation. Upon increasing moisture, it will tend to expand. Expansion tests were performed on typical samples of the soil and expansive pressures on the order of 1900 psf were found to be typical. The allowable maximum bearing value was found to be on the order of 25000 psf for deep foundation systems. A minimum dead load of 2300 psf will be required. This soil was found to contain sulfates in detrimental quantities.

The lines defining the change between soil types or rock materials on the attached boring logs and soil profiles are determined by interpolation and therefore are approximations. The transition between soil types may be abrupt or may be gradual.

The boring logs and related information show subsurface conditions at the date and location of this exploration. Soil conditions may differ at locations other than those of the exploratory borings. If the structure is moved any appreciable distance from the locations of the borings, the soil conditions may not be the same as those reported here. The passage of time may also result in a change in the soil conditions at the boring locations.

GROUND WATER:

A free water table came to equilibrium during drilling at approximately 17-27 feet below the present ground surface. This is probably not a true phreatic surface but is an accumulation of subsurface seepage moisture (perched water). In our opinion the subsurface water conditions shown are a permanent feature on this site. The depth to free water would

be subject to fluctuation, depending upon external environmental effects. A thin, perched water zone was encountered in Exploration Boring #3, at 8' below the ground surface.

Because of capillary rise, the soil zone within a few feet above the free water level identified in the borings will be quite wet. Pumping and rutting may occur during the excavation process, particularly if the bottom of the foundations are near the capillary fringe. Pumping is a temporary, quick condition caused by vibration of excavating equipment on the site. If pumping occurs, it can often be stopped by removal of the equipment and greater care exercised in the excavation process. In other cases, geotextile fabric layers can be designed or cobble sized material can be introduced into the bottom of the excavation and worked into the soft soils. Such a geotextile or cobble raft is designed to stabilize the bottom of the excavation and to provide a firm base for equipment.

Data presented in this report concerning ground water levels are representative of those levels at the time of our field exploration. Groundwater levels are subject to change seasonally or by changed environmental conditions. Quantitative information concerning rates of flow into excavations or pumping capacities necessary to dewater excavations is not included and is beyond the scope of this report. If this information is desired, permeability and field pumping tests will be required.

Due to the relatively fine grained soils in the majority of the soil profile, the drilling did not encoun-

ter large amounts of water until approximately 50 feet when minor gravels and sands were first encountered. At this level, the sands flowed into the exploration boring, hindering proper sampling of the lower soils.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL DISCUSSION

No geologic conditions were apparent during our reconnaissance which would preclude the site development as planned, provided the recommendations contained herein are fully complied with. Based on our investigation to date and the knowledge of the proposed construction, the site condition which would have the greatest effect on the planned development is the relatively low density Alluvial soils.

Since the exact magnitude and nature of the foundation loads are not precisely known at the present time, the following recommendations must be somewhat general in nature. Any special loads or unusual design conditions should be reported to Lincoln DeVore so that changes in these recommendations may be made, if necessary. However, based upon our analysis of the soil conditions and project characteristics previously outlined, the following recommendations are made.

OPEN FOUNDATION OBSERVATION

Since the recommendations in this report are based on information obtained through random borings, it is possible that the subsurface materials between the boring points could vary. Therefore, prior to placing forms or pouring concrete, an open excavation observation should be performed by representatives of Lincoln DeVore. The purpose of this observation is to determine if the subsurface soils directly below the proposed foundations are similar to those encountered in our

exploration borings. If the materials below the proposed foundations differ from those encountered, or in our opinion, are not capable of supporting the applied loads, additional recommendations could be provided at that time.

SITE PREPARATION

GENERAL: All earthwork and grading for this site development should be accomplished in accordance with the following earthwork and grading recommendations and Chapter 70 of the UBC.

EXCAVATION & STRUCTURAL FILL:

Subgrade

Site preparation in all areas to receive structural fill should begin with the removal of all topsoil, vegetation, and other deleterious materials. Prior to placing any fill, the subgrade should be observed by representatives of Lincoln DeVore to determine if the existing vegetation has been adequately removed and that the subgrade is capable of supporting the proposed fills. The subgrade should then be scarified to a depth of 10 inches, brought to near optimum moisture conditions and compacted to at least 90% of its maximum modified Proctor dry density [ASTM D-1557]. The moisture content of this material should be within + or - 2% of optimum moisture, as determined by ASTM D-1557.

Structural Fill

In general, we recommend all structural

fill in the area beneath any proposed structure or roadway be compacted to a minimum of 90% of its maximum modified Proctor dry density (ASTM D1557). We recommend that fill be placed and compacted at approximately its optimum moisture content (+/-2%) as determined by ASTM D 1557. Structural fill should be a granular, coarse grained, non-free draining, non-expansive soil. This structural fill should be placed in the overexcavated portion of this site in lifts not to exceed 6 inches after compaction. This Structural Fill must be brought to the required density by mechanical means. No soaking, jetting or puddling techniques of any type should be used in placement of fill on this site.

Non-Structural Fill

We recommend that all backfill placed around the exterior of the building, and in utility trenches which are outside the perimeter of the building and not located beneath roadways or parking lots, be compacted to a minimum of 80% of its maximum modified Proctor dry density (ASTM D-1557).

Fill Limits

To provide adequate lateral support, we recommend that the zone of overexcavation extend at least 3 feet beyond the perimeter of the building on all sides. The Structural Fill should be a minimum of 3 feet in final compacted thickness.

No major difficulties are anticipated in the course of excavating into the surficial soils on the site. It

is probable that safety provisions such as sloping or bracing the sides of excavations over 4 feet deep will be necessary. Any such safety provisions shall conform to reasonable industry safety practices and to applicable OSHA regulations.

Field Observation & Testing:

During the placement of any structural fill, it is recommended that a sufficient amount of field tests and observation be performed under the direction of the geotechnical engineer. The geotechnical engineer should determine the amount of observation time and field density tests required to determine substantial conformance with these recommendations. It is recommended that surface density tests be taken at maximum 2 foot vertical interval.

The opinions and conclusions of a geotechnical report are based on the interpretation of information obtained by random borings. Therefore the actual site conditions may vary somewhat from those indicated in this report. It is our opinion that field observations by the geotechnical engineer who has prepared this report are critical to the continuity of the project.

Slope Angles

Allowable slope angle for cuts in the native soils is dependent on soil conditions, slope geometry, the moisture content and other factors. Should deep cuts be planned for this site, we recommend that a slope stability analysis be

performed when the location and depth of the cut is known.

No major difficulties are anticipated in the course of excavating into the surficial soils on the site. It is probable that safety provisions such as sloping or bracing the sides of excavations over 4 feet deep will be necessary. Any such safety provisions shall conform to reasonable industry safety practices and to applicable OSHA regulations. The OSHA Classification for excavation purposes on this site is Soil Class C .

DRAINAGE AND GRADIENT:

Adequate site drainage should be provided in the foundation area both during and after construction to prevent the ponding of water and the saturation of the subsurface soils. We recommend that the ground surface around the structure be graded so that surface water will be carried quickly away from the building. The minimum gradient within 10 feet of the building will depend on surface landscaping. We recommend that paved areas maintain a minimum gradient of 2%, and that landscaped areas maintain a minimum gradient of 8%. It is further recommended that roof drain downspouts be carried across all backfilled areas and discharged at least 10 feet away from the structure. Proper discharge of roof drain downspouts may require the use of subsurface piping in some areas. Planters, if any, should be so constructed that moisture is not allowed to seep into foundation areas or beneath slabs or pavements.

If adequate surface drainage cannot be maintained, or if subsurface seepage is encountered during excavation for foundation construction, a full perimeter drain is

recommended for this building. It is recommended that this drain consist of a perforated drain pipe and a gravel collector, the whole being fully wrapped in a geotextile filter fabric. We recommend that this drain be constructed with a gravity outlet. If sufficient grade does not exist on the site for a gravity outlet, then a sealed sump and pump is recommended. Under no circumstances should a dry well be used on this site.

To give the building extra lateral stability and to aid in the rapidity of runoff, it is recommended that all backfill around the building and in utility trenches in the vicinity of the building be compacted to a minimum of 80% of its maximum Proctor dry density, ASTM D 1557. The native soils on this site may be used for such backfill. We recommend that all backfill be compacted using mechanical methods. No water flooding techniques of any type may be used in placement of fill on this site.

Should an automatic lawn irrigation system be used on this site, we recommend that the sprinkler heads be installed no less than 5 feet from the building. In addition, these heads should be adjusted so that spray from the system does not fall onto the walls of the building and that such water does not excessively wet the backfill soils.

It is recommended that lawn and landscaping irrigation be reasonably limited, so as to prevent complete saturation of subsurface soils. Several methods of irrigation water control are possible, to include, but

not limited to:

* Metering the Irrigation water.
* Sizing the irrigation distribution service piping to limit on-site water usage.
* Encourage efficient landscaping practices.
* Enforcing reasonable limits on the size of high water usage landscaping for this site.

FOUNDATIONS

DEEP FOUNDATIONS:

Because of the high loads associated with this structure, we recommend the use of a deep foundation system consisting of drilled piers or driven piles, penetrating the bedrock. Since the site is generally dry and the overlying clayey soils are relatively stiff, problems with seepage and caving are anticipated. Therefore, it is recommended that the use of driven piles be considered for this site. Although a drilled pier system can be used, the soft soil conditions associated with this site would make pier installation relatively difficult. Therefore, this report will consider only driven piles. If information concerning drilled piers is desired, it can be supplied upon request.

DRIVEN PILES:

We recommend that driven piles bear in the competent materials of the underlying Mancos Shale Formation. We anticipate that pile driving refusal will be encountered within a few feet of penetration into the Mancos Shale, after penetration of the coarse grain gravel and cobble is accomplished. Based on a static analysis, piles driven to refusal may be designed for an allowable tip bearing capacity of 70 to 100 tons psf. To determine the bearing area of the pile, the area including the space between the flanges may be included. For example, an HB-12 pile may be assumed to have an end area of

approximately 1 square foot. A round, closed-end pipe pile bearing area would be the area of the pile end plate. Pile driving refusal should be determined by our representative in the field. Generally, pile driving refusal is taken as a maximum of 15 blows per inch. If pile groups are used, the overall capacity of the pile group should be reduced in accordance with the appropriate efficiency formula (such as the Converse-Labarre method). If bearing capacities greater than those recommended above are necessary, we recommend that the pile bearing capacity be determined on the basis of static load tests.

It is anticipated that steel piling (either 'H' sections or concrete filled pipe) will be utilized in this construction. The following recommendations will assume the use of these materials. If wood or concrete piling are anticipated, recommendations can be readily provided.

Driving hammers should be of such size and type to consistently deliver effective dynamic energy suitable to the piles and materials into which they are to be driven. Hammers should operate at manufacturer's recommended speeds and pressures. We recommend that a pile driving hammer be used which is rated at least 19,000 feet pounds. However, driving energy should not be so large that pile damage occurs.

Piles must be used in groups to provide for eccentricities in loading. The group capacity will be less than the summation of the individual pile capacities, depending upon the relative spacing of the piles. A conservative estimate

of group capacity is two-thirds of the summation of the individual pile capacities.

We recommend that minimum spacing of the piles be twice the average pile diameter or 1.75 times the diagonal dimension of the pile cross-section, but no less than 24 inches. It is recommended that the tops of the piles extend a minimum of 4 inches into the pile cap. Based on the exploration borings no pile shorter than feet is recommended unless proper pile capacity is verified by field inspection by the Geotechnical Engineer. Vertical piles should not vary more than 2% from the plumb position. We further recommend that eccentricity of reaction on a pile group with respect to the load resultant not exceed a dimension that would produce overloads of more than 10% in any one pile.

Since the underlying Mancos Shale bedrock is moderately expansive, we recommend a minimum of permanent pressure be maintained on each pier. The minimum pressure should be designed based on a tip uplift pressure of 2600 psf. The area used to consider the uplift pressure should be width times the depth of the pile section used when considering H piles. Round pipe piles will require en end uplift pressure of 2600 psf and a side uplift of 600 psf for the portion of the side wall in contact with the expansive formation.

Based on our analyses, a standard 10-3/4inch diameter, 1/4 inch wall, pipe pile driven to refusal may be designed for an allowable capacity of 70 to 100 tons. On this

site the capacity of the pile will govern allowable load. Pile driving refusal required to obtain the recommended capacity was taken as 7 blows per inch with a 20 foot kip hammer. Driving hammers should be of such size and type to consistently deliver effective energy suitable to the piles and materials into which they are driven. Final pile driving refusal should be determined by representatives of Lincoln DeVore in the field.

DRIVEN PILE OBSERVATION:

Continuous observation of the pile driving operations and a pile load test, if required, should be performed by Lincoln DeVore as a representative of the owner. A continuous log should be maintained on the number of blows per foot required to drive each pile. Driving should be completed without interruption (except for splicing) and without jetting or pre-drilling unless the geotechnical engineer has been contacted for further recommendations.

GRADE BEAMS:

A reinforced concrete grade beam is recommended to carry the exterior wall loads in conjunction with the deep foundation system. We recommend that this grade beam be designed to span from bearing point to bearing point and not be allowed to rest on the ground surface between these points. We recommend a void space be left between the bottom of the grade beam and the subgrade below due to the expansive nature of the subgrade soils.

SHALLOW FOUNDATIONS

Assuming that some amount of differential movement can be tolerated, then a conventional shallow foundation system, underlain by structural fill, placed in accordance with the recommendations contained within this report may be utilized. The foundation would consist of continuous spread footings beneath all bearing walls and isolated spread footings beneath all columns and other points of concentrated load. Such a shallow foundation system, resting on the properly constructed structural fill, may be designed on the basis of an allowable bearing capacity of 2600 psf maximum. Recommendations pertaining to balancing, reinforcing, drainage, and inspection are considered extremely important and must be followed. Contact stresses beneath all continuous walls should be balanced to within + or - 200 psf at all points. Isolated interior column footings should be designed for contact stresses of about 150 psf less than the average used to balance the continuous walls. The criteria for balancing will depend somewhat on the nature of the structure. Single-story, slab-on-grade structures may be balanced on the basis of dead load only. Multi story structures may be balanced on the basis of dead load plus one half live load, for up to three stories.

It is recommended that a Course Grained, non-expansive, non-free draining man-made structural fill be imported to the site. It is recommended the structural fill be a minimum of 3 feet thick below the proposed bottom footing elevation. To insure adequate lateral support, we must recommend that the zone of structural fill extend at least 2 feet around the

perimeter of the proposed footings. It is recommended the excavation be closely examined by representative of Lincoln DeVore to insure that the exposed soils are suitable to support the proposed structural man-made fill.

Recommendations given in the site preparation portion of this report regarding subgrade preparation structural fill placement, fill limits, field observation and testing, and slope angles be followed.

If the design of the upper structure is such that loads can be balanced reasonably well, or if sufficient slab stiffening can be effected through slab design and the underlying structural fill, a floating structural slab type of foundation could be used on this site. Such a slab would require heavy reinforcing to resist differential bending along the rim wall. It is possible to design such a slab either as a thickened edge only, a solid or a ribbed slab. A rim wall must be used for confinement purposes. Any such slab must be specifically designed for the anticipated loading.

Such a foundation system may settle to some degree however, the use of a structural fill beneath the slab and rim wall will help reduce settlement and hold differential movement to a minimum. Relatively large slabs will tend to experience minor cracking and heave of lightly loaded interior portions, unless the slabs are specifically designed with this movement in mind.

The placement of a geotextile fabric for separation between the native soils and the structural fill is may be recommended to aid the fill placement and to improve the stability of the completed fill.

When The structural fill is completed, an allowable bearing capacity of 2600 psf maximum may be assumed for proportioning the footings if the fill is a minimum of 3 feet in thickness.

The placement of the structural fill a minimum of two feet beyond the edge of the structural slab should provide additional support for the eccentrically placed wall loads on the slab edges.

CONCRETE SLABS ON GRADE

Slabs could be placed directly on the natural soils or on a structural fill. We recommend that all slabs on grade be constructed to act independently of the other structural portions of the building. One method of allowing the slabs to float freely is to use expansion material at the slab-structure interface. If a driven pile or caisson type of foundation is utilized to support the main structure, some differential movement of the floor slab must be anticipated.

It is recommended that slabs on grade be constructed over a capillary break of approximately 6 inches in thickness. We recommend that the material used to form the capillary break be free draining, granular material and not contain significant fines. A free draining outlet is also recommended for this break so that it will not trap water beneath the slab. A vapor barrier is recommended beneath the floor slab and above the capillary break. To prevent difficulty in finishing concrete, a 2 inch sand layer should be placed above the break. An alternate method of reducing finishing problems would be to place the vapor barrier beneath approximately 6 inches of a minus 3/4 inch gravel fill. This method must be very carefully accomplished to minimize excessive puncturing and tearing of the vapor barrier.

If the interior floor slabs are to receive heavy loads due to: a) wheel loads of industrial vehicles such as fork lifts or straddle carriers, 2) concentrated static

loads of racks, or 3) heavy distributed stacked loads, then the slabs classify as industrial and we recommend they be designed in accordance with methods outlined in the PCA publication, "Slab Thickness Design for Industrial Concrete Floor Slabs on Grade". For design purposes, the modulus of subgrade reaction for Soil Type I and II may be taken as 80 pci. The modulus of subgrade reaction for a course grain granular structural fill may be taken as 300 pci.

It is recommended that floor slabs on grade be constructed with control joints placed to divide the floor into sections not exceeding 360 square feet, maximum. Also, additional control joints are recommended at all inside corners and at all columns to control cracking in these areas.

Problems associated with slab 'curling' are usually minimized by proper curing of the placed concrete slab. This period of curing usually is most critical within the first 5 days after placement. Proper curing can be accomplished by continuous water application to the concrete surface or by the placement of a 'heavy' curing compound, formulated to minimize water evaporation from the concrete. Curing by continuous water application must be carefully undertaken to prevent the wetting or saturation of the subgrade soils.

EARTH RETAINING STRUCTURES

The active soil pressure for the design of earth retaining structures may be based on an equivalent fluid pressure of 50 pounds per cubic foot. The active pressure should be used for retaining structures which are free to move at the top (unrestrained walls). For earth retaining structures which are fixed at the top, such as basement walls, an equivalent fluid pressure of 65 pounds per cubic foot may be used. It should be noted that the above values should be modified to take into account any surcharge loads, sloping backfill or other externally applied forces. The above equivalent fluid pressures should also be modified for the effect of free water, if any.

The passive pressure for resistance to lateral movement may be considered to be 230 pcf per foot of depth. The coefficient of friction for concrete to soil may be assumed to be .27 for resistance to lateral movement. When combining frictional and passive resistance, the latter must be reduced by approximately 1/3.

Drainage behind retaining walls is considered critical. If the backfill behind the wall is not well drained, hydrostatic pressures are allowed to build up and lateral earth pressures will be considerably increased. Therefore, we recommend a vertical drain be installed behind any impermeable retaining walls. Because of the difficulty in placement of a gravel drain, we recommend the use of a composite drainage mat

similar to Exxon Battledrain or Tensar MD Series NS-1100. An outfall must be provided for this drain.

REACTIVE SOILS

Since groundwater in the Grand Junction area in general and the Foresight Park area specifically typically contains sulfates in quantities detrimental to a Type I cement, a Type II or Type I-II or Type II-V cement is recommended for all concrete which is in contact with the subsurface soils and bedrock. Calcium chloride should not be added to a Type II, Type I-II or Type II-V cement under any circumstances.

PAVEMENTS

Samples of the surficial native soils at this property that may be required to support pavements have been evaluated using the Hveem-Carmany method (ASTM D-2844) to determine their support characteristics. The results of the laboratory testing are as follows:

AASHTO Classification - A-4(8) Unified Classification - ML-CL
Soil Type II

R =	35
Expansion @ 300 psi =	0.1
Displacement @ 300 psi =	3.78

Displacement values higher than 4.00 generally indicate the soil is unstable and may require confinement for proper performance.

No estimates of traffic volumes have been provided to Lincoln DeVore. We have assumed a EDLA of both 5 & 25 for preliminary recommendations. The design procedures utilized are those recognized by the Colorado Department of Highways and the 1986 AASHTO design procedure.

Based upon the existing topography, the anticipated final road grades and the anticipated future irrigation practices in the local area, a Drainage Factor of 0.6 (1986 AASHTO procedure) has been utilized for the section analysis.

PROPOSED PAVEMENT SECTIONS

Based on the soil support characteristics outlined above, the following pavement sections are recom-

mended:

Low Volume Roadway, 18k EAL = 5 :

The terminal Serviceability Index of 2.0, a Reliability of 70 and a design life of 20 years have been utilized, based on recommendations by the Highway Department. An 18 kip EAL of 5, also recommended by the Highway Department, was used for the analysis.

Asphalt-Base Coarse

3 inches of asphaltic concrete pavement
on 6 inches of aggregate base coarse
on 8 inches of recompacted native material

Full Depth Asphalt:

5 inches of asphaltic concrete pavement
on 12 inches of recompacted native material

Rigid Concrete:

Doweled, not tied to shoulder slabs or curbing

6 inches of portland cement pavement
on 4 inches of aggregate base coarse
on 8 inches of recompacted native material

Medium to High Use Roadway, 18k EAL = 25 :

The terminal Serviceability Index of 2.5, a Reliability of 70 and a design life of 20 years have been utilized, based on recommendations by the Highway Department. An 18 kip EAL of 25, also recommended by the Highway Department, was used for the analysis.

Asphalt-Base Coarse

3 inches of asphaltic concrete pavement
on 8 inches of aggregate base coarse
on 8 inches of recompacted native material

Full Depth Asphalt:

6 inches of asphaltic concrete pavement
on 12 inches of recompacted native material

Rigid Concrete:

Doweled, not tied to shoulder slabs or curbing

6 inches of portland cement pavement
on 4 inches of aggregate base coarse
on 8 inches of recompacted native material

PAVEMENT SECTION CONSTRUCTION

We recommend that any asphaltic concrete pavement meet the State of Colorado requirements for a Grade C mix. In addition, the asphaltic concrete pavement should be compacted to a minimum of 95% of its maximum Hveem density. The aggregate base coarse should meet the requirements of State of Colorado Class 5 or Class 6 material, and have a minimum R value of 78. We recommend that the base coarse be compacted to a minimum of 95% of its maximum Modified Proctor dry density (ASTM D-1557), at a moisture content within + or -2% of optimum moisture. The native subgrade shall be scarified and recompacted to a minimum of 90% of their maximum Modified Proctor day density (ASTM D-1557) at a moisture content within + or -2% of optimum moisture.

All pavement should be protected from moisture migrating beneath the pavement structure. If surface drainage is allowed to pond behind curbs, islands or other areas of the site and allowed to seep beneath pavement, premature deterioration or possibly pavement failure could result.

Concrete Pavement

We recommend that any rigid concrete pavement have a minimum flexural strength (F_t) of 650 psi at 28 days. This strength requirement can be met using Class P or AX or A or B Concrete as defined in Section 600 of the Standard Specifications for Road and Bridge Construction, Colorado DOT. It is recommended that field control of the concrete mix be made utilizing compressive strength criteria.

Flexural Strength should only be used for the design process. Concrete with a lower flexural strength may be allowed by the agency having jurisdiction however, the design section thicknesses should be confirmed. In addition, the final durability of the pavement should be carefully considered.

Control joints should be placed at a minimum distance of 12 feet in all directions. If it is desired to increase the spacing of control joints, then 66-66 welded wire fabric should be placed in the mid-point of the slab. If the welded wire fabric is used, the control joint spacing can be increased to 40 feet. Construction joints designed so that positive joint transfer is maintained by the use of dowels is recommended.

The concrete should be placed at the lowest slump practical for the method of placement. In all circumstances, the maximum slump should be limited to 4 inches. Proper consolidation of the plastic concrete is important. The placed concrete must be properly protected and cured.

LIMITATIONS

This report is issued with the understanding that it is the responsibility of the owner, or his representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and are incorporated into the plans. In addition, it is his responsibility that the necessary steps are taken to see that the contractor and his sub-contractors carry out these recommendations during construction. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in acceptable or appropriate standards may occur or may result from legislation or the broadening of engineering knowledge. Accordingly, the findings of this report may be invalid, wholly or partially, by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of 3 years.

The recommendations of this report pertain only to the site investigated and are based on the assumption that the soil conditions do not deviate from those described in this report. If any variations or undesirable conditions are encountered during construction or the proposed construction will differ from that planned on the day of this report, Lincoln DeVore should be notified so that supplemental

recommendations can be provided, if appropriate.

Lincoln DeVore makes no warranty, either expressed or implied, as to the findings, recommendations, specifications or professional advice, except that they were prepared in accordance with generally accepted professional engineering practice in the field of geotechnical engineering.

SOILS DESCRIPTIONS:

SYMBOL	USCS	DESCRIPTION
		Topsoil
		Man-made Fill
	GW	Well-graded Gravel
	GP	Poorly-graded Gravel
	GM	Silty Gravel
	GC	Clayey Gravel
	SW	Well-graded Sand
	SP	Poorly-graded Sand
	SM	Silty Sand
	SC	Clayey Sand
	ML	Low-plasticity Silt
	CL	Low-plasticity Clay
	OL	Low-plasticity Organic Silt and Clay
	MH	High-plasticity Silt
	CH	High-plasticity Clay
	OH	High-plasticity Organic Clay
	Pt	Peat
	GW/GM	Well-graded Gravel, Silty
	GW/GC	Well-graded Gravel, Clayey
	GP/GM	Poorly-graded Gravel, Silty
	GP/GC	Poorly-graded Gravel, Clayey
	GM/GC	Silty Gravel, Clayey
	GC/GM	Clayey Gravel, Silty
	SW/SM	Well-graded Sand, Silty
	SW/SC	Well-graded Sand, Clayey
	SP/SM	Poorly-graded Sand, Silty
	SP/SC	Poorly-graded Sand, Clayey
	SM/SC	Silty Sand, Clayey
	SC/SM	Clayey Sand, Silty
	CL/ML	Silty Clay

ROCK DESCRIPTIONS:

SYMBOL	DESCRIPTION
	SEDIMENTARY ROCKS
	CONGLOMERATE
	SANDSTONE
	SILTSTONE
	SHALE
	CLAYSTONE
	COAL
	LIMESTONE
	DOLOMITE
	MARLSTONE
	GYPSUM
	Other Sedimentary Rocks
	IGNEOUS ROCKS
	GRANITIC ROCKS
	DIORITIC ROCKS
	GABBRO
	RHYOLITE
	ANDESITE
	BASALT
	TUFF & ASH FLOWS
	BRECCIA & Other Volcanics
	Other Igneous Rocks
	METAMORPHIC ROCKS
	GNEISS
	SCHIST
	PHYLLITE
	SLATE
	METAQUARTZITE
	MARBLE
	HORNFELS
	SERPENTINE
	Other Metamorphic Rocks

SYMBOLS & NOTES:

SYMBOL	DESCRIPTION
	9/12 Standard penetration drive Numbers indicate 9 blows to drive the spoon 12" into ground.
	ST 2-1/2" Shelby thin wall sample
	W_o Natural Moisture Content
	W_x Weathered Material
Free water	Free water table
	γ^o Natural dry density
	T.B. – Disturbed Bulk Sample
②	Soil type related to samples in report
15' W_x Form.	Top of formation
	Test Boring Location
	Test Pit Location
	Seismic or Resistivity Station. Lineation indicates approx. length & orientation of spread (S = Seismic, R = Resistivity)

Standard Penetration Drives are made by driving a standard 1.4" split spoon sampler into the ground by dropping a 140 lb. weight 30". ASTM test des. D-1586.

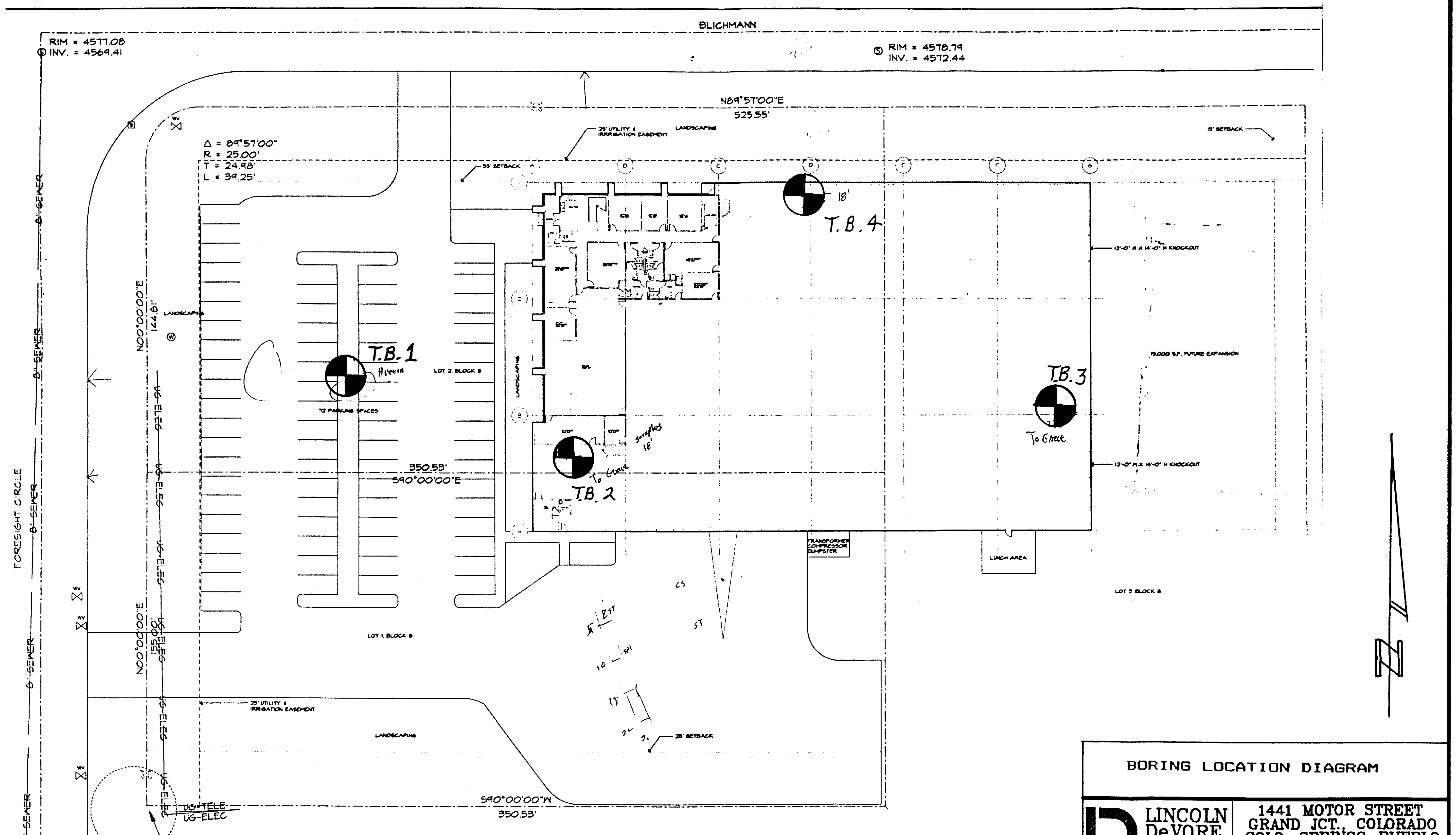
Samples may be bulk, standard split spoon (both disturbed) or 2-1/2" I.D. thin wall ("undisturbed") Shelby tube samples. See log for type.

The boring logs show subsurface conditions at the dates and locations shown, and it is not warranted that they are representative of subsurface conditions at other locations and times.

LINCOLN DeVORE INC.

COLORADO SPRINGS
PUEBLO – GRAND JUNCTION

EXPLANATION OF BOREHOLE LOGS AND LOCATION DIAGRAMS


BLICHMANN
RIM = 4577.08
INV. = 4569.41
RIM = 4578.79
INV. = 4572.44
N89°57'00"E
525.55'
Δ = 89°57'00"
R = 25.00'
T = 24.98'
L = 39.25'
T.B. 1
T.B. 2
T.B. 3
T.B. 4
18'
To Grave
72 PARKING SPACES
LOT 2, BLOCK 8
LOT 1, BLOCK 8
LOT 3 BLOCK 8
350.53'
S90°00'00"E
S90°00'00"W
350.53'
N00°00'00"E
144.81'
N00°00'00"E
155.00'
FORESIGHT CIRCLE
8" SEWER
UG-ELEC
UG-TELE
LANDSCAPING
25' UTILITY & IRRIGATION EASEMENT
25' SETBACK
15' SETBACK
LUNCH AREA
TRANSFORMER COMPRESSOR DUMPSTER
15,000 S.F. FUTURE EXPANSION
12'-0" R.X. 14'-0" H KNOCKOUT
12'-0" FLX 14'-0" H KNOCKOUT

TB 1 TEST EXPLORATION BORING

BORING LOCATION DIAGRAM

LINCOLN DeVORE ENGINEERS· GEOLOGISTS	1441 MOTOR STREET GRAND JCT., COLORADO COLO. SPRINGS–PUEBLO		
	LD # 81754-J	SHEET	OF
DRAWN BY: J.L. SPARKS	SCALE: No Scale	DATE: 10-27-94	
CHECKED BY: E.M. MORRIS	CONT. INT.	REV.	

BORING NO 1

DEPTH (FT.)	SOIL LOG	BORING ELEVATION: DESCRIPTION		BLOW COUNT	SOIL DENSITY pcf	WATER %
		Soft alluvial Low Density Sulfates	BULK			
	ML/CL	Silty Clays and Clayey Silts Slightly Moist				
		Sandy	ST		97.5	5.2%
5	CL	Low Plastic Cla Silty Very Stratified	5			
		Low Density Firm				
		Slightly Moist				
			SP	11/6		10.4%
10	CL	Low Plastic Silty Clay	10	20/12		
		Increasing Moisture		34/18		
		TD @ 9'				
15			15			
20			20			
25			25			
30			30			

Blow Counts are cumulative for each 6 inches of sampler penetration.

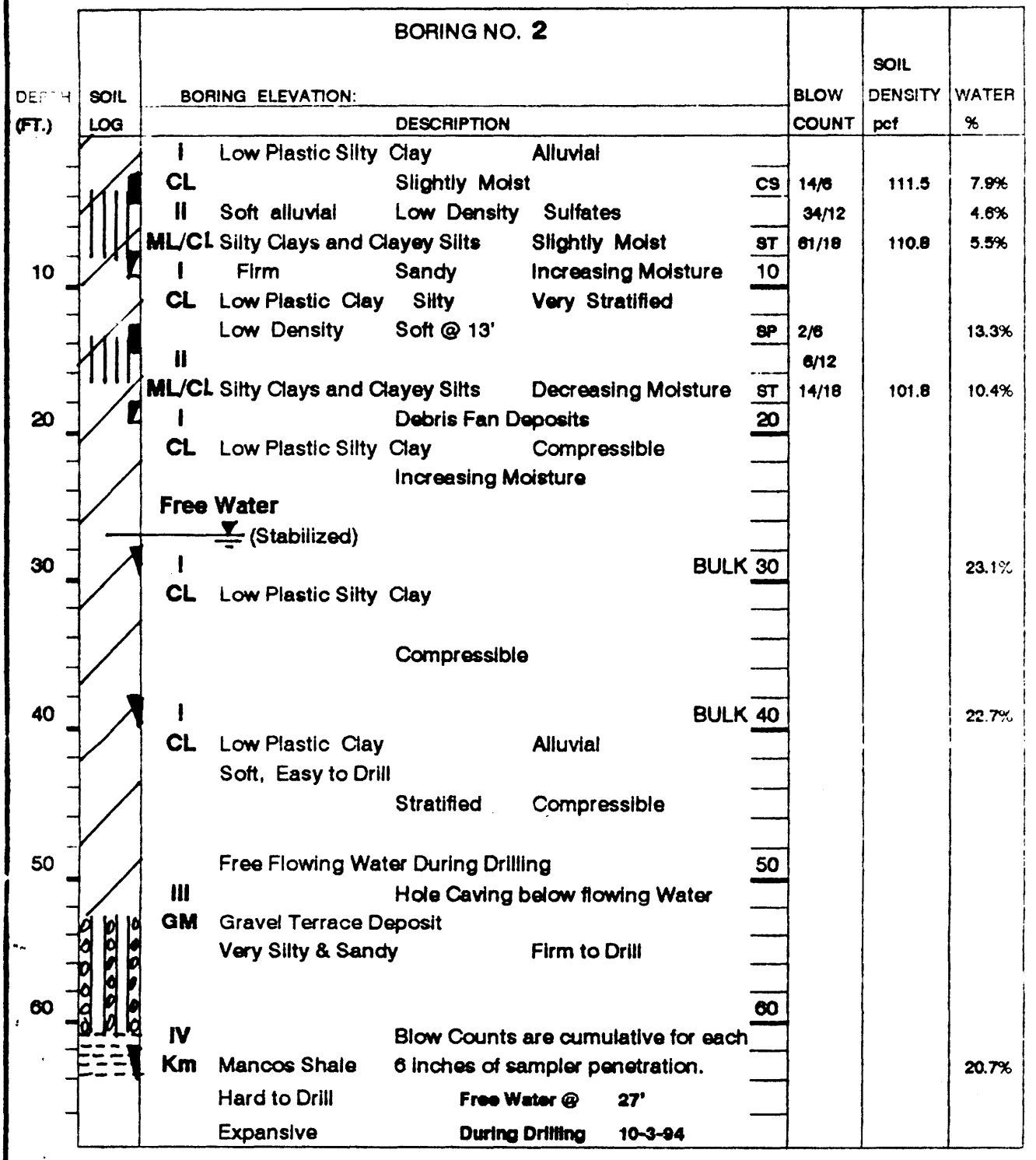
NO Free Water During Drilling 10-3-94

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Blichmann & Foresight Circle Foresight Park, Grand Junction, CO		
Refrigeration Industries		Date
Mr. Jerry Leonard		**10-24-94**
Job No. **81754-J**	Drawn **EMM**	



LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.	**Bilchmann & Foresight Circle**	
	Foresight Park, Grand Junction, CO	
	Refrigeration Industries	Date
	Mr. Jerry Leonard	10-24-94
Grand Junction, Colorado	Job No. **81754-J**	Drawn **EMM**

BORING NO. 3

DEPTH (FT.)	SOIL LOG	BORING ELEVATION: DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		I	Low Plastic Silty Clay	Alluvial				
		CL	Slightly Moist	Compressible	ST		97.5	6.6%
		II	Soft alluvial	Low Density Sulfates			96.7	
		ML/CL	Silty Clays and Clayey Silts	Moist	SP	12/6		15.1%
10		I	Sandy	Firm	10	25/12		
		CL	Low Plastic Clay Silty	Very Stratified		39/18		
			Low Density	Soft @ 13-1/2'	ST		87.8	12.0%
		Free Water		(Stabilized)				
		CL	Low Plastic Silty Clay	Soft	CS	8/6	90.2	24.1%
20				Compressible	20	14/12		
		I		Easy to Drill		23/18		
		CL	Low Plastic Silty Clay					
				Debris Fan Deposits				
30		I			BULK 30			23.1%
		CL	Low Plastic Silty Clay					
			Occ. Gravel sized Fragments of Siltstone					
			Compressible					
40		I			BULK 40			26.8%
		CL	Low Plastic Clay	Low Density				
50					50			
			Sand Strata ?	Free Flowing Water During Drilling				
		III		Hole Caving below flowing Water				
		GM	Gravel Terrace	Firm to Drill				
			Very Silty & Sandy					
60					60			
		IV		Blow Counts are cumulative for each				
		Km	Mancos Shale	6 inches of sampler penetration.				18.2%
			Hard to Drill	Free Water @ 17-1/2'				
			Expansive	During Drilling 10-4-94				

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Bilchmann & Foresight Circle	
Foresight Park, Grand Junction, CO	
Refrigeration Industries	Date
Mr. Jerry Leonard	10-24-94
Job No. 81754-J	Drawn EMM

BORING NO. 4

BORING ELEVATION:

DEPTH (FT.)	SOIL LOG	DESCRIPTION		BLOW COUNT	SOIL DENSITY pcf	WATER %
	II	Soft alluvial	Low Density Sulfates			
	ML/CL	Silty Clays and Clayey Silts	Slightly Moist			
	I	Sandy		SP 11/6		8.0%
5	CL	Low Plastic Clay Silty	Very Stratified	5 23/12		
		Low Density	Firm	37/18		
		Slightly Moist				
	I		Compressible	CS 9/6	94.9	7.3%
10	CL	Low Plastic Silty Clay		10 18/12		
				29/18	118.2	10.5%
		Occ. Gravel sized Fragments of Siltstone				
		Compressible Increasing Moisture				
	II	Soft @ 13'		ST	93.9	19.9%
15	ML/CL	Silty Clays and Clayey Silts	Moist	15		
		Stratified				
		Free Water		SP 3/6		26.9%
20	I			20 5/12		
	CL	Low Plastic Silty Clay		7/18		
		Compressible				
		Gravel sized Fragments of Siltstone				
	I	Soft	Easy to Drill	SP 3/6		27.3%
25	CL	Low Plastic Silty Clay		25 8/12		
		TD @ 24'				
30				30		

Blow Counts are cumulative for each 6 inches of sampler penetration.

Free Water @ 19'

During Drilling 10-4-94

LOG OF SUBSURFACE EXPLORATION

	Bilchmann & Foresight Circle	
	Foresight Park, Grand Junction, CO	
	Refrigeration Industries	Date
LINCOLN - DeVORE, Inc.	Mr. Jerry Leonard	10-24-94
	Job No. 81754-J / Drawn EMM	
Grand Junction, Colorado		

DRAINAGE REPORT

REFRIGERATION INDUSTRIES

BLICHMANN AVENUE & FORESIGHT CIRCLE

CITY OF GRAND JUNCTION

Prepared For:

CHAMBERLIN ARCHITECTS
437 Main Street
Grand Junction, Colorado 81501

November 1994

BANNER

Banner Associates, Inc. • Consulting Engineers & Surveyors
2777 Crossroads Blvd. • Grand Junction, CO 81506 • (303)243-2242
605 E. Main • Suite 6 • Aspen, CO 81611 • (303)925-5857

DRAINAGE REPORT

REFRIGERATION INDUSTRIES

BLICHMAN AVENUE & FORESIGHT CIRCLE

CITY OF GRAND JUNCTION

Prepared For:

CHAMBERLIN ARCHITECTS
437 Main Street
Grand Junction, Colorado 81501

Prepared By:

BANNER ASSOCIATES, INC.
2777 Crossroads Boulevard
Grand Junction, Colorado 81506

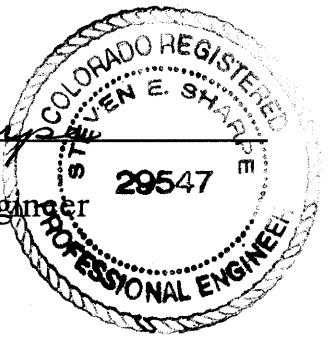
November 1994

TABLE OF CONTENTS

CERTIFICATION

I hereby certify that this Drainage Report for Refrigeration Industries was prepared under my direct supervision.

Steven E. Sharpe
Registered Professional Engineer
State of Colorado, #29547



11-16-94

DRAINAGE REPORT
REFRIGERATION INDUSTRIES

INTRODUCTION

The construction of a commercial building for business is being proposed by Refrigeration Industries and is located in the southeast corner of the intersection of Blichmann Avenue and Foresight Circle as shown on the Vicinity Map that is included in this report as Exhibit A. The location can also be described as Lots 1, 2 and 3, Block 8, Foresight Park for Industry, Filing 3. Lots 1, 2 and 3, collectively, are approximately 5.0 acres in size and are bounded by Blichmann Avenue to the north, Foresight Circle to the west and undeveloped land on the east and south.

In researching the floodplain hazard for the area, reference was made to the Mesa County Floodplain Map as produced by the Mesa County Land Records Section of Engineering and Design, April 1993. The proposed commercial site lies approximately 1700 feet north of the 100-year flood delineation for Independent Ranchmans Ditch. Therefore, no part of the proposed site is within the 100-year flood limits. The proposed commercial site is currently not in use. The land is sparsely weeded with bare understory with surface grades ranging from 0 - 2% sloping downward to the south and west.

HYDROLOGY

Blichmann Avenue borders the parcel on the north and consists of an asphalt traveling surface with a concrete curb and gutter section that transports drainage westward and south along Foresight Circle. There is no runoff introduced from the east due to the natural topography of the land sloping to the south and west.

Historically, approximately three-quarters of the proposed site area drains to the south and west, with the remaining area, being the eastern one-quarter of the site, shedding stormwater runoff to the south. Upon development, the drainage characteristics of the site will remain virtually the same with the only changes being in land use.

Appendix A of this report contains the runoff calculations, both historic and developed, for the proposed commercial site. The hydrology calculations were based on the Rational Method and Modified Rational Method, using as a reference the City of Grand Junction Stormwater Management Manual, June 1994.

HYDRAULICS

As can be expected, runoff due to both the 2-year and 100-year storm will be increased because of this development. Design and grading improvements to the development will direct runoff to the southwest corner of the site which is also the exit location of historic flows. As of the date of this report, there is no subsurface stormwater collection system in the immediate vicinity. Consequently, detention and release of stormwater must occur near the surface of the finished grading.

Two detention ponds have been sized to store the difference between a designed release rate and the volume of water that would accumulate during a 100-year storm. A detention pond has been designed to control runoff from the proposed building roof area and adjacent parking lot to the south. This pond will store rainfall accumulations between the 2-year and the 100-year storms and will release stormwater at the rate of 1.1 cfs for the 2-year and 3.0 cfs for the 100-year storm into a landscaped detention area adjacent on the west.

The landscaped detention area will serve to collect stormwater accumulations resulting from runoff west of the building including the main parking area. This pond was designed for release rates of 0.5 cfs and 1.9 cfs that when added to the first detention pond release rates yields a total discharge from the site of 1.6 cfs and 4.9 cfs, respectively, for the 2-year and 100-year storm events. The Grading Plan, prepared by Chamberlin Architects, shows the location and grading for these detention ponds.

CONCLUSION

In developing this area for commercial use, it is impossible not to increase the amount of runoff. However with proper planning and design, the requirement to maintain historic runoff volumes can be met. In the proposed drainage plan and with the construction of the two detention ponds it is anticipated that runoff will be kept at historic levels. Total discharge for the 2-year storm, 1.6 cfs, will be accommodated by a 30" wide "curb cut" opening in the existing curb. With no subsurface stormwater system and only 5" of head available, discharge of the 100-year storm will overtop the existing curb in the southwest corner of the site. A landscaped berm shall be constructed along the southern boundary of the property at an elevation of 6" above the elevation of the top of curb at its lowest elevation to contain the 100-year volume release and to protect the adjacent property to the south. The development of this project will not have any adverse impacts on the surrounding lands.

APPENDIX A

CALCULATIONS

BANNER
BANNER ASSOCIATES, INC.
CONSULTING ENGINEERS & ARCHITECTS
2777 CROSSROADS BOULEVARD
GRAND JUNCTION, CO 81506 • (303) 243-2242

JOB NO REFRIGERATION INDUSTRIES
JOB 8207-02
CALCULATED BY SQUARES DATE 11-94
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____

HISTORICAL CONDITIONS

DRAINAGE BASIN AREA, A_T = 3.75 Ac.
SCS Soil type D (0-2%)

Drain Area	A_T = 3.75 Ac.	C_2	C_{100}
Bare ground w/ sparse weeds	3.75	0.33	0.39

T_c DETERMINATION

Overland flow

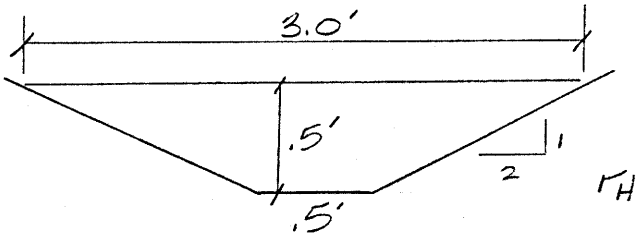
$T_o = 1.8(1.1-C)L^{.5}/S^{.33}$
$= 1.8(1.1-.38)(50)^{.5}/(1.56)^{.33}$ T_o = 7.9 min.

Shallow conc. flow

L = 200' S = 0.75%
Fig. E-3, V = 0.85 fps $T = 200/.85$ T_s = 3.9 min.

Concentrated flow

L = 285' S = 1.23%
n = 0.032 (grass, weeds, a little brush)



b = 0.5
Z = 2
y = 0.5

$r_H = \frac{(.5+(2)(.5)).5}{.5+2(.5)\sqrt{1+(2)^2}} = 0.274$

$V = \frac{1.49}{.032}(.274)^{2/3}(.0123)^{1/2} = 2.18$ fps

$T = 285/2.18$ T_c = 2.2 min.

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BANNER ASSOCIATES, INC.
CONSULTING ENGINEERS & ARCHITECTS
2777 CROSSROADS BOULEVARD
GRAND JUNCTION, CO 81506 • (303) 243-2242

JOB NO REFRIG. INDUSTRIES
JOB 8307-02
CALCULATED BY SSHARPE DATE 11-94
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____

HISTORICAL CONDITIONS

INTENSITY @ T_c = 14.0 min.

I_2 = 1.32 in/hr I_{100} = 3.33 in/hr

Q_2 = 0.83 (1.32 X 3.75) = 1.6 cfs

Q_{100} = 0.89 (3.33 X 3.75) = 4.9 cfs

DEVELOPED CONDITIONS

* Total drain basin has been divided into 2 basins, see computer print-outs.

Drainage Area A_T = 3.95 Ac.
Soil type A (0-2%)

Drainage Area	A_T = 3.95 Ac.	C_2	C_{100}
Building	0.96	0.93	0.95
Asphalt	1.08	0.93	0.95
Concrete	0.21	0.93	0.95
Landscape	1.19	0.28	0.34
Undeveloped	0.51	0.28	0.34

OMIT *

$$C_{C_2} = \frac{0.93(0.96 + 1.08 + 0.21) + 0.28(1.19 + 0.51)}{3.95}$$

$$C_{C_2} = 0.65$$

$$C_{C_{100}} = \frac{0.95(0.96 + 1.08 + 0.21) + 0.34(1.19 + 0.51)}{3.95}$$

$$C_{C_{100}} = 0.69$$

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JOB NO. REFRIG. INDUSTRIES
JOB B307-02
CALCULATED BY SSHARPE DATE 11-94
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____

DEVELOPED CONDITION

Building roof area to asphalt detention area

Drainage Area	A_T = 1.45 Ac.	C_{100}	C_2
Bldg. roof	0.96	0.95	0.93
Asphalt	0.44	0.95	0.93
Landscape	0.05	0.31	0.30

$$C_{2,100} = \frac{0.93(0.96+0.44) + 0.31(0.05)}{1.45} = 0.93$$

$C_{C2} = 0.91$

Tc DETERMINATION

Sheet flow L = 70' S = 2.0% V = 2.8 fps
Fig. E-3, V = 2.8 T = 70/2.8 T = 0.4 min

Channel flow L = 54', S = 0.01, n = 0.01, r_H = 0.125
$V = 1.49/.01\ (.125)^{2/3}(.01)^{1/2} = 3.7$ fps
T = 54/3.7 T = 0.2

Channel flow L = 87', S = 0.01, n = 0.01, r_H = 0.17
$V = 1.49/.01\ (.17)^{2/3}(.01)^{1/2} = 4.5$
T = 0.4

Channel flow L = 59, S = 0.02, n = 0.009 r_H = 0.17
$V = 1.49/.009\ (.17)^{2/3}(.01)^{1/2} = 5$
T = 0.2

Sheet flow L = 67 S = 1.40%, V = 2.4 fps
T = 67/2.4 T = 0.5

Channel flow L = 125', S = 0.007, V = 1.5
T = 125/1.5 T = 1.4 min

Total Tc = 3.1 min., Use 5.0 min

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CONSULTING ENGINEERS & ARCHITECTS
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JOB NO. REFRIGERATION INDUSTRIES
JOB B507-02
CALCULATED BY SSJARPE DATE 11-94
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____

DEVELOPED CONDITION

Parking lot to south landscape area.

Drain Area	A_T = 1.20 Ac.	C_2	C_{100}
Asphalt	0.66	0.93	0.95
Concrete	0.34	0.93	0.95
Landscape	0.20	0.30	0.31

C_{c_2} = 0.50 $C_{c_{100}}$ = 0.82

Tc DETERMINATION

Overland flow L=40' S=1.8% C=0.31

$$T_o = \frac{1.8(1.1 - 0.31)(40)^{.5}}{(1.8)^{.33}}$$ T = 7.4 min.

Sheet flow L=80' S=2.3% Fig. E-3
V = 2.8 fps T = 80/2.8 T = 0.5 min.

Channel flow L=130 S=1.5% Fig. E-3
V = 2.2 fps T = 125/2.2 T = 1.0 min.

Channel flow L=29' r_H = .1875 n=.015 S=1.72%

$$V = \frac{1.49}{.015}(.188)^{2/3}(.0172)^{1/2} = 4.3 \text{ fps}$$

T = 29/4.3 T = 0.1 min

Sheet flow L=65' S=2.1% Fig. E-3
V = 2.8 fps T = 65/2.8 T = 0.4 min

Channel flow L=75' S=1.5% n=0.04
r_H = 0.22 $V = \frac{1.49}{.04}(.220)^{2/3}(.015)^{1/2}$ = 1.6 fps

T = 75/1.6 T = 0.8 min

Total T = 10.2, 8 T_C = 11 min.

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Executed: 15:07:01 11-10-1994

REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

* * * * * * SUMMARY OF RATIONAL METHOD PEAK DISCHARGES * * * * * *

Q = adj * C * I * A
Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres
adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 2 years
'C' adjustment, k = .98
Adj. 'C' = Wtd.'C' x .98

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
BLDG/ROOF	0.950	0.96						
ASPH/CONC	0.950	0.44						
LANDSCAPE	0.310	0.05						
			5.00	0.928	0.909	1.950	1.45	2.57

Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 15:07:01 11-10-1994

REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

* * * * * * SUMMARY OF RATIONAL METHOD PEAK DISCHARGES * * * * * *

Q = adj * C * I * A
Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres
adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years
'C' adjustment, k = 1
Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
BLDG/ROOF	0.950	0.96						
ASPH/CONC	0.950	0.44						
LANDSCAPE	0.310	0.05						
			5.00	0.928	0.928	4.950	1.45	6.66

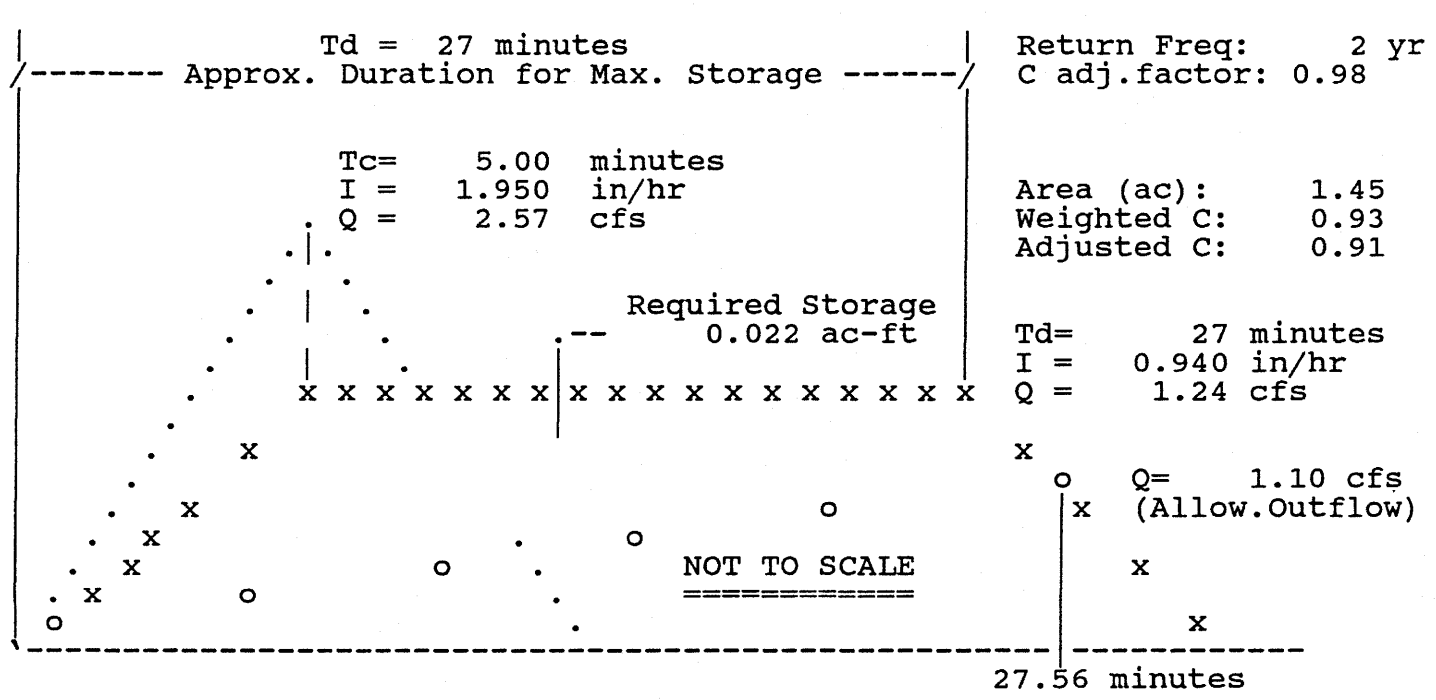
Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 15:07:01 11-10-1994

MODIFIED RATIONAL METHOD
---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at inflow recession leg.

REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

RETURN FREQUENCY: 2 yr	Allowable Outflow: 1.10 cfs
'C' Adjustment: 0.980	Required Storage: 0.022 ac-ft
Peak Inflow: 1.24 cfs	Inflow .HYD stored: 2YR .HYD



Quick TR-55 Ver.5.46 S/N:1315430326
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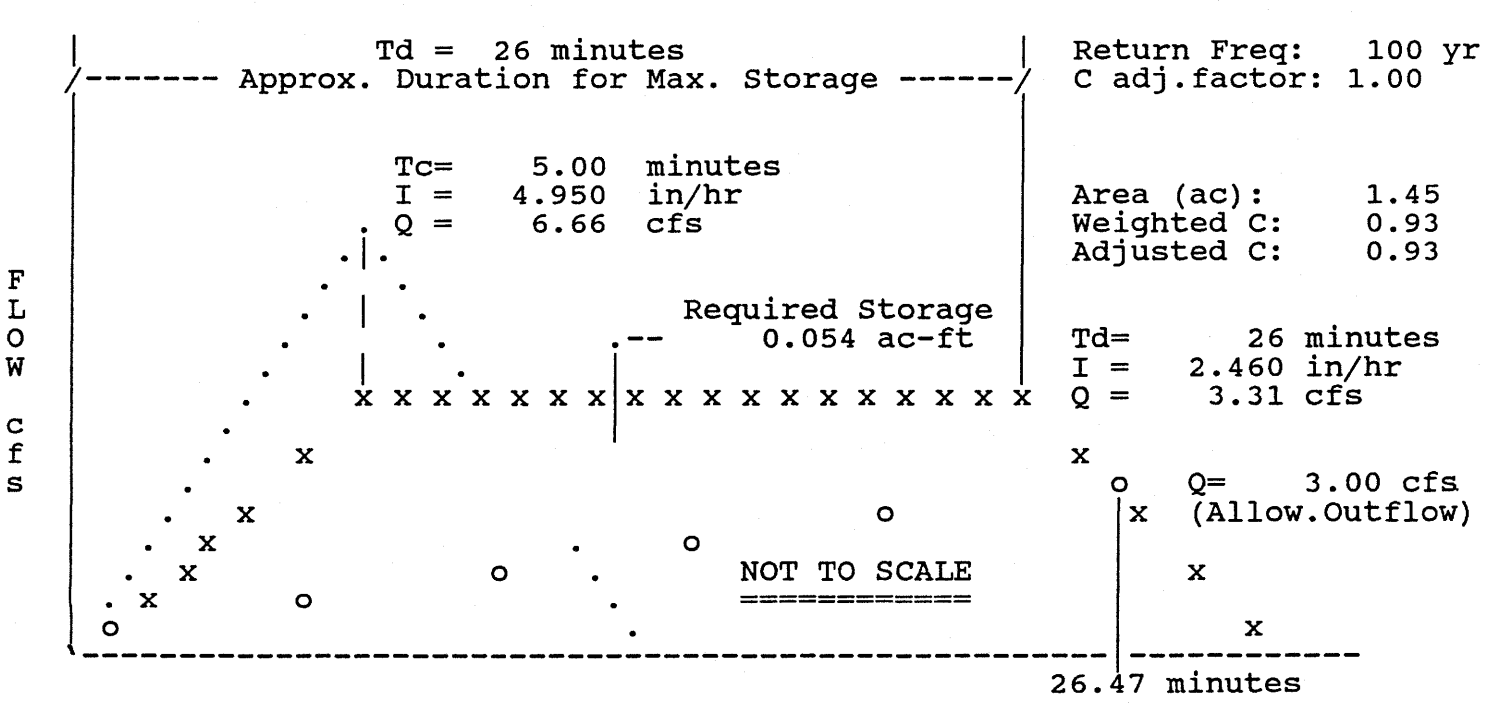
MODIFIED RATIONAL METHOD
---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at inflow recession leg.

REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

RETURN FREQUENCY: 100 yr	Allowable Outflow: 3.00 cfs
'C' Adjustment: 1.000	Required Storage: 0.054 ac-ft
Peak Inflow: 3.31 cfs	Inflow .HYD stored: 100YR .HYD



Quick TR-55 Ver.5.46 S/N:1315430326
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REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

**** Modified Rational Hydrograph *****

Weighted C = 0.928 Area= 1.450 acres Tc = 5.00 minutes

Adjusted C = 0.909 Td= 27.00 min. I= 0.94 in/hr Qp= 1.24 cfs

RETURN FREQUENCY: 2 year storm Adj.factor = 0.98
Output file: 2YR .HYD

HYDROGRAPH FOR MAXIMUM STORAGE
For the 2 Year Storm

Time Hours	Time increment = 0.017 Hours Time on left represents time for first Q in each row.						
0.000	0.00	0.25	0.50	0.74	0.99	1.24	1.24
0.117	1.24	1.24	1.24	1.24	1.24	1.24	1.24
0.233	1.24	1.24	1.24	1.24	1.24	1.24	1.24
0.350	1.24	1.24	1.24	1.24	1.24	1.24	1.24
0.467	0.99	0.74	0.50	0.25	0.00		

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REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

**** Modified Rational Hydrograph *****

Weighted C = 0.928 Area= 1.450 acres Tc = 5.00 minutes

Adjusted C = 0.928 Td= 26.00 min. I= 2.46 in/hr Qp= 3.31 cfs

RETURN FREQUENCY: 100 year storm Adj.factor = 1.00
Output file: 100YR .HYD

HYDROGRAPH FOR MAXIMUM STORAGE
For the 100 Year Storm

Time Hours	Time increment = 0.017 Hours Time on left represents time for first Q in each row.						
0.000	0.00	0.66	1.32	1.99	2.65	3.31	3.31
0.117	3.31	3.31	3.31	3.31	3.31	3.31	3.31
0.233	3.31	3.31	3.31	3.31	3.31	3.31	3.31
0.350	3.31	3.31	3.31	3.31	3.31	3.31	2.65
0.467	1.99	1.32	0.66	0.00			

Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 15:07:01 11-10-1994

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* MODIFIED RATIONAL METHOD
* ---- Grand Summary For All Storm Frequencies ----
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First peak outflow point assumed to occur at inflow recession leg.

REFRIGERATION INDUSTRIES DRAINAGE STUDY
BUILDING ROOF TO SOUTH ASPHALT DETENTION AREA
GRAND JUNCTION, COLORADO

Area = 1.45 acres Tc = 5.00 minutes

Frequency (years)	Adjusted 'C'	Duration minutes	Intens. in/hr	Qpeak cfs	Allowable cfs	VOLUMES Inflow (ac-ft)	VOLUMES Storage (ac-ft)
2	0.909	27	0.940	1.24	1.10	0.046	0.022
100	0.928	26	2.460	3.31	3.00	0.119	0.054

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Executed: 09:12:56 11-11-1994

REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

* * * * * * SUMMARY OF RATIONAL METHOD PEAK DISCHARGES * * * * * *

Q = adj * C * I * A
Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres
adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 2 years
'C' adjustment, k = .98
Adj. 'C' = Wtd.'C' x .98

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
ASPHALT	0.950	0.66						
CONCRETE	0.950	0.34						
LANDSCAPE	0.310	0.20						
			11.00	0.843	0.826	1.460	1.20	1.45

Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 09:12:56 11-11-1994

REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

* * * * * * SUMMARY OF RATIONAL METHOD PEAK DISCHARGES * * * * * *

Q = adj * C * I * A
Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres
adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years
'C' adjustment, k = 1
Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
ASPHALT	0.950	0.66						
CONCRETE	0.950	0.34						
LANDSCAPE	0.310	0.20						
			11.00	0.843	0.843	3.660	1.20	3.70

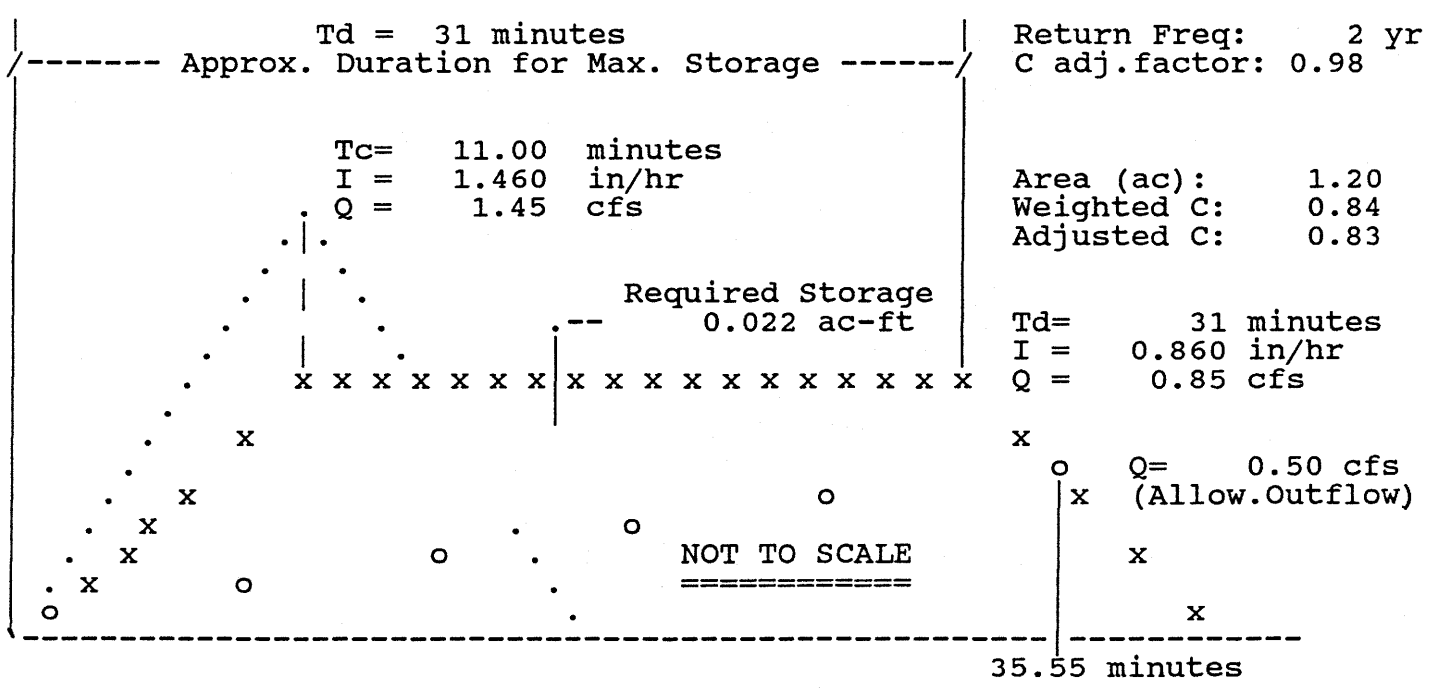
Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 09:12:56 11-11-1994

MODIFIED RATIONAL METHOD
---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at inflow recession leg.

REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

RETURN FREQUENCY: 2 yr	Allowable Outflow: 0.50 cfs
'C' Adjustment: 0.980	Required Storage: 0.022 ac-ft
Peak Inflow: 0.85 cfs	Inflow .HYD stored: 2YR .HYD



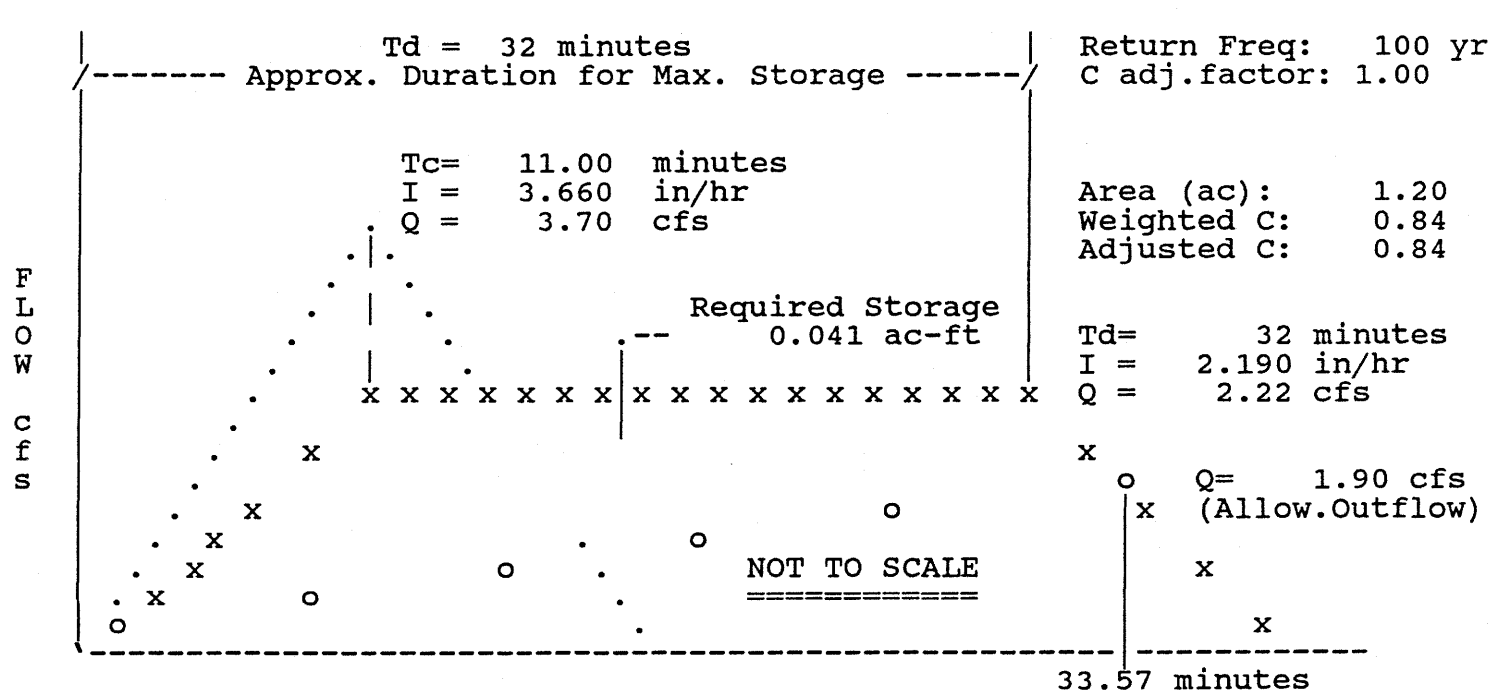
Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 09:12:56 11-11-1994

MODIFIED RATIONAL METHOD
---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at inflow recession leg.

REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

* RETURN FREQUENCY: 100 yr		Allowable Outflow:	1.90 cfs *
* 'C' Adjustment: 1.000		Required Storage:	0.041 ac-ft *
* Peak Inflow:	2.22 cfs	Inflow .HYD stored:	100YR .HYD *



Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 09:12:56 11-11-1994

REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

**** Modified Rational Hydrograph *****

Weighted C = 0.843 Area= 1.200 acres Tc = 11.00 minutes

Adjusted C = 0.826 Td= 31.00 min. I= 0.86 in/hr Qp= 0.85 cfs

RETURN FREQUENCY: 2 year storm Adj.factor = 0.98
Output file: 2YR .HYD

HYDROGRAPH FOR MAXIMUM STORAGE
For the 2 Year Storm

Time Hours	Time increment = 0.017 Hours Time on left represents time for first Q in each row.						
0.000	0.00	0.08	0.16	0.23	0.31	0.39	0.47
0.117	0.54	0.62	0.70	0.78	0.85	0.85	0.85
0.233	0.85	0.85	0.85	0.85	0.85	0.85	0.85
0.350	0.85	0.85	0.85	0.85	0.85	0.85	0.85
0.467	0.85	0.85	0.85	0.85	0.78	0.70	0.62
0.583	0.54	0.47	0.39	0.31	0.23	0.16	0.08
0.700	0.00						

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REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

**** Modified Rational Hydrograph *****
Weighted C = 0.843 Area= 1.200 acres Tc = 11.00 minutes

Adjusted C = 0.843 Td= 32.00 min. I= 2.19 in/hr Qp= 2.22 cfs

RETURN FREQUENCY: 100 year storm Adj.factor = 1.00
Output file: 100YR .HYD

HYDROGRAPH FOR MAXIMUM STORAGE
For the 100 Year Storm

Time Hours	Time increment = 0.017 Hours Time on left represents time for first Q in each row.						
0.000	0.00	0.20	0.40	0.60	0.81	1.01	1.21
0.117	1.41	1.61	1.81	2.01	2.22	2.22	2.22
0.233	2.22	2.22	2.22	2.22	2.22	2.22	2.22
0.350	2.22	2.22	2.22	2.22	2.22	2.22	2.22
0.467	2.22	2.22	2.22	2.22	2.22	2.01	1.81
0.583	1.61	1.41	1.21	1.01	0.81	0.60	0.40
0.700	0.20	0.00					

Quick TR-55 Ver.5.46 S/N:1315430326
Executed: 09:12:56 11-11-1994

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* *
* *
* MODIFIED RATIONAL METHOD *
* ---- Grand Summary For All Storm Frequencies ---- *
* *
* *
****
****

First peak outflow point assumed to occur at inflow recession leg.

REFRIGERATION INDUSTRIES DRAINAGE STUDY
WEST PARKING LOT TO SOUTH LANDSCAPE AREA
GRAND JUNCTION, COLORADO

Area = 1.20 acres Tc = 11.00 minutes

Frequency (years)	Adjusted 'C'	Duration minutes	Intens. in/hr	Qpeak cfs	Allowable cfs	VOLUMES Inflow (ac-ft)	VOLUMES Storage (ac-ft)
2	0.826	31	0.860	0.85	0.50	0.036	0.022
100	0.843	32	2.190	2.22	1.90	0.098	0.041

JOB NO. REFRIG. INDUSTRIES
JOB 5307-02
CALCULATED BY SSHARPE DATE 11-94
CHECKED BY _____ DATE _____

BANNER
BANNER ASSOCIATES, INC.
CONSULTING ENGINEERS & ARCHITECTS
2777 CROSSROADS BOULEVARD
GRAND JUNCTION, CO 81506 • (303) 243-2242

SHEET NO. _____ OF _____

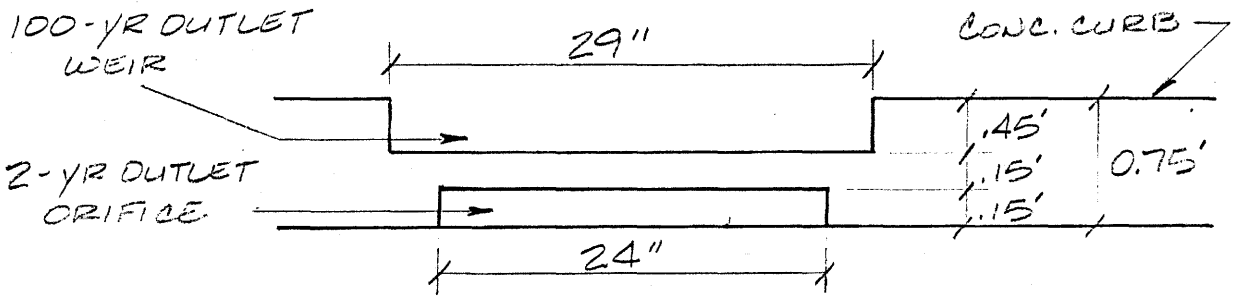
DETENTION POND OUTLET SIZING (ASPHALT)

DESIGN FOR OUTLET @ DETENTION POND SOUTH OF BUILDING FROM ROOF DRAINAGE

OUTLET SIZE DESIGN BASED ON A 9" HIGH CONCRETE CURB TO CONTAIN STORAGE UTILIZING AN ORIFICE AND WEIR IN THE DESIGN.

RECTANGULAR ORIFICE, $Q = \frac{2}{3} L \sqrt{2g} \left(h_2^{3/2} - h_1^{3/2} \right)$;

FROM PG. 4-5, EQ. 4-16, HANDBOOK OF HYDRAULICS, KING AND BRATER, SIXTH EDITION.



$Q_2 = 1.10$ cfs, $L = 2.0'$, $h_2 = 0.30'$, $h_1 = 0.15'$

$Q = \frac{2}{3}(2.0)\sqrt{64.4}\,(.30^{1.5} - .15^{1.5}) = 1.14$ cfs

$Q = 1.14$ cfs $\approx Q_2 = 1.10$ cfs

NEXT PAGE

JOB NO. REFRIG. INDUSTRIES
JOB 8207-02
CALCULATED BY SSHARPE DATE 11-94
CHECKED BY _____ DATE _____

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SHEET NO. _____ OF _____

FROM TABLE K-1, STORMWATER MANAGEMENT MANUAL, CITY OF GRAND JUNCTION.

RECT. WEIR $Q = CLH^{1.5}$ (LOW APPR. VELOCITY)

$Q_{100} = 3.00 - 1.14 = 1.86$ cfs

WITH $H = 0.45'$, $C = 2.60$

@ $L = 29''$ or $2.4167'$

$Q = 2.60(2.4167)(0.45)^{1.5} = 1.90$ cfs

$Q = 1.90$ cfs $\approx Q_{100} = 1.86$ cfs

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JOB NO. REFRIG. INDUSTRIES
JOB 8207-02
CALCULATED BY SS HARPE DATE 11-94
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____

DETENTION POND OUTLET SIZING (LANDSCAPE)

FOR 2-YEAR FREQ. STORM:

With no storm drain system underground in this area, the available depth detention volume storage is 0.5' which is the height of the sidewalk vertical curb.

Per Detail "B" of Exhibit "E", Standard Concrete Details, City of Grand Junction, a height of 1" above the flowline for low gutter flow was used to determine discharge elevation.

0.50' - 0.0833' = 0.4167' available head

Using a broad-crest weir application:

From Table K-1,

$Q_w = CL(H_t)^{1.5}$ with $H_t = H$ (insignificant approach velocity)

$Q_w = Q_2 = 1.6$ cfs
$H = 0.4167$, use 0.4'

@ L = 2.50' wide, C = 2.60 (Table K-2)

$Q_w = 2.60(2.50)(0.4)^{1.5}$

$Q_w = 1.64$ cfs $\approx Q_2 = 1.6$ cfs

A STANDARD "CURB CUT" OPENING WILL NEED TO BE POURED WITH FRESH CONCRETE AND CONSTRUCTED WITH A 30" OPENING WIDTH. A SECTION OF EXISTING CURB MAY NEED TO BE REMOVED TO CONSTRUCT OPENING.

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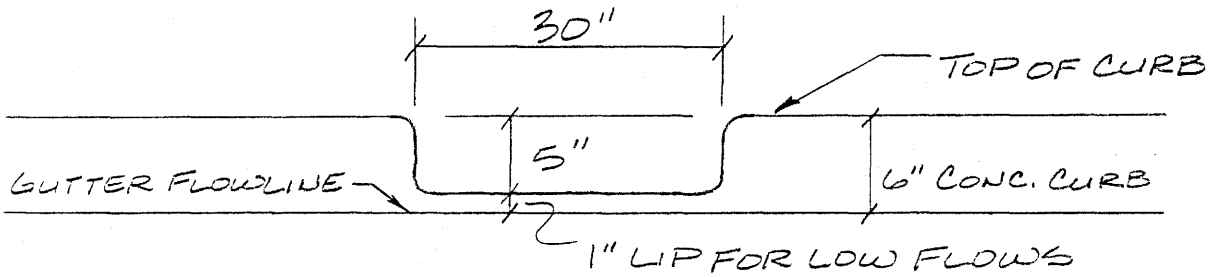
CONSULTING ENGINEERS & ARCHITECTS
2777 CROSSROADS BOULEVARD
GRAND JUNCTION, CO 81506 • (303) 243-2242

JOB NO. REFRIG. INDUSTRIES
JOB 3507-02
CALCULATED BY SSharpe DATE 11-94
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____



CURB OPENING DETAIL

(To be used for opening dimensions only)

FOR 100-YEAR FREQ. STORM:

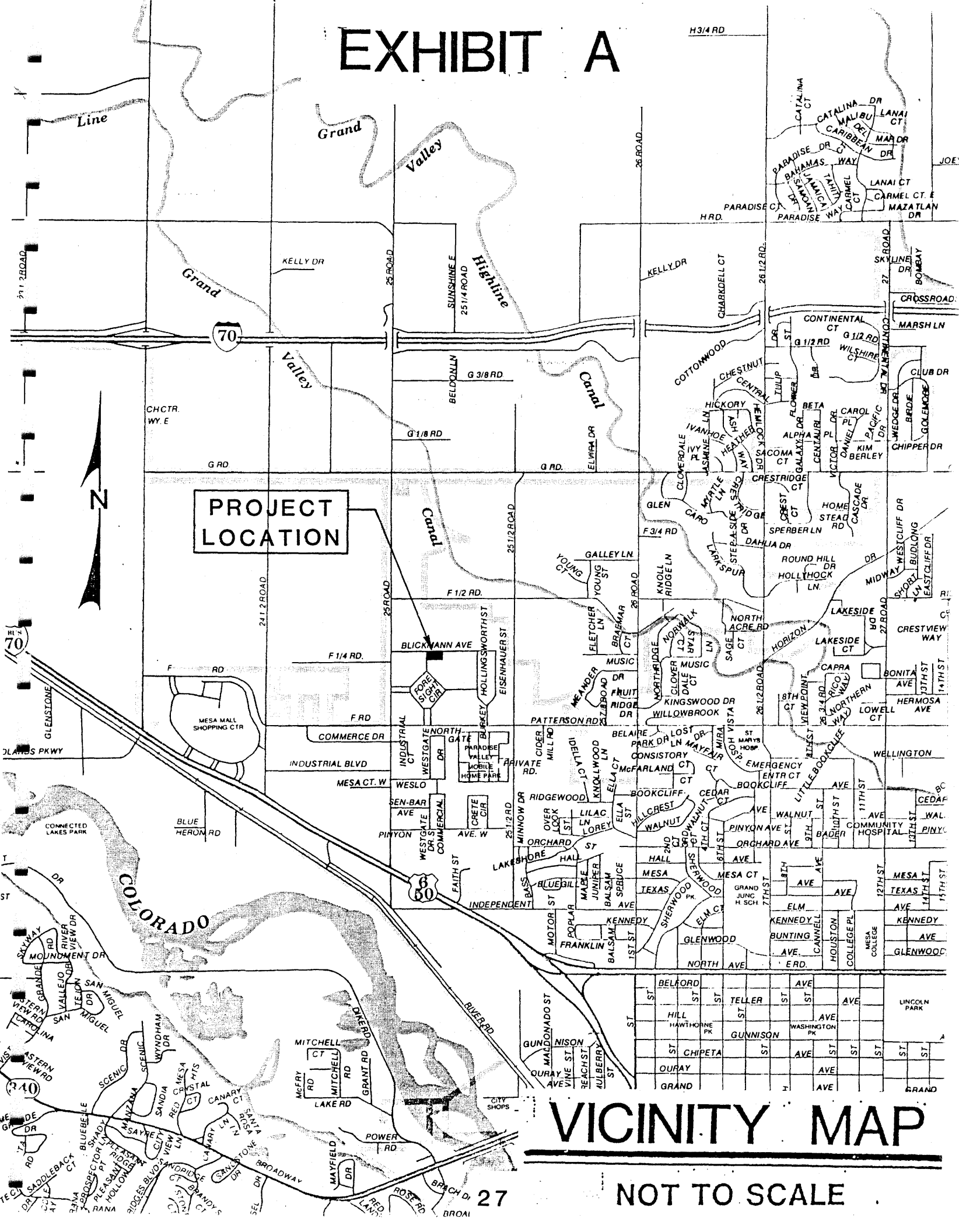
With only 5" of head to design from, a weir to regulate the 2-yr. and the 100-yr. flows resulted in a weir with a breadth of crest of approximately 7.0' for the Q_2 and approx. 12.0' for the Q_{100} flows using a compound weir.

With these large crest widths it is believed that storage between the 2-yr and 100-yr volumes would never be obtained. The accuracy of a poured-in-place weir of this size would be non-existant.

It is therefore suggested that the conc. curb be used as the "spillway" for the 100-yr storm and catastrophic storm events.

A landscaped berm should be constructed along the south boundary of the property at an elevation of 6.0" above the elevation of the top of conc. curb at its lowest elevation to contain the 100-yr volume release and to protect the adjacent property to the south.

EXHIBIT A



VICINITY MAP

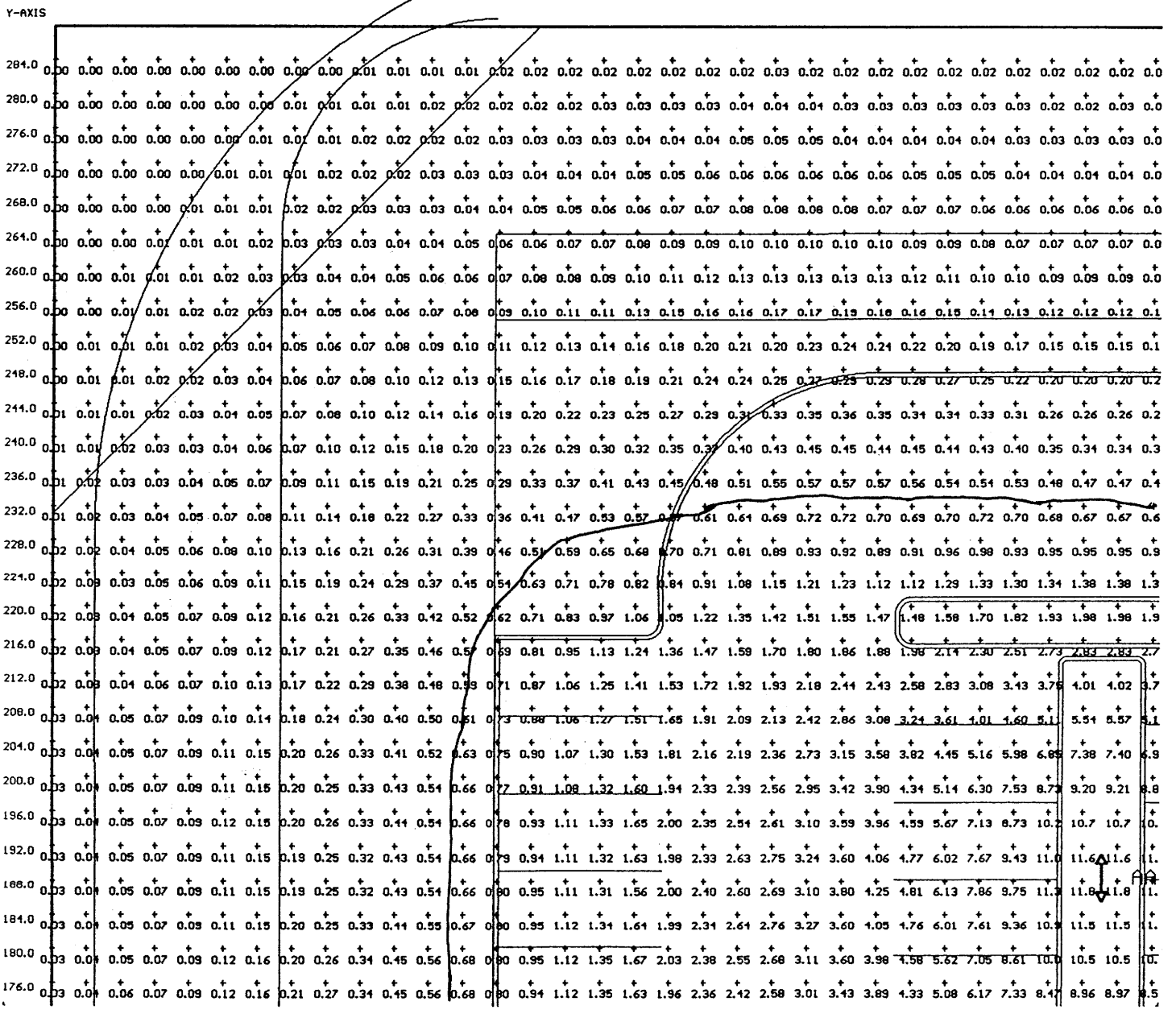
NOT TO SCALE

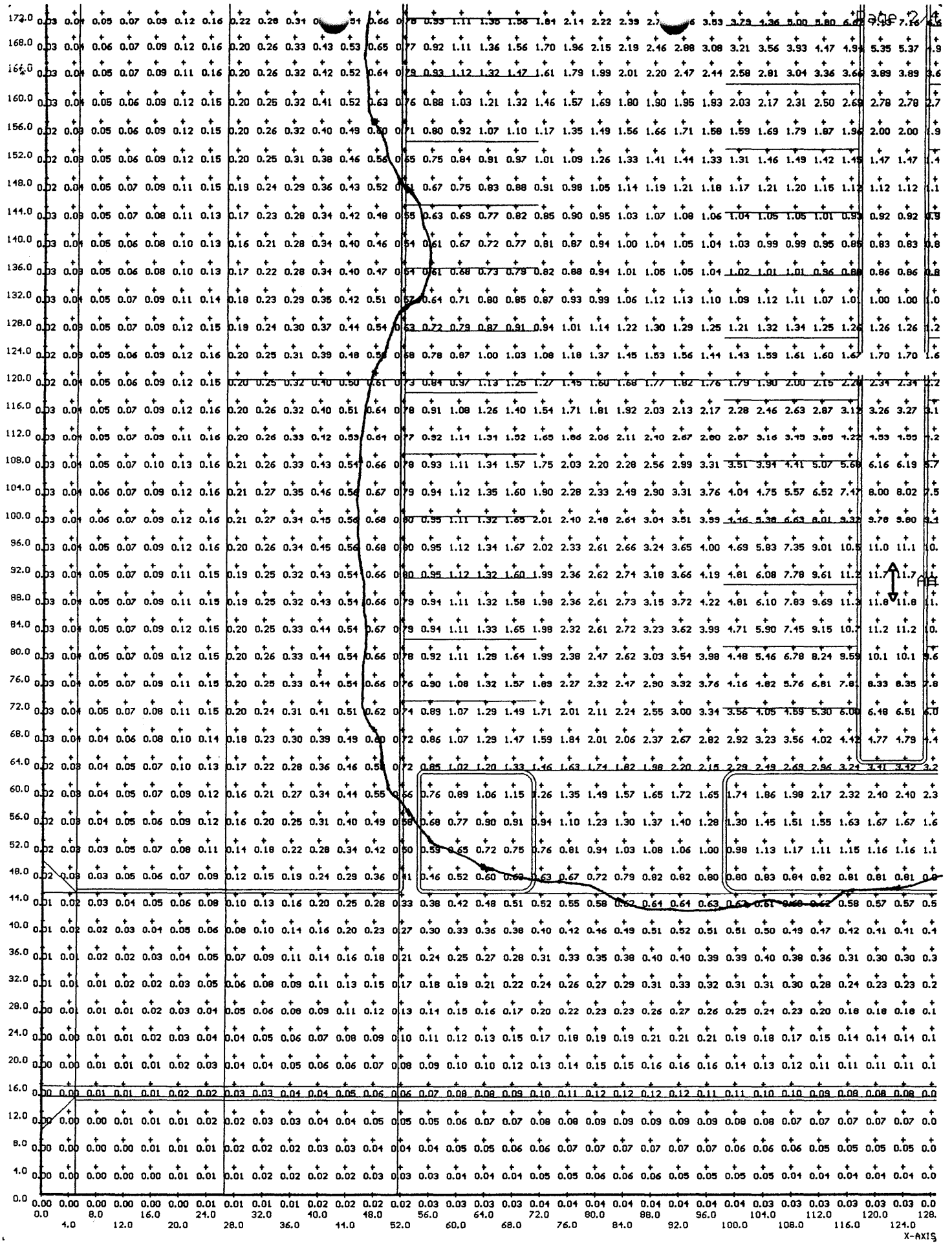
PARKING LOT LIGHTING

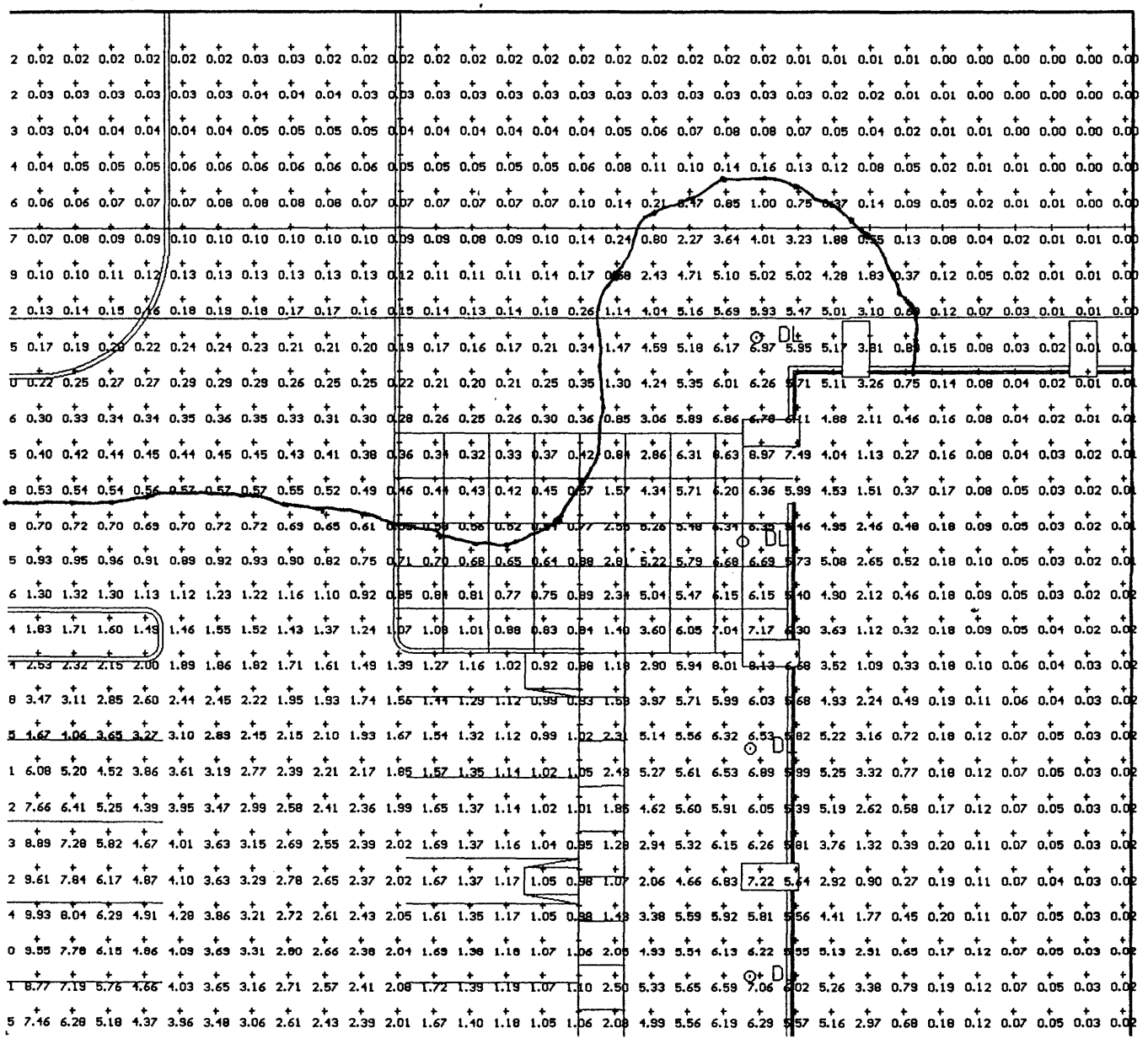
USI's LITE*PRO V2.20E Point-By-Point Numeric Output 16:08 13-Dec-94
PROJECT: 9438OUT AREA: PARKING LOT GRID: GROUND
Values are FC, SCALE: 1 IN= 18.0FT, HORZ GRID (U), HORZ CALC, Z= 0.0
Computed in accordance with IES recommendations

+ MIN=0.00 MAX=11.8 AVE=1.26 AVE/MIN= 745.43 MAX/MIN=6973.95

AA= KIM LIGHTING 2 TYPE A2, 23', 2' <2>
DL= PRESCOLITE DOWN LIGHT, NONE, NONE <5>
J= GE LIGHTING WALL PACK, NR, NR <1>




X-AXIS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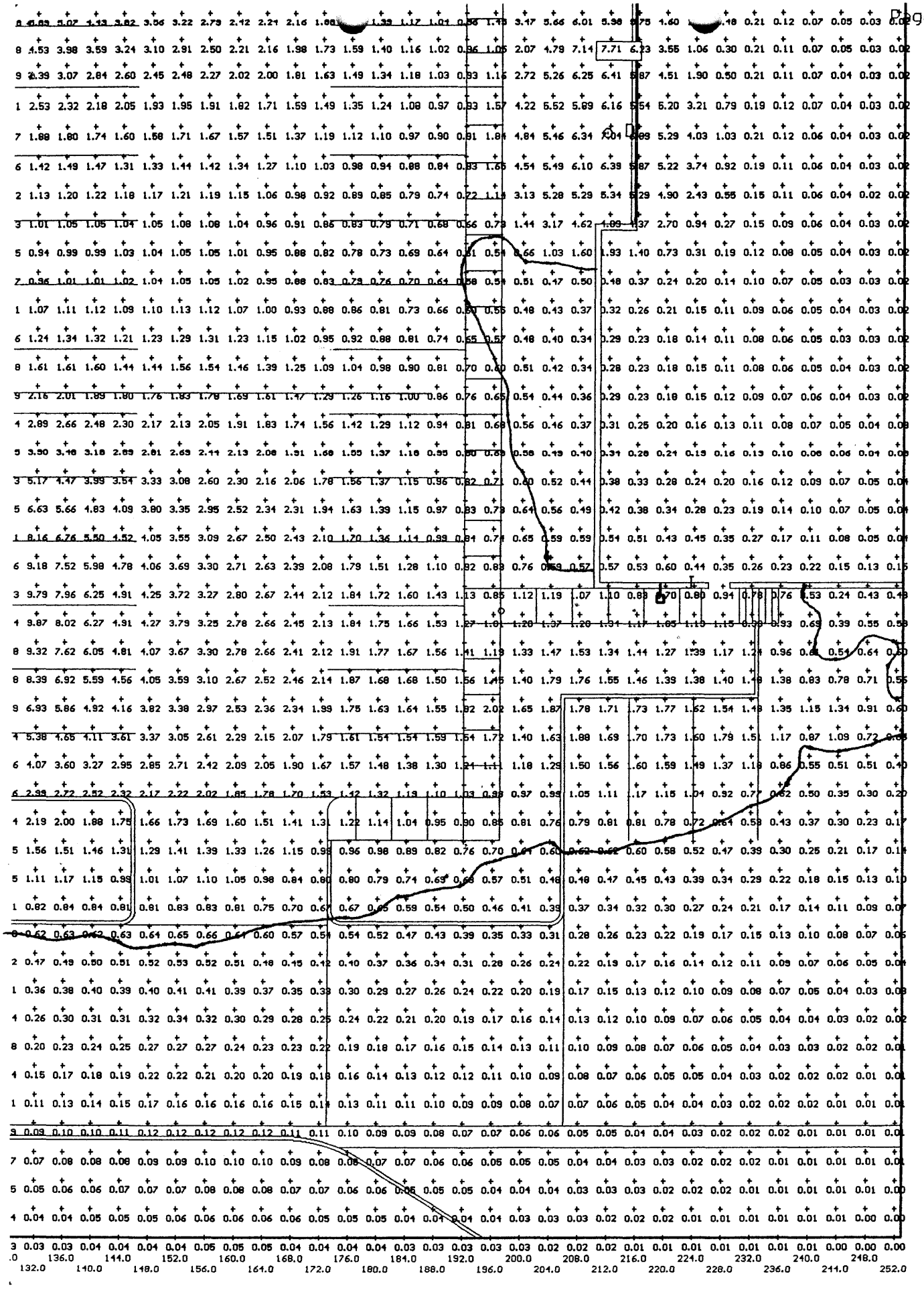
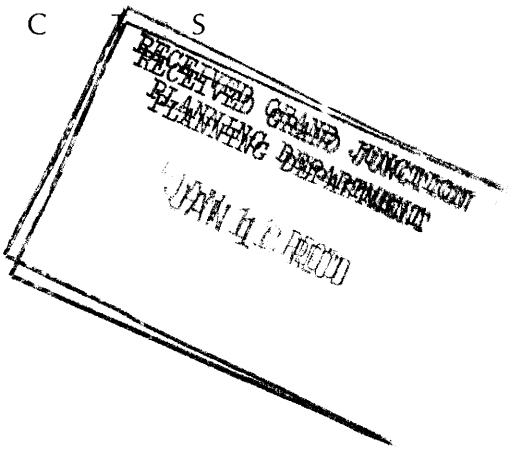


C H A M B E R L I N
A R C H I T E C T S



January 12, 1995

Mr. Michael Drollinger
City of Grand Junction
250 N. 5th Street
Grand Junction, CO 81501

Dear Michael:

Our client has requested a change of tree types for the Refrigeration Industries project. Please find attached four sets of prints for your review. We would appreciate if you could expedite the review, if possible, to minimize any impact on our schedule.

Please call with any questions.

Sincerely,

Stephen C. Newsom, AIA

SCN/1-12droll.454

Enclosures

· A P R O F E S S I O N A L C O R P O R A T I O N ·

437 MAIN STREET
GRAND JUNCTION, COLORADO 81501-2511
TELEPHONE (303) 242-6804
FAX (303) 245-4303

STAFF REVIEW

FILE: 207-94

DATE: January 26, 1995

STAFF: Michael Drollinger

REQUEST: Revocable Permit for Landscaping

LOCATION: SE Corner of Foresight Circle & Blichmann Avenue

APPLICANT: Refrigeration Industries

EXISTING LAND USE: Vacant

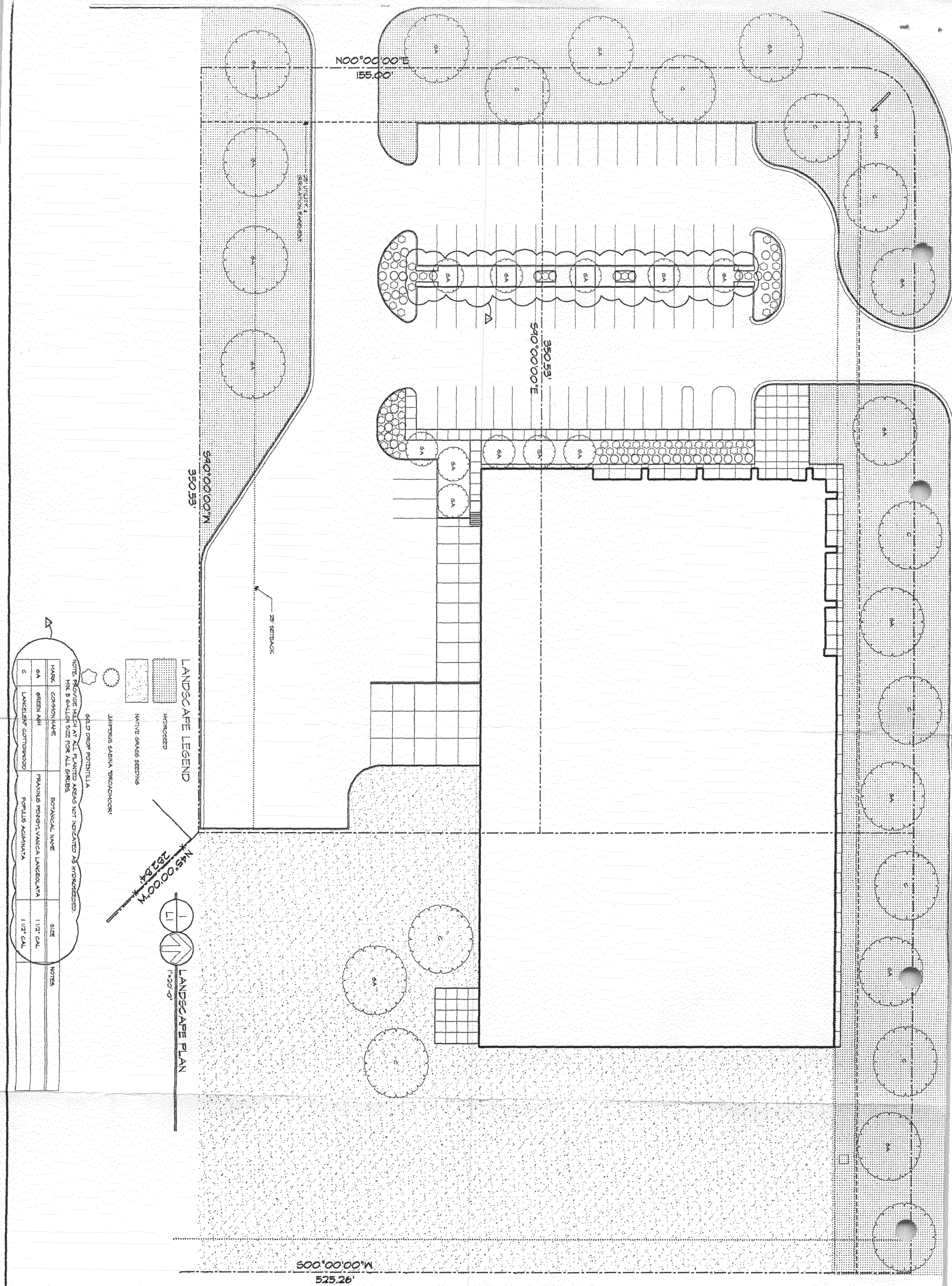
PROPOSED LAND USE: Landscaping in ROW - part of development proposal

EXECUTIVE SUMMARY: Resolution authorizing the issuance of a Revocable Permit to allow installation of landscaping and irrigation lines in the right-of-way (ROW) on the southeast corner of Foresight Circle and Blichmann Avenue in conjunction with the development of the Refrigeration Industries facility.

STAFF ANALYSIS: The applicant proposes to utilize the ROW to install landscaping and irrigation lines as part of the Refrigeration Industries development. The landscaping plan in in conformance with Code requirements.

City Charter gives Council authority to allow private use of public right-of-way, provided such use is substantiated by resolution. The Revocable Permit essentially gives the adjacent landowners a license to use the right-of-way. The City may revoke the permit and require the landowner to restore the right-of-way to its original condition by giving 30 days written notice.

STAFF RECOMMENDATION: Review and adopt proposed resolution. Site Plan has been reviewed and is acceptable to staff. A resubdivision application for the property is presently under review.



Sheet No. L1

Revisions △ 01/17/15

Date 01/01/15

Refrigeration Industries
Grand Junction, Colorado

CHAMBER
ARCHITE
437 MAIN STREET
GRAND JUNCTION, COLORADO 81
TELEPHONE: (303) 242-6

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(303) 244-1430 FAX (303) 244-1599

February 8, 1995

Attn: Steve Newsom
Chamberlin Architects, P.C.
437 Main Street
Grand Junction, CO 81501

Re: Our File #207-94 Refrigeration Industries

Dear Steve,

Enclosed please find two copies of the revocable permit for landscaping and irrigation facilities for signature. Please have Mr. Kirtland sign each permit in two places (notarized as required) and return the permits to my attention. A check for $30 made payable to "Mesa County Clerk and Recorder" will be required to record the documents. One copy will be returned to you after recording.

If you have any questions please feel free to contact me at 244-1439.

Sincerely yours,

Michael T. Drollinger
Senior Planner

cc: File #207-94

Enclosure

207-945

(Form for approval of filing & recording of SUBDIVISION PLATS)

MONIKA TODD
MESA COUNTY CLK&REC
GRAND JUNCTION CO.

#207-94

SB-5-95

MESA COUNTY LAND RECORDS
544 ROOD AVE.
GRAND JUNCTION, CO 81501
(303) 244-1823

RECEPTION # : 1709263
RECORDING FEE $ 10.00

TOTAL $ 10.00
AMT TENDERED $ 10.00
CHANGE $ 0.00
THANK YOU

09:28 AM 02/17/95
TRANSACTION : 9 CASHIER : JM

To: Monika Todd, Mesa County Clerk & Recorder

This is to certify that the SUBDIVISION PLAT described below

REFRIGERATION SITE SUBDIVISION

has been reviewed under my direction and to the best of my knowledge it conforms with the neccessary requirements pursuant to the Colorado Revised Statute 1994, 38-51-106 for the recording of Land Survey Plats in the records of the County Clerk's Office. This approval does not certify as to the possibility of omissions of easements and other Rights-of-Way or Legal Ownerships.

Dated this 9th day of February, 1995.

Signed: Ken Swearengin
KEN SWEARENGIN

RECORDED IN MESA COUNTY RECORDS
DATE: _____
TIME: _____
BOOK: 14 PAGE: 1325
RECEPTION NO.: _____

BB3

NOTE:
The recording of this plat is subject to all approved signatures & dates.

#207-94

1709263 09:28 AM 02/17/95
MONIKA TODD CLK&REC MESA COUNTY CO

To: Ronl
Cc: Michaeld,Millief,Rexr,Sandig
From: Jim Shanks
Subject: PIF for Refrigeration Ind.
Date: 2/16/95 Time: 8:52a

The City Council provided an economic incentive package for this company. Part of the package was a $20,000 payment for utility fee and connection charges. Their sewer plant investment fee was $2250. MCEDC asked to expedite the issuance of the planning clearance so they could get their building permit. The last thing they needed to do to get their planning clearance was to pay the PIF. I talked to Steven Ausmus with MCEDC and we agreed to pay the PIF out of the $20,000 incentive package. Would you pleas make the appropriate transfer or JE. The econonmic development incentive payment to Refrigeration Industries needs to be reduced by the $2250.
Thanks, Jim

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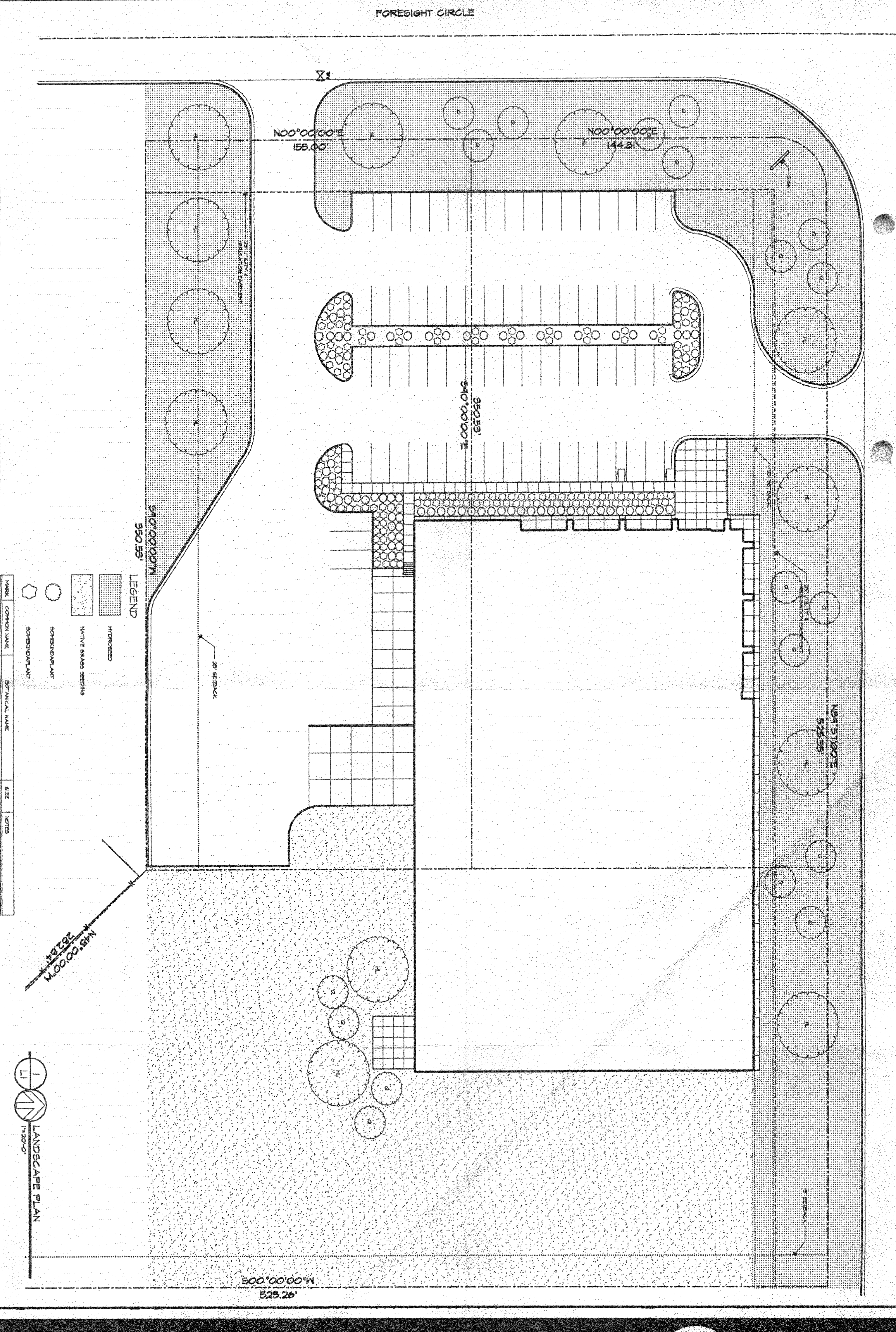
Approved with a change in zoning for the area south of I-70 B and north of the Railroad tracks at the 30 Road / I-70 B intersection from H.O to C-1. The ~~revised~~ proposed zoning maps, II and III revised 3/12/96 reflect this change.

TYPE LEGAL DESCRIPTION (S) BELOW, USING ADDITIONAL SHEETS AS NECESSARY. USE SINGLE SPACING WITH A ONE INCH MARGIN ON EACH SIDE.

****

Lot 1, Block 8 Foresight Park for Industry, Filing No. 3, 1S 1W
Lot 2, Block 8 Foresight Park for Industry, Filing No. 3, 1S 1W
Lot 3, Block 8 Foresight Park for Industry, Filing No. 3, 1S 1W



Refrigeration Industries
Grand Junction, Colorado

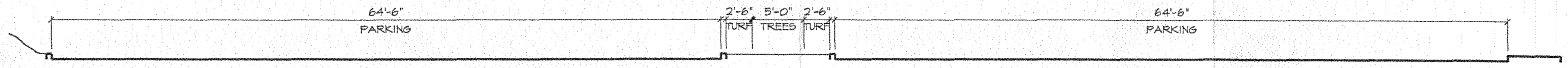
Date 10/10/94

Revisions

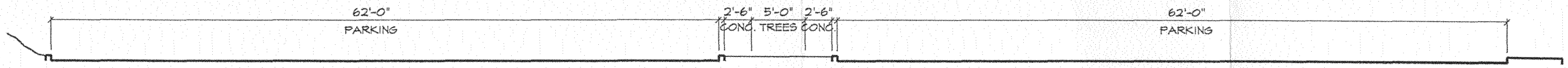
Sheet No.

C H A M B E R L I N
A R C H I T E C T S
437 MAIN STREET
GRAND JUNCTION, COLORADO 81501-2511
TELEPHONE: (303) 242-6804

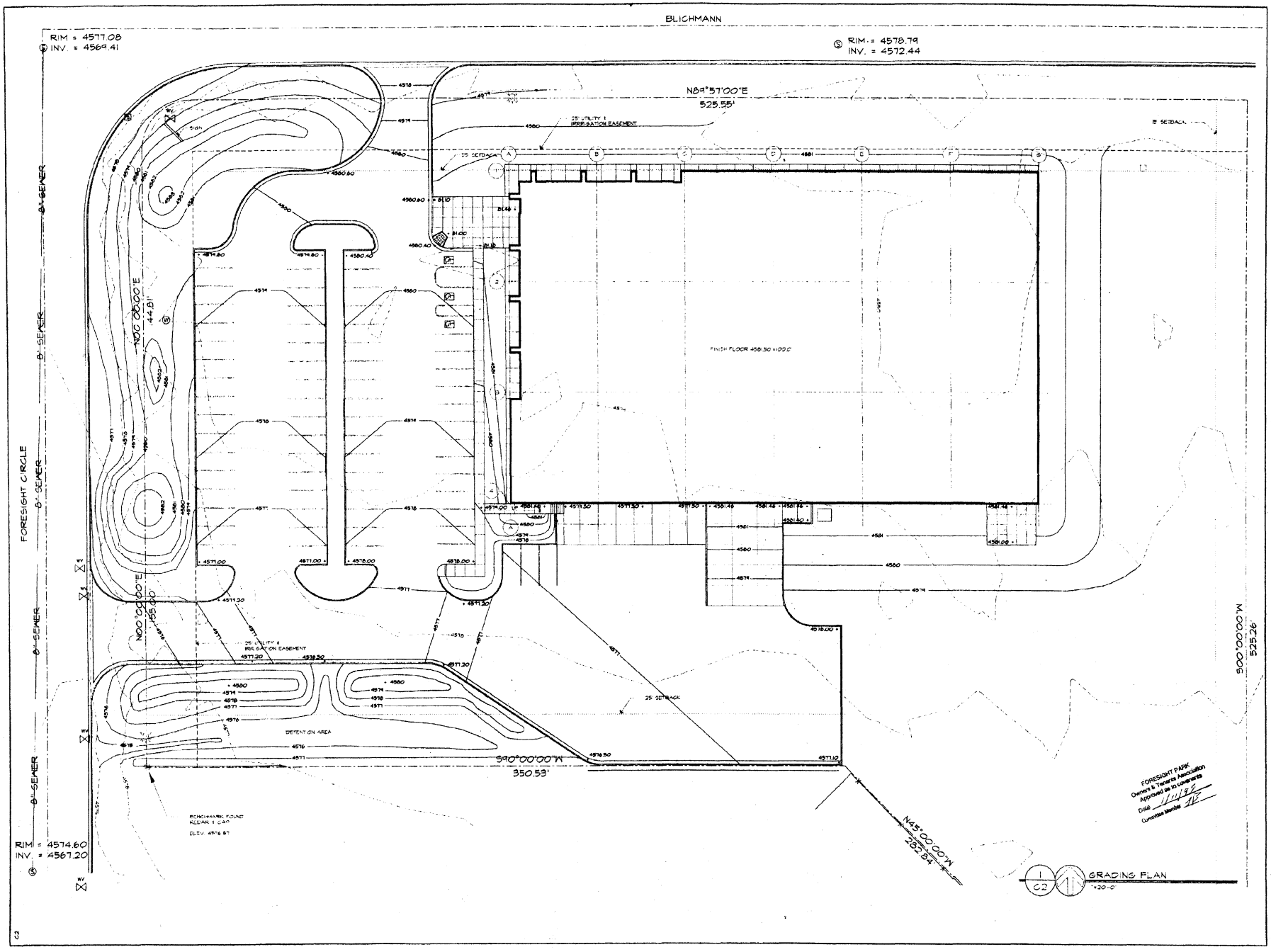
ATTACHMENT A



PROPOSED PARKING LOT SECTION



MINIMUM PARKING LOT SECTION



CHAMBERLIN ARCHITECTS

Refrigeration Industries
Grand Junction, Colorado

Date 01/01/95

Revisions

Sheet No. C2