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File 1981-0050
Date 1/7/02

Project Name: The Grand Hotel and Office – Development in H.O.

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the in some instances, not all entries designated to be scanned by the department are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been provided. **Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file.** **Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.**
X		***Summary Sheet – Table of Contents**
X		Application form
		Receipts for fees paid for anything
		***Submittal checklist**
		***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map
		Evidence of title, deeds
X	X	***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
X		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or nonbound reports
		Traffic studies
		Individual review comments from agencies
		***Consolidated review comments list**
X	X	***Petitioner's response to comments**
		***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***Letters and correspondence dated after the date of final approval (pertaining to change in conditions or expiration date)**

DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:

X	X	Action Sheet	X		Letter from William O. Lovett, Proc. and Airspace Branch to Diane Smucny re: location and height of proposal serious problem – 6/27/81
X	X	Review Sheet Summary	X		Memo from Steve McKee to Ron Rish re: traffic volume for 1977-9/19/78
X		Review Sheets	X		Letter from Jack Treece to Ron Rish re: check for payment on the completion of the pavement marking and traffic signs-11/6/80
X	X	Planning Commission Minutes - ** - 4/28/81, 3/5/82	X		Memo to John Kenney from Ron Rish re: copies of work orders detailing costs of City Traffic Crews – 10/14/80
X		Memo from Ron Rish to Daryl Shrum re: lack of cooperation from City Staff to resolve issue of developer participation in the cost of traffic signals – 5/4/81	X		Deed of Sewer Easement
X	X	Letter from Diane Smucny to Bob Goldin re: liquor license – 6/2/83	X	X	Letter from Ron Rish to Robert Coburn re: street and storm sewer final inspected and all deficiencies corrected – 10/6/80
X	X	Letter from Robert Leigh to Diane Smucny re: traffic analysis – 5/15/81	X		Letter from Jack Treece to Ron Rish re: median to be completed in 30 days – 9/17/80
X		Letter from Alex Candelaria to Jay Kuhne re: recommended approval of the final development plan with stipulation of working out the share of the cost of the signalization - 6/25/81	X		Letter from Ron Rish to Bob Coburn re: work on Traffic Island Redesign must be completed prior to City acceptance – 8/26/80
X	X	Letter from Bob Goldin to Bob Perletz re: landscape plan approved with recommendations – 10/22/82	X		Vacation Application

X	X	Typical Fire Hydrant Detail	X	X	City Council Minutes - ** - 11/1/76
X		Letter from Kirk Holleyman to Alex Candelaria re: airport Overlay Zone and Avigation Easement	X		Letter from Robert Coburn to Ron Rish re: revised copy of road plan – 4/17/80
X	X	Letter from Diane Smucny to re: meeting minutes from 1/21/82	X	X	Letter from Ron Rish to Bob Coburn, C&M Surveryors & Engineers re: detailed construction plans with comments – 4/11/80
X		Letter from Robert Coburn to Ron Rish re: concrete calculations – 8/28/78	X		Letter from Jay Kuhne to M. Cunningham re: Letter to serve as notive of continuance of contract between Creative Equity Corp. Purchasers for loan – 2/19/81
X		Development Application	X	X	Vicinity Map
X		Public Notice Posting	X	X	Planning Clearance - **
X	X	Revised Entrance Grading	X	X	Request of C.O. per guarantee of completion of landscaping – 10/11/83
X	X	Floor Plan	X	X	Vacation Map
X	X	Longitude Section	X	X	Final Plat
X	X	Elevation Map	X	X	Geologic Report by Jack E. Roadifer – 6/25/78
X	X	Perspective Map	X	X	Gamma Radiation Survey – 6/23/78
X		Hotel square footage per room	X		Sign Elevation
X	X	Soil investigation results by Western Engineers, Inc. – 9/1/78	X		Parking Diagram
X	X	Subsurface Soils Investigation by Lincoln Devore – 12/27/78	X		Drainage and Utility Plan
X		Landscape Plan – revised 10/19/82	X	X	Application for liquor license
X		Fire Flow Calculations			
X	X	Description of complex, design considerations and requirements and impact			
X		Site meeting – set-up handwritten notes			

City of Grand Junction
Zoning Ordinance & Development Regulations
(17) H.O. - Highway Orientated Zoning District

INTENT

The HO Highway Orientated Zoning district is established as a district in which the principal use of land is for establishments offering accommodations, supplies, or services to motorists, and for certain specialized uses such as retailed outlets, extensive commercial amusements, and service establishments which although serving the entire city and its trading area do not and should not locate in the central business district or neighborhood district. The HO Highway Oriented Zoning District will ordinarily be located along numbered state or federal highways designated as major streets.

For the HO Highway Orientated Zoning District, in promoting the general purposes of this ordinance, the specific intent of this section is:

A. To encourage the development or redevelopment of, and the continued use of land for commercial, service, and amusement uses serving both local and long distance travelers.

B. To provide for orderly development and concentration of such uses within the HO Highway District as designated on the zoning map.

C. To provide appropriated space, and in particular sufficient depth from the street, to satisfy the needs of modern commercial developments where access is primarily dependent on the automobile.

D. To minimize pedestrian and vehicular conflicts by prociding adwquate separation of the two movements.

E. To encourage the development of the district with such uses and in such a manner as to minimize traffic hazards and interference from highway-oriented businesses.

PERMITTED USES

Automobile Oriented Uses. Free-standing business activities which function relatively independent of intensive pedestrian traffic and proximity of other firms and cater to customers who come by automobile.

USE GROUPS

1. Residential Use

    1.5 Multi-family dwellings ... consists of five or more apartment units with complete living facilities for each family.

USE GROUPS (Cont.)

2. Assembly Use

2.1 Community Facilities, open area ... consists of publicly owned and operated facilities such as a cemetary, regional park, lake, golf course and other public recreation area.

2.3 Swimming pool, semi-public ...

2.4 Community Facilities, non-commercial ... consists of a publicly-owned recreational structures and community buildings, except places of worship, parochial schools, kindergarten, public museum, art centers, and libraries.

2.5 Community Facilities, commercial ... consists of transportation terminal, railroad station, airport, passenger station, funeral home, mortuary, private college.

2.6 Membership club ...

3. Institutional Use

3.1 Service Establishment, public ... consists of colleges, municipal fire and police station and facilities for electrical, gas, telephone, water and sewer except public schools and sanitary fill necessary for safe or efficient operations for the benefit of the public.

4. Business Use	Example
4.1 Service business limited, inside	professional office, clinic.
4.2 Parking lot	
4.3 Service business, personal, inside.	barber shop, beauty shop, massage parlor
4.4 Retail business, limited, inside	enclosed buildings for selling of goods
4.5 Commercial residence, unlimited	motels, hotels, tourist homes.
4.6 Restaurant business, limited, inside.	
4.7 Amusement business, inside	bowling alleys, night clubs.

SEE TEXT, SECTION 3 FOR ADDITIONAL USES.

USE GROUPS (cont.)

4. Business Use		Example
4.8	Amusement business, outside	drive-in theatres, miniature golf.
4.9	On premisis consumption of liquor or fermented malt beverage licensed premisis	

5. Commercial Use		Example
5.1	Drive-in Business	Restaurant, laundry
5.2	Gas stations	
5.3	Retail Business, unlimited outside	new and used car, boat, camper sales.
5.4	Repair Shops	locksmith, electrical repair
5.5	Retail Business, unlimited	inside bakeries, building materials
5.6	Used Goods Business	Second hand store
5.7	Service Business, unlimited	Kennels, auction houses
5.8	Automotive Maintenance Business.	car wash, repair shops
5.9	Wholesale Business	storage buildings and wholesale business

SEE TEXT, SECTION 3, FOR ADDITIONAL USES

Provided, assembly use 2.5 and uses in groups (4) through (5) inclusive are a part of a unit development plan as defined, processed, and approved according to Section (15) of this ordinance.

6. Dimensional Standards

These requirements are desirable to permit adequate space for parking, loading, landscaping, and expansion. In addition to clearly affecting the density of HO uses, they will have a direct effect on the traffic-carrying capacity of the major streets.

USE GROUPS (cont.)

6. Dimensional Standards

A. Lot frontage, minimum ..... 50 ft.

B. Lot area, minimum ..... 5,000 sq. ft.

C. Maximum lot coverage ..... 35 percent

D. Maximum height of buildings 35 ft.

E. Minimum setback 65 ft. from centerline of the right of way, but not less than 15 ft. inside the property line.

F. Side yard minimum
Principal building ... 15 ft.
Accessory building ... 15 ft.

G. Rear yard minimum ..... 15 ft.

Further provided, all portions of any required front yard or sideyard on the street side of a corner lot shall be used only as landscaped planting area. In addition, where a use in this district sides or rears upon property in any residential zoning district, such yard shall be used and maintained only as a landscaped planting and screening strip which shall be properly maintained to screen the view on a year round basis.

7. Off-street Parking and Loading Area Requirements.

(1) Standards ... The following are minimum standards for parking spaces and loading areas to be maintained in connection with the buildings and uses indicated:

(a) Auditoriums, assembly halls, dance halls, gymnasiums, theatres, skating rinks -- 1 space for each 4 seats or 1 space for each 100 square feet of gross floor area, whichever is the greater.

(b) Bowling alleys -- 4 spaces per lane.

(c) Educational institutions -- for colleges, one (1) parking space for every four (4) persons in the faculty and student body.

(d) Hotels, boarding and rooming houses, clubs, lodges, fraternities and sororities -- 1 space for each 2 guest rooms or an area equal to the gross ground floor area of the building, whichever is greater.

(e) Industrial and/or manufacturing -- 1 space per each 3 employees, but in no event less than an area euqal to one-fourth the floor area of the building.

USE GROUPS (Cont.)

7. Off-street Parking and Loading Area Requirements.

(1) Standards ...

(f) Offices, business, professional agencies and banks -- 1 space per each 300 square feet of floor area.

(g) Residential uses -- (Multi-family) 1½ spaces per each dwelling unit.

(h) Indoor restaurants, bars, taverns -- 1.6 spaces per each 100 square feet or part thereof of floor area.

(i) Drive-in and carry-out restaurants -- 16 spaces for the first 500 square feet of floor area or part thereof, plus 3.2 spaces per each additional 100 square feet of floor area or part thereof in excess of 500 square feet.

(j) Retail business -- up to 7,500 square feet of floor area, an area equal to one-half the floor area; 7,500 square feet and above, an area equal to the floor area.

(k) Tourist courts, motels -- 1 space per each unit.

(l) Warehousing and wholesale business -- 1 space per each 3 employees but in no event less than an area equal to one-fourth the floor area of the building.

Provided 10 percent of the gross parking area shall be devoted to landscaping to minimize its impact and define on site traffic patterns.

2. Minimum service line requirements:

(1) For each drive-in or drive-through service bay, there shall be provided a minimum of four (4) spaces on the entrance side and one (1) space on the exit side.

(2) Where the bay can be entered from either direction, the entrance requirements shall control for each direction.

(3) In any case, parking, automobile storage or service lines shall not be permitted in the street right-of-way.

USE GROUPS (Cont.)

3. Off-Street Loading Area Requirements

Each use shall provide at least one (1) off-street loading area subject to the following minimum requirements.

1. Tractor-Trailer berth minimum 14 feet wide and 60 feet deep.

2. Delivery Trucks berth minimum 14 feet wide and 30 feet deep.

8. Access and Traffic Controls

Accessways: Each lot shall have not more than two accessways to any one street or highway which shall comply with the following requirements:

A. Width of Accessway. The width of any accessway leading to or from a street or highway shall not exceed thirty (30) feet nor be less than fifteen (15) feet in width at the right-of-way line. The alighment of accessways and curb return dimensions shall be determined through site approval.

In cases where driveways exceed twenty-five (25) feet in width, a six (6) foot raised divider strip shall be provided to reduce vehicular conflicts.

B. Spacing of Accessways. At its intersection with the lot line, no part of any accessway shall be nearer than twenty (20) feet to any accessway on the same lot, nor shall any part of the accessway be nearer than (10) feet to any side or rear property line at its intersection with a right-of-way line. The use of common accessway by two or more permitted uses shall be encouraged in order to reduce the number and closeness of access points along highways. Further, the use of directional accessways and acceleration, deceleration lanes shall be encouraged.

C. Traffic Hazards: The location and number of accessways shall be so arranged that they will reduce the possibilities of traffic hazards as much as possible.

A. DESCRIPTION OF COMPLEX (Cont.)

1. Phase I. The Grand Hotel

The Ground Level circulation of the hotel is designed for easy public access to separate function areas, including convention wing, restaurant wing, lobby/ elevators and adjacent swimming pool. The guest room elevators are centrally located and next to a nine-story, sky-lighted atrium for visual impact, with minimal walking distance to guest rooms. Orientation of the hotel and office building maximizes views towards the Bookcliffs and the golf course below. Figures 6 and 7 illustrate elevations and longitudinal sections, Figures 8 and 9 floorplans, and lastly Figure 10 depicts the typical guest room layout.

Detailed breakdown of the Hotel Program is provided for review in the appendix.

2. Phase II. Office Building

Basic layout and building materials of the hotel shall be repeated within the 50 foot - three story office building to provide continuity for the complex. Parking under the structure satisfies a dualing purpose: boosting the structure up one level to allow better views (above the highway) from the office work areas, and to meet the parking requirements.

Landscaped areas along the Interstate will buffer traffic noise and along with an "atrium area" behind the entry, provide some open space for lounging and lunch breaks of building employees.

An elevation and floorplan of the proposed structure is shown in Figure 11.

B. DESIGN CONSIDERATIONS AND REQUIREMENTS

The overall complex has several design considerations and requirements which will be detailed for purposes of the Planned Development Review:

B. DESIGN CONSIDERATIONS AND REQUIREMENTS (Cont.)

1. Access.

Vehicular access to the sire is provided by an existing road from Horizon Drive. Improvements required by the developers of Horizons 70 led to the construction of this roadway. A 42' mat was laid with a 50' ROW, with concrete curb and gutter. This road will be extended 115' to meet the driveway entrances of the hotel and office.

No addition curb cuts will be necessary as all driveways will be from the access road. This conforms with the Horizon Drive curb cut policy in eliminating any additional access from busy Horizon Drive.

2. Parking.

Requirements for parking have been calculated as the following, and developed according to guidelines received by the City/County Development Department:

a. Hotel

Gross Building Area: 170,800 square feet.

			Required
1)	Guest Rooms:	280	280
	Regulation: 1 space per room		
2)	Banquet Room:	500	
	Three meeting rooms (50 each):	150	
	Total Banquet*:	650	
	Regulation: 1 space per 4:	162	
	*Reduced by 50%:	81	81
3)	Restaurant:	100	
	Coffee Shop:	150	
	Total*:	250	
	Regulation: 1 space per 3:	82	
	*Reduced by 50%:	41	41

B. DESIGN CONSIDERATIONS AND REQUIREMENTS (Cont.)

2. Parking

a. Hotel

			Required
4)	Nightclub:	150	
	Lobby Lounge:	30	
	Total*:	180	
	Regulation: 1 space per 2:	90	
	*Reduced by 50%:	45	45
	Hotel Parking Requirement:		447
	Hotel Parking Provided:		438
	All 90% Parking Stalls:		
	Handicapped Parking (8.5' X 18.5'):	6	
	Standard Parking (8.5' X 18.5')	432	

*The Development Department diminished the standard use requirement by 50% assuming 50% of the customer users were guests at the hotel.

b. Office Building

Gross Building Area: 80,000 square feet
(less 5% for mechanical space)
Net Leasable Area: 76,000 square feet

Regulation: 1 space per 300 sq. ft.	Required
Office Parking Requirement:	253
Office Parking Provided:	253

All 90% parking stalls:

Handicapped Parking (12.5'X18.5')	2
Standard Parking (8.5'X18.5')	203
Under Building (8.5'X18.5')	48

NOTE: The 33 parking spaces between the office and hotel are serving as reciprocal parking for both uses. The hotel is nine spaces short of the requirement, but the nature of hotel use is to have in and out usage all day, with highest parking needs in the evening (check-in time), while the office use is maximized 9 to 5, with little, if any, usage in the evening.

B. DESIGN CONSIDERATIONS AND REQUIREMENTS (Cont.)

2. Parking

Total parking provided is 447 spaces for the Hotel, and 253 spaces for the Office Building, overall 700 parking spaces. Employee parking shall be signed and designated for the frontage along Horizon Drive. Guest room parking (including handicapped) is provided near the lobby with drop-off access at the drive through front entry. Banquet parking is provided along the golf course and proximite to the separate Banquet Entry; this passenger drop-off area will be signed also. Convenient restaurant parking is also provided. Office parking is all located on the northwest corner of the site, with visitor parking (handicapped included) near the front entrance, and 15 spaces along the "atrium" area, and 48 spaces under the structure.

One bicycle rack will be installed by each structure with proposed location indicated on the Development Plan.

3.. Circulation.

The major circulation is provided along the existing access road from Horizon Drive, which has three driveways branching from it. Two are to the hotel, and one leads to the Office Building. Wheel stops shall be installed throughout the parking lots.

Hotel: The 42' access road diminishes at the hotel entrance to a 35' main driveway which carries passengers to the "porte cochere" of the hotel. At this point, the main driveways and double-loaded parking aisles are all 25' wide; single-loaded parking aisles are 22' wide. A loop is formed by the driveways and aisles, providing a complete thoroughfare for vehicles that can enter at the main driveway and exit through the alternate driveway located near Horizon Drive.

Office: A 25' driveway proceeds alongside the hotel restaurant parking and leads to the Office Building on the northwest corner of the site. The same dimension apply to the parking aisles and driveway of this area as to the hotel. However, the major access to the parking at the rear of, and under, the office structure is via two 25' parking aisles/driveways. Vehicles enter and exit the parking under the structure through two access points. Two fire hydrants are proposed - one in front of the Office Building, one by the hotel. No problems are anticipated for emergency vehicle access.

B. DESIGN CONSIDERATIONS AND REQUIREMENTS (Cont.)

4. Truck Loading.

Hotel: The truck loading and service area is to the rear of the hotel, near the tennis courts. At this time, trash pick-up and other deliveries shall be at this area for the hotel.

Office: The lower level of the Office Building house the delivery area for truck loading. Trash containers shall be at the rear of the structure.

Locations for the dumpster shall be decided upon after further discussion with the proposed tenants for the complex, and put before staff for review at a later time.

5. Signage.

An integrated signage program is proposed for the site, with a major entry sign at Horizon Drive, a sign on the building faces, and additional informational signs throughout the complex including Banquet and Restaurant areas. Because of the double frontage of the property along Horizon Drive and I-70, approximately square feet of signage is permitted for a site with 1270 feet of frontage.

A complete signage program shall be designated at a later time and submitted for review.

6. Landscaping/Open Space.

Because of the vast amount of parking required for this complex, the landscaping plan is ever so important in preserving the visual quality of the site. Indicated on the development plan, are a diversified selection of deciduous and coniferous species, various sizes and colors, to provide a pleasant setting for the complex. Ground-covers of "barren strawberry" and "ajuga" should allow for some drainage of the large parking areas.

Generous landscaping treatment of the area around the hotel is accented by addition of a pedestrian way which will meander throughout the site.

Landscaped islands and greenbelts will buffer traffic noise and soften the overall parking area appearance.

Landscaping of the site shall be completed with 60 days of completion of structures.

Open space for entire site is approximately 5.9%.

C. IMPACTS

New development on the site will impact existing roads and utilities and require extension and sometimes installation of new roadways or utility lines. The proposed Hotel/Office complex shall require the following changes for provision of indicated services.

1. Utilities.

a. Ute Water

A 10" line will be continued up the access road in existing easements with an 8" line to be extended to the hotel, and a 6" line to the office.

b. Sewer

A new 10' easement will be necessary to extend two 8" sewer lines to the office and hotel.

c. Mountain Bell

There is no problem with extension of lines from existing easements along property lines.

d. Public Service of Colorado

Power lines are available in the easement along the property line between the Highway and the site. Gas lines are located along Horizon Drive.

e. Fireflow Requirements

Two fire hydrants are proposed, one to be located in front of the Office Building and one at the Hotel. A form listing out fireflow information is included in this submittal.

f. Drainage

To accomodate increased drainage, a 10' drainage easement is proposed to be established from the site through the adjacent golf course. Review Drainage and Grading Plan/Utilities Composite for additional details and specific locations.

2. Roadways.

An extension of the access road for 115' will require laying 3" asphalt, on a 5" base material and 8" sub-base material to match the existing mat. Concrete curb and gutter alongside a 42' mat, will be continued up to the driveway.

PROPERTY OWNERS WITHIN 300 FEET OF THE VACATED PROPERTY

Louise Forster
Old Homestead Realty
737 Horizon Drive
Grand Junction, CO 81501

Reed Miller, Inc.
P.O. Box 157
Grand Junction, CO 81502

Mark Magruder
545 West Greenwood Court
Grand Junction, CO 81501

Mr. A. L. Partee
246 26 1/4 Road
Grand Junction, CO 81501

Bookcliff Country Club
2730 G Road
Grand Junction, CO 81501

Bookcliff Country Club
2730 G Road
Grand Junction, CO 81501
#50-81

Western States Motel
Operations, Inc.
P.O. Box 1725
Grand Junction, CO 81502
#50-81

Crossroads Colorado West
P.O. Box 363
Grand Junction, CO 81502
#50-81

Reed Miller, Inc.
P.O. Box 157
Grand Junction, CO 81502
#50-81

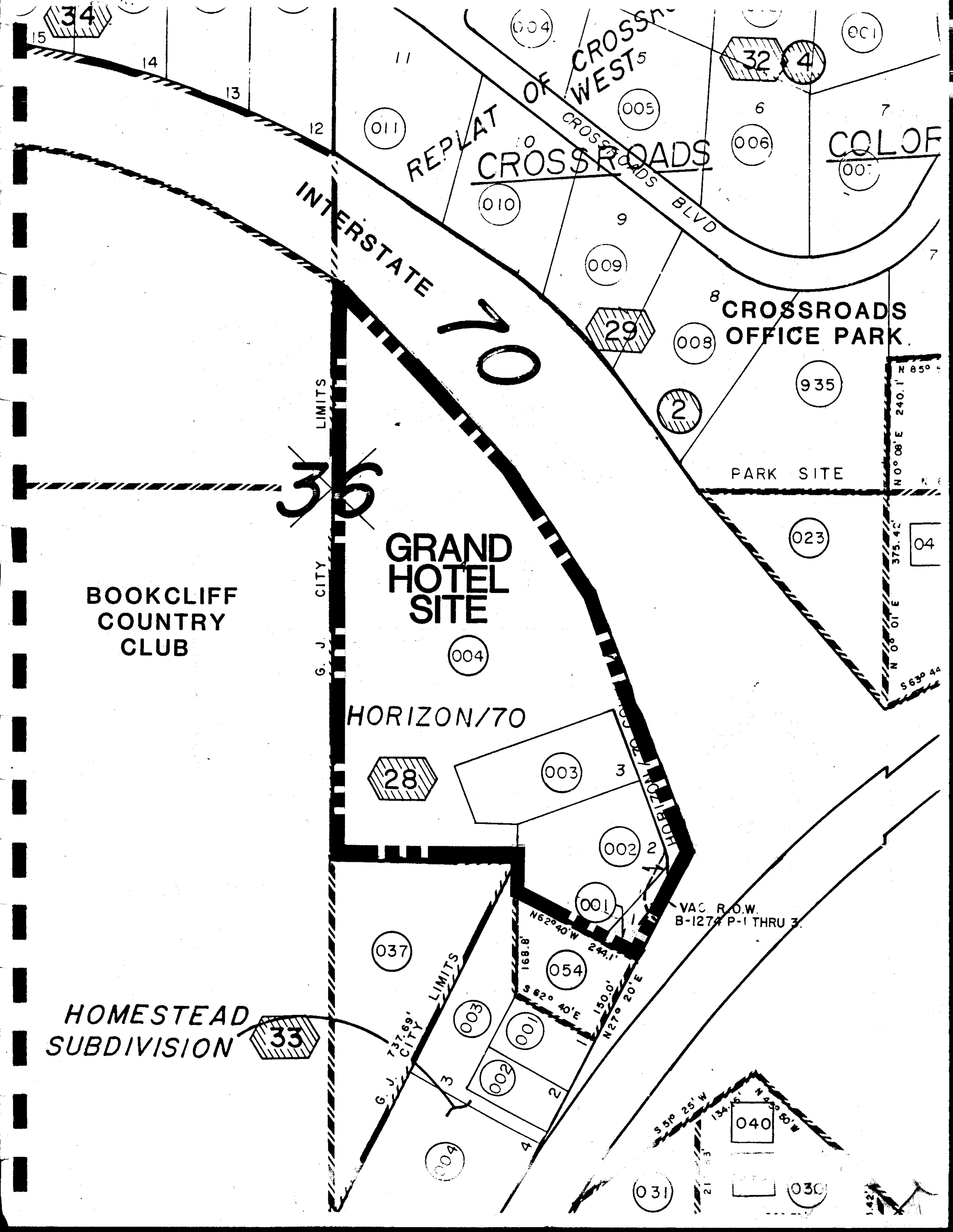
Robert F. Starodaj
Erdmann Donnelley
P.O. Box Q
Aspen, CO 81611
#50-81

Jay Kuhue, Chairman
Creative Equity A.R.
Aspen, Co. 4/28/81
#50-81

Louise Forster
737 Horizon Drive
Grand Junction, CO 81501
#50-81

Planners & Developers, Ltd.
A Colo. Corporation
P.O. Box 2163
Grand Junction, CO 81502
#50-81

Diane Smucny
Syracuse, Lawlee & Partners, Inc.
714 Equitable Bldg.
Denver, Co.
#50-81


INTERSTATE 70
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BOOKCLIFF COUNTRY CLUB
HORIZON/70
HOMESTEAD SUBDIVISION
REPLAT OF CROSSROADS WEST
CROSSROADS
CROSSROADS BLVD
CROSSROADS OFFICE PARK
PARK SITE
G. J. CITY LIMITS
VAC. R.O.W. B-1274 P-1 THRU 3.
N 62° 40' W 244.1'
S 62° 40' E
168.8'
150.0'
N 27° 20' E
737.69'
S 51° 25' W
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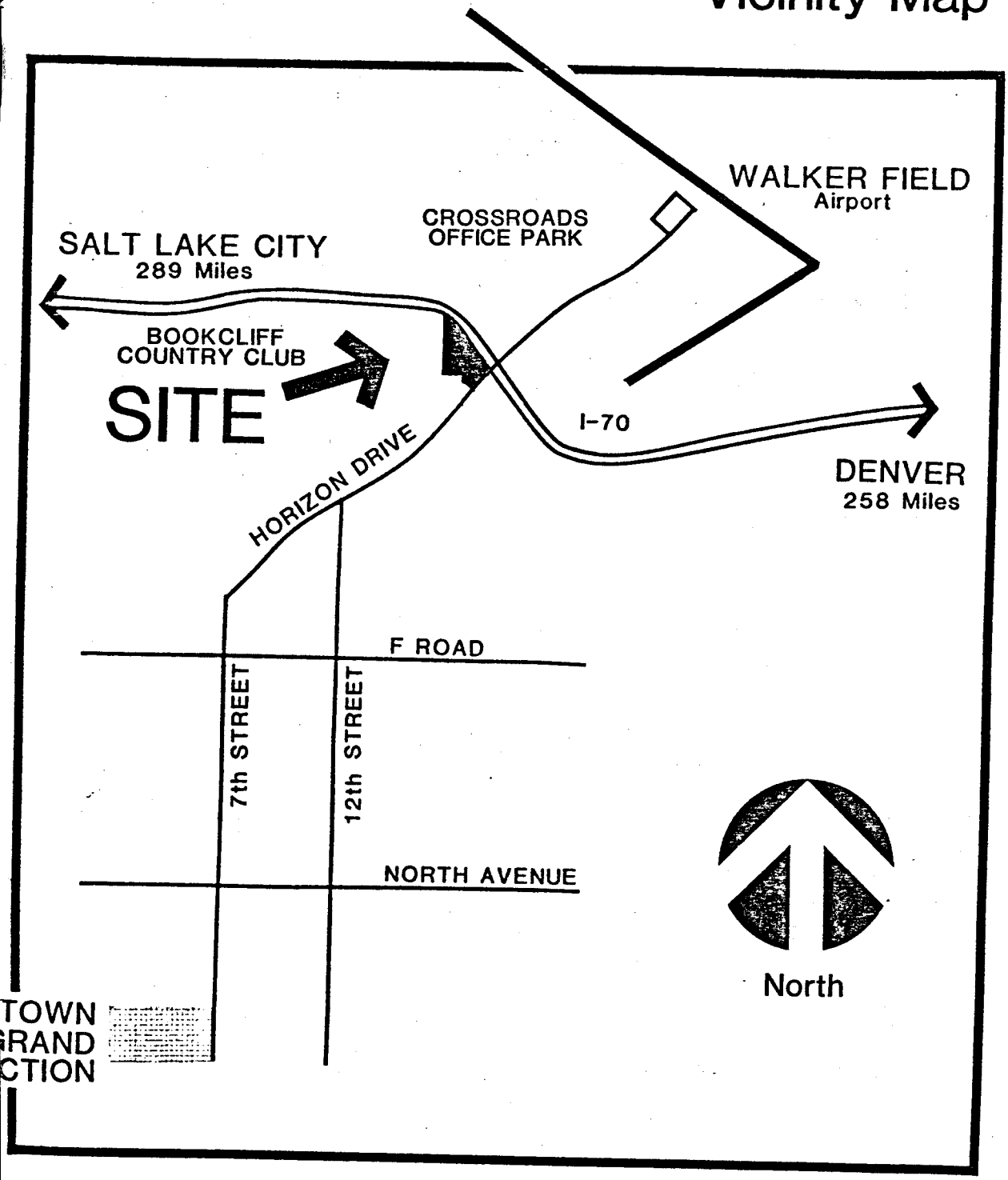
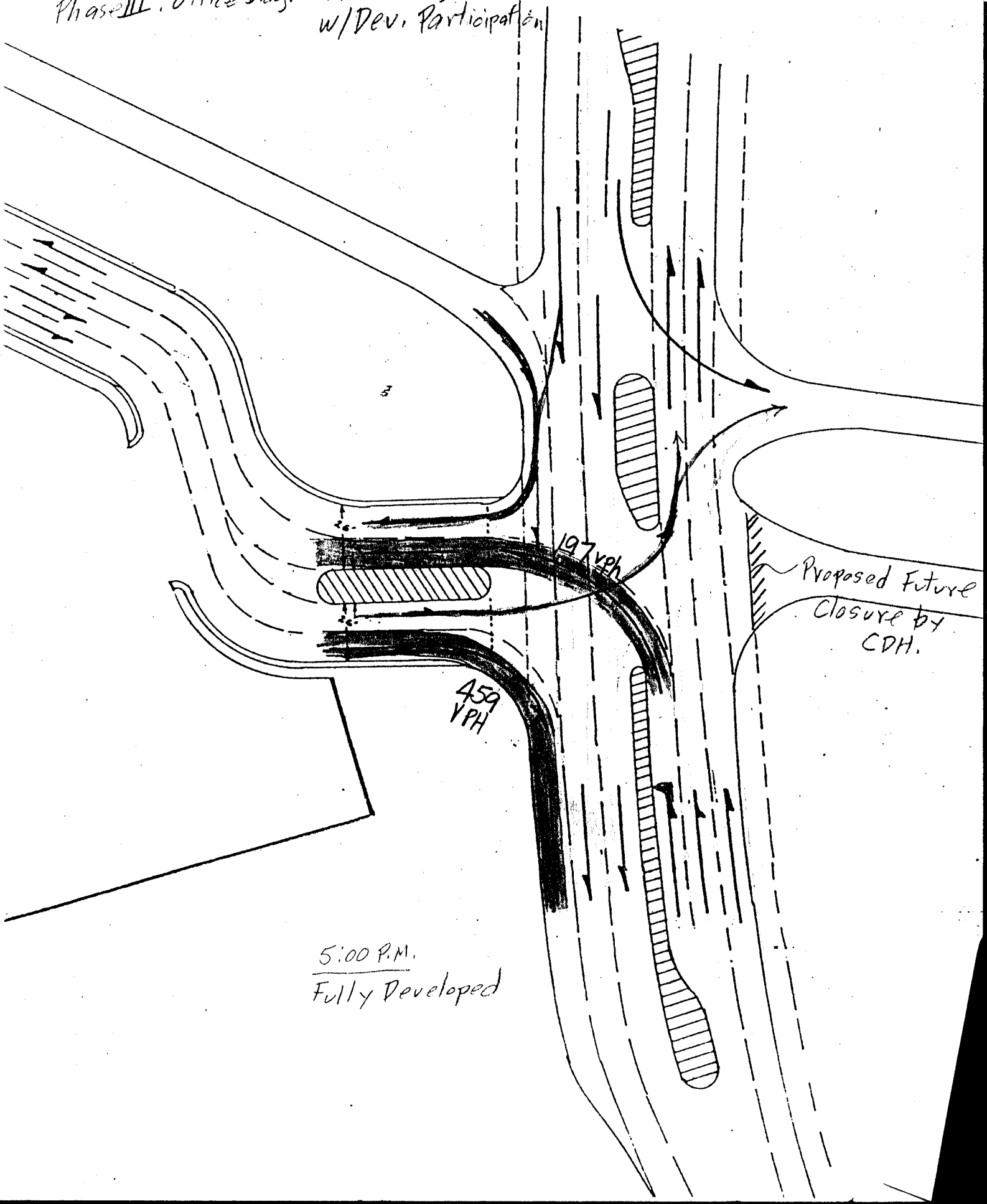
Vicinity Map



#30-81

Phase I: 2 Restaurants - Median Changes - By Dev.
Phase II: Motel - Accelleration lane - By Dev.
Phase III: Office Bldg. - Traffic Signals w/Dev. Participation



5:00 P.M.
Fully Developed

Hilton Hotel

Bob — Please see me

Dev. in H.O. Hilton ~~Hotel~~ file.

J/—

ok per J/— JB.

final grading Monday

Bruce O'Hara coming up Sunday night

5-BLUE SPRUCE 5'-6'

5-DOLGO CRAB 2" CAL.

FLOWER BED

LOW INFORMATIONAL SIGN-"HOTEL ENTRANCE" ACTUAL LOCATION TO BE APPROVED BY CITY

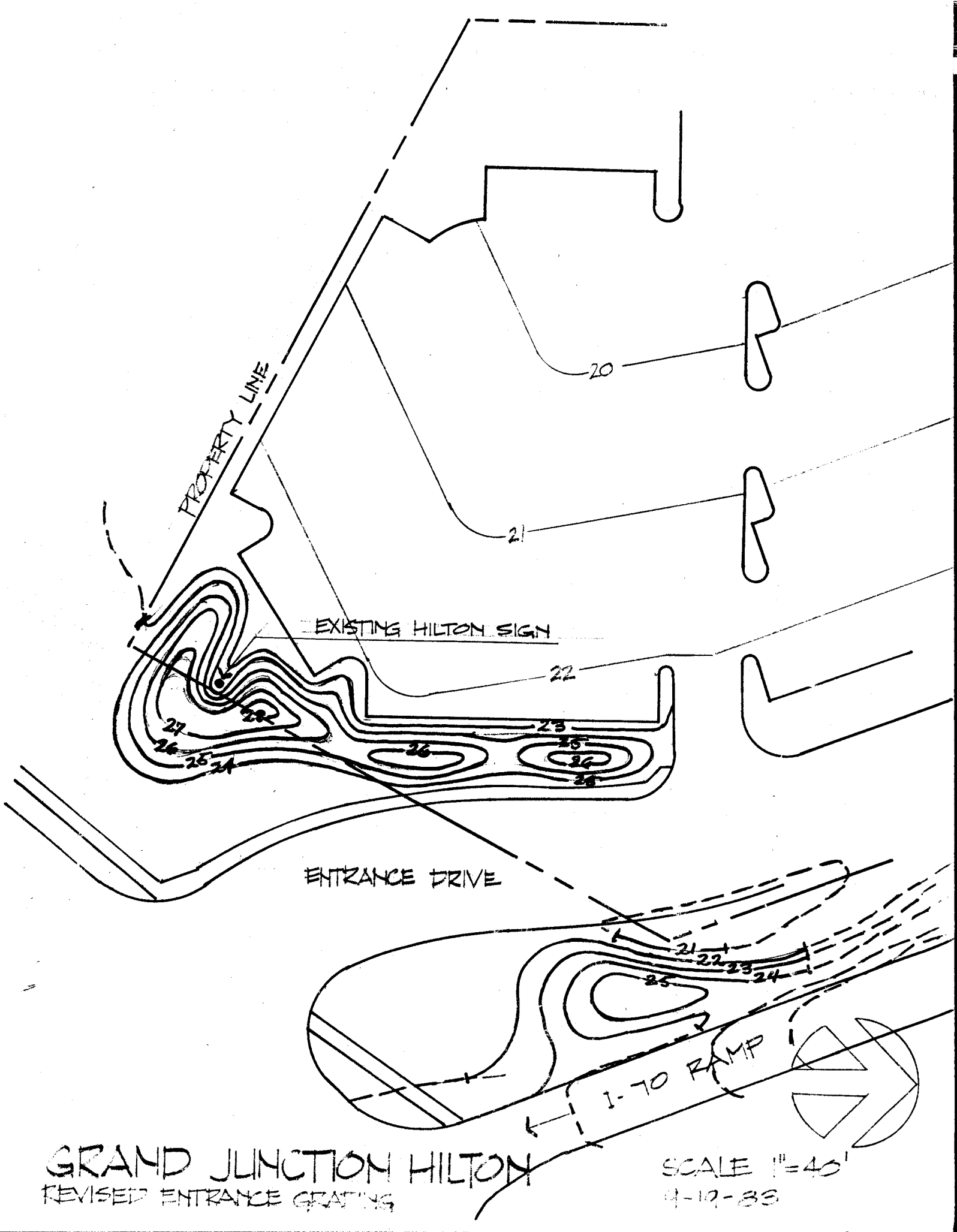
5 DOLGO CRAB 2" CAL

FLOWER BED

6-BLUE SPRUCE 12'-14'

SCALE 1"=10'

9-12-83



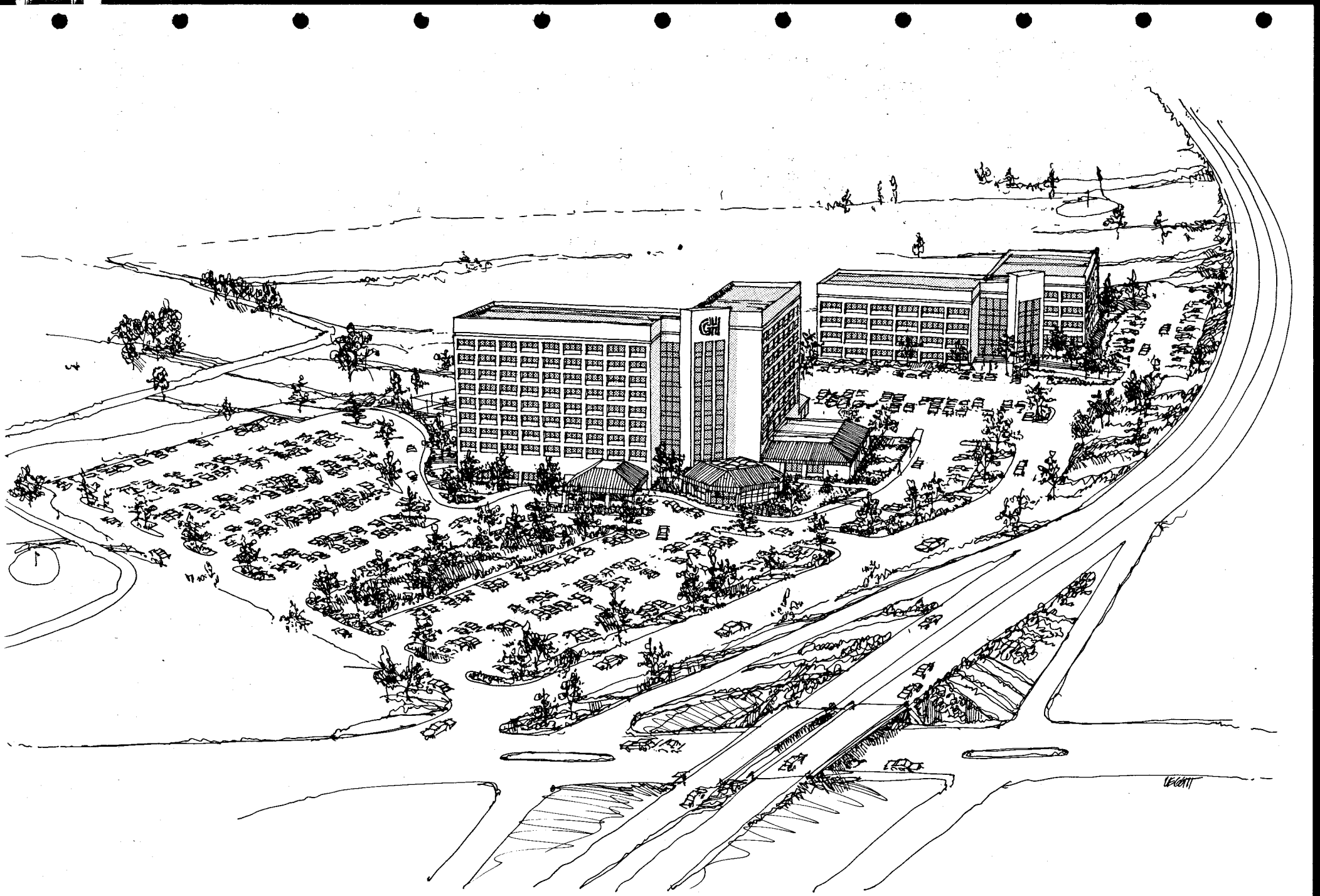
GRAND JUNCTION HILTON

REVISED ENTRANCE GRADING

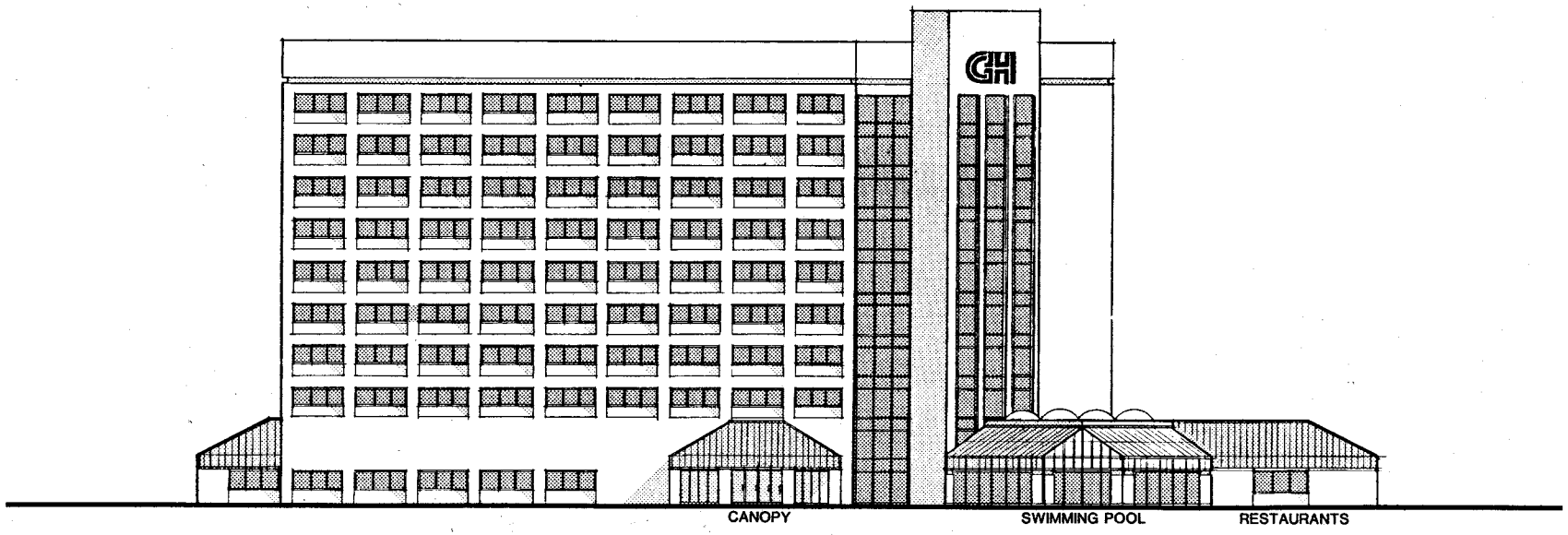
SCALE 1"=40'

4-12-88

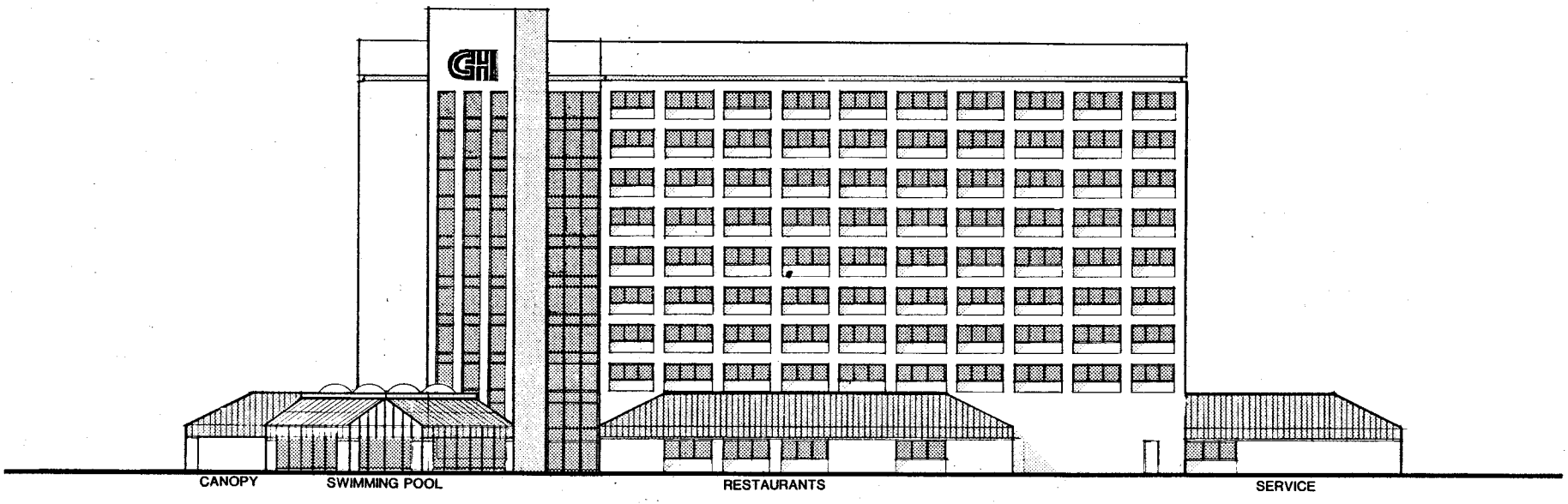
PERSPECTIVE



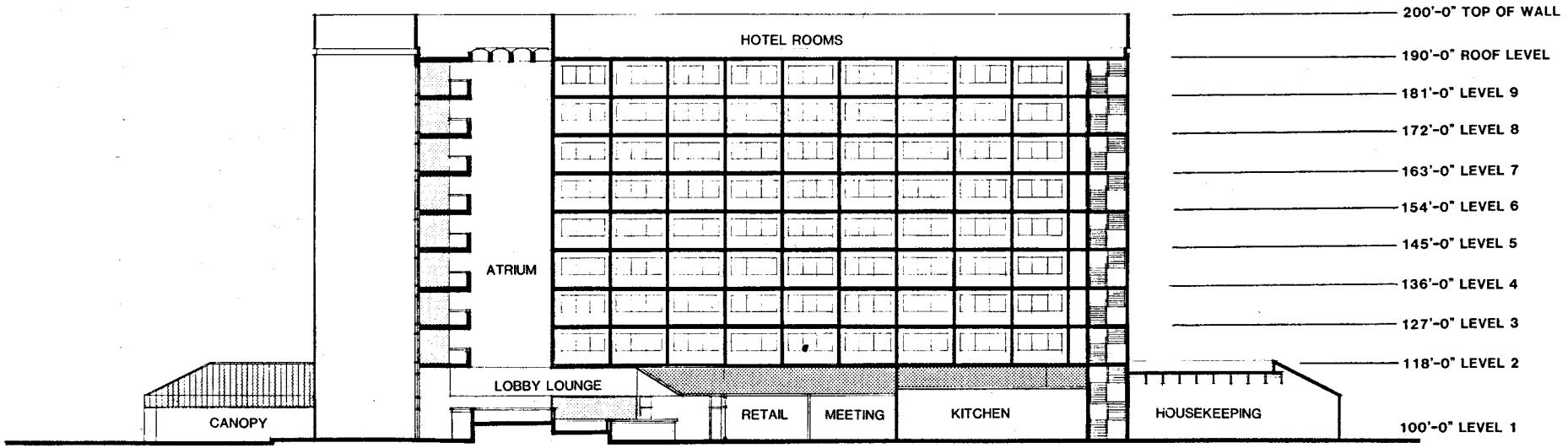
PERSPECTIVE



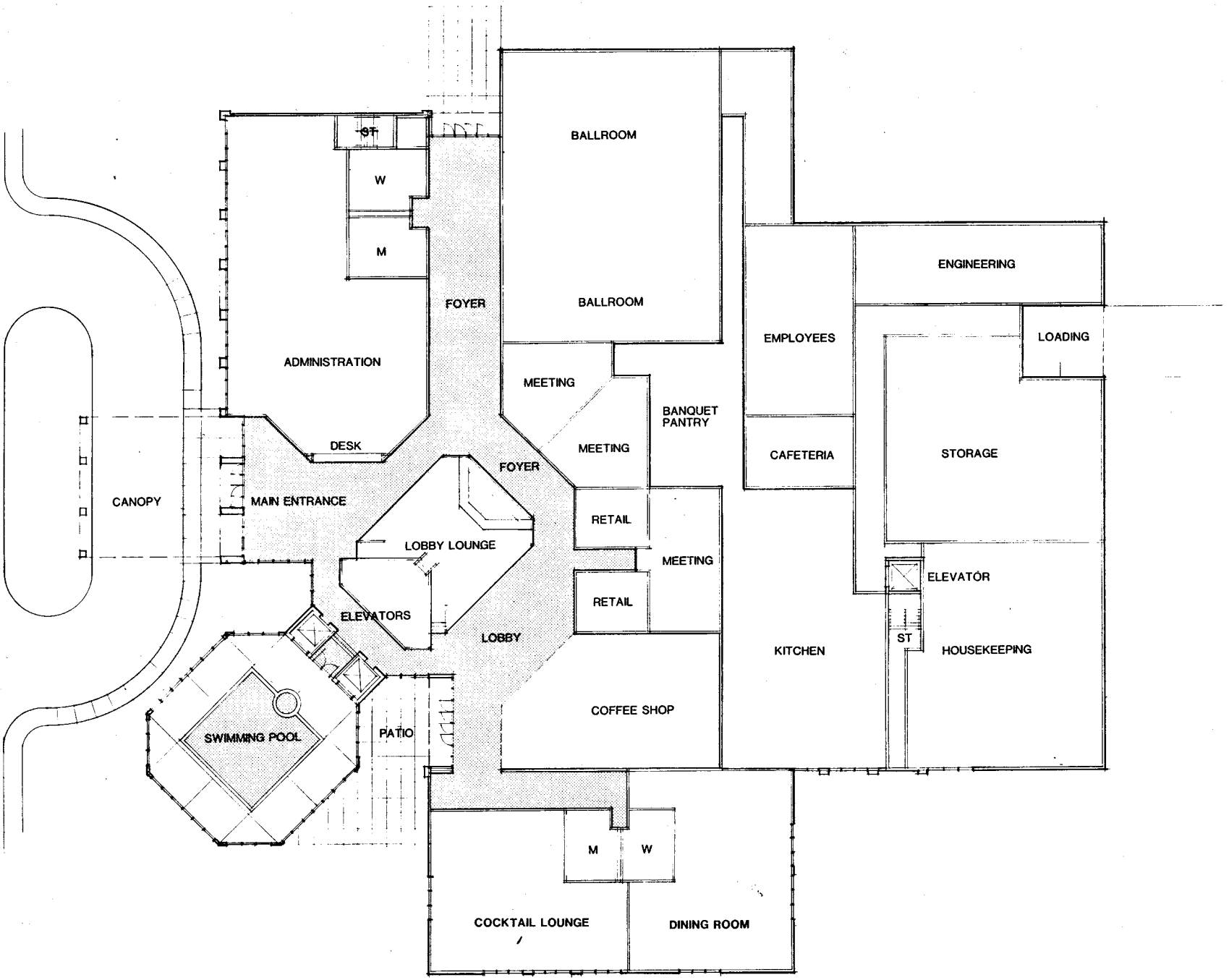
SOUTHEAST ELEVATION



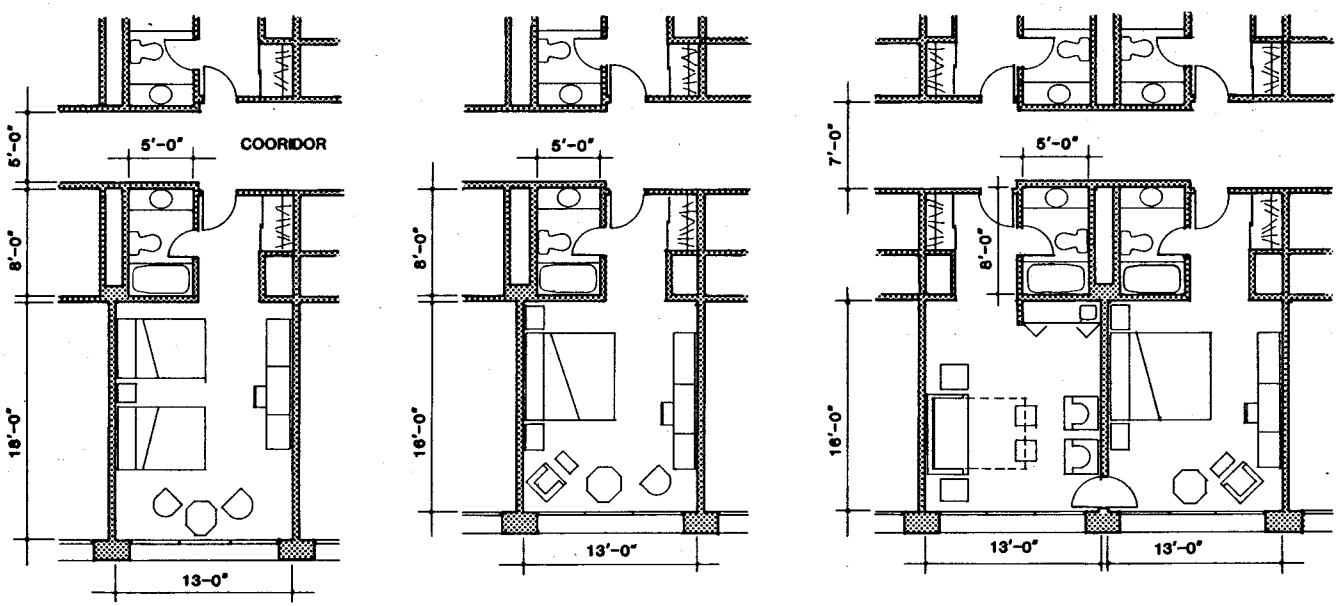
NORTHEAST ELEVATION



LONGITUDINAL SECTION THRU HOTEL



HOTEL FIRST FLOOR PLAN

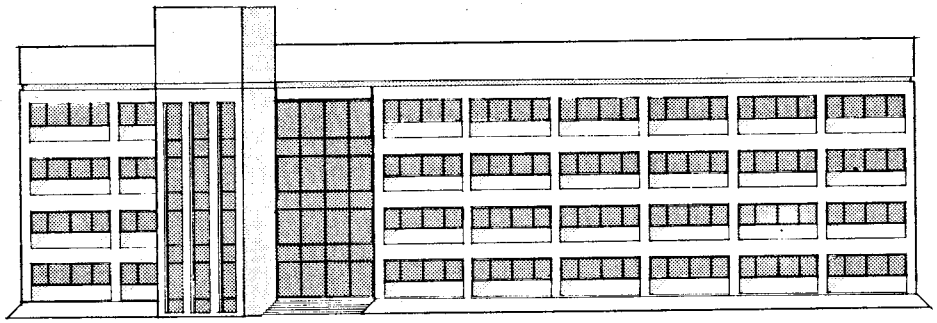


DOUBLE-DOUBLE
80 UNITS

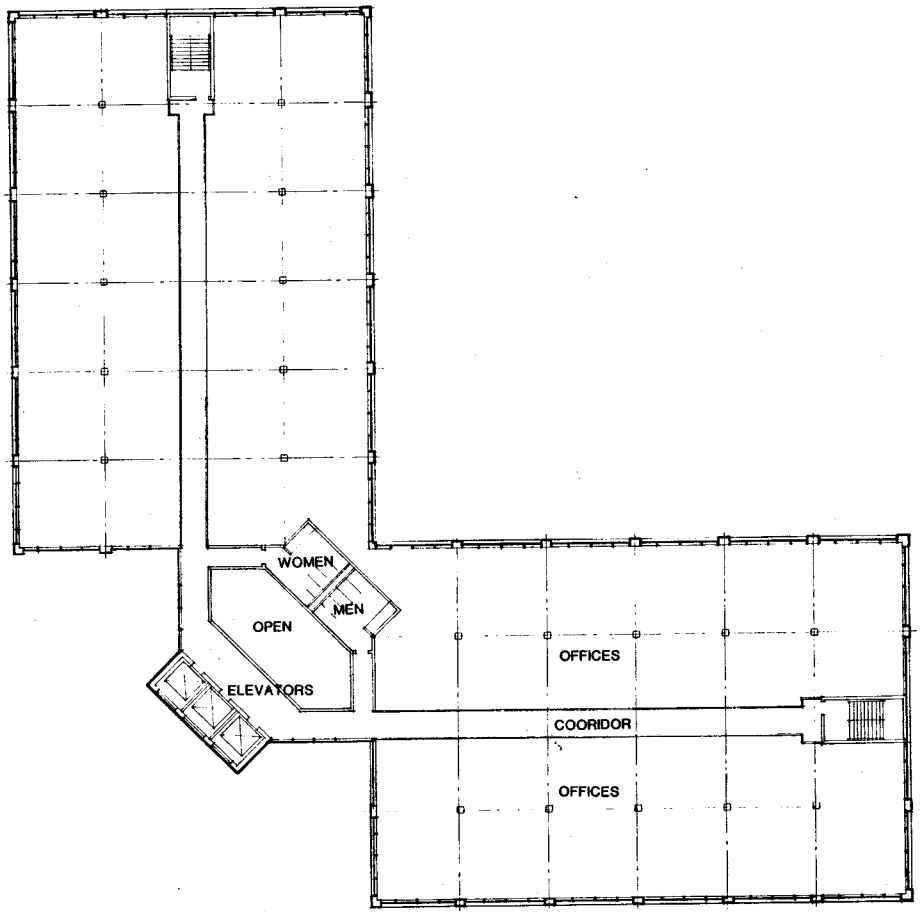
KING
192 UNITS

KING SUITE
8 UNITS

TYPICAL GUEST ROOM LAYOUT



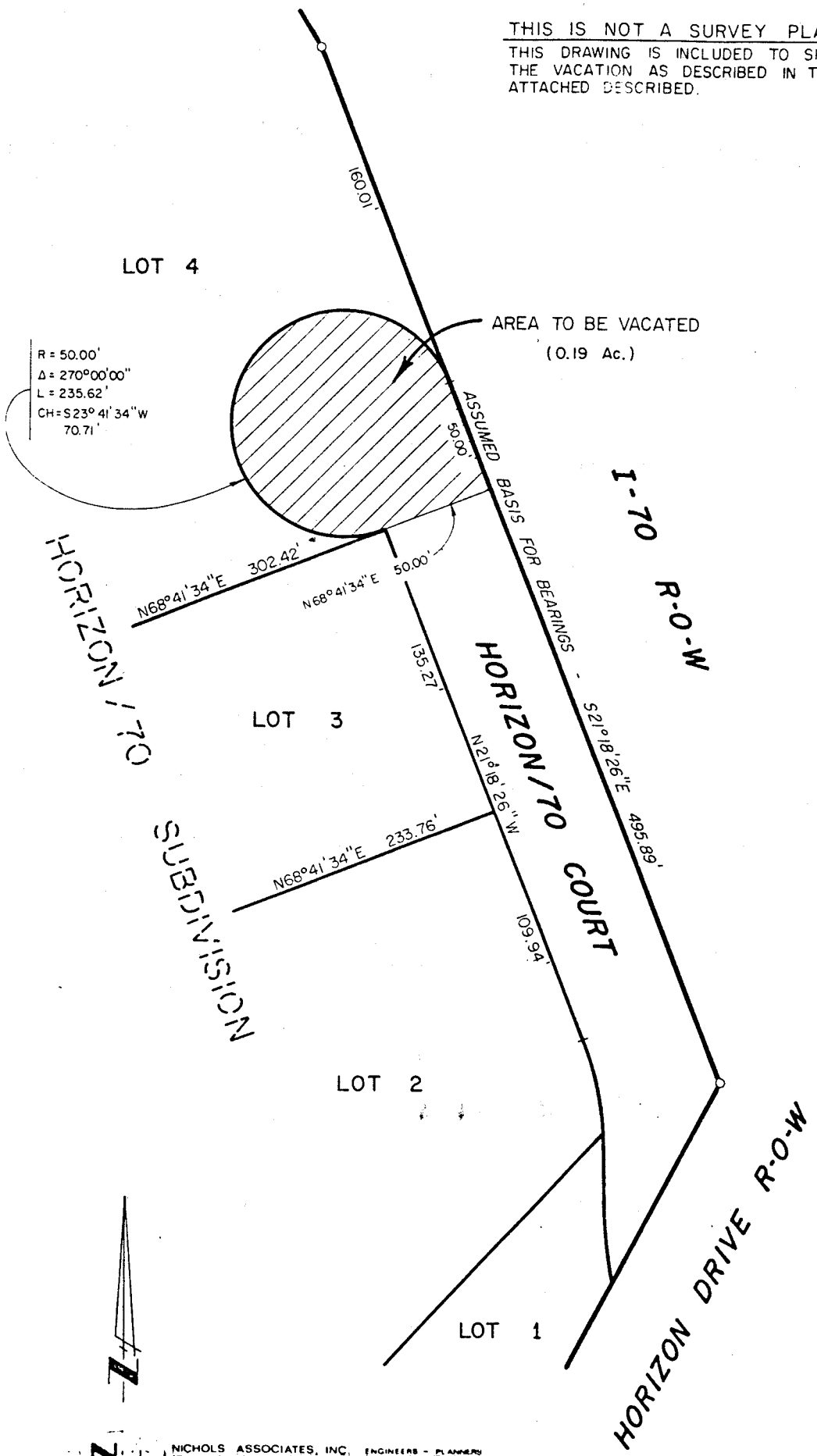
OFFICE NORTEAST ELEVATION



OFFICE TYPICAL FLOOR PLAN

THIS IS NOT A SURVEY PLAT

THIS DRAWING IS INCLUDED TO SHOW THE VACATION AS DESCRIBED IN THE ATTACHED DESCRIBED.



NICHOLS ASSOCIATES, INC. ENGINEERS - PLANNERS

NAI 2628 March 29, 1982

WESTERN ENGINEERS, INC.
CONSULTING ENGINEERS / LAND SURVEYORS

13, September 1978

Bob Coburn
33 ½ Road
Whitewater, Colorado 81527

Re: J & J Development, Horizon Drive

Dear Bob:

As requested, during the month of August we performed the following soil investigation items at the above site.

1.) Drill two shallow holes to obtain CBR samples
2.) Drill one hole to 10 feet
3.) Moisture profile, visual classification
5.) CBR sample
6.) Consolidation curve

The moisture density curve and CBR samples were taken from Test Hole 1 and 2 whereas the consolidation sample was from Test Hole 3. Enclosed are the results of the above mentioned tests, as well as a location map for the Test Holes. Examination of the Test Holes and analysis of the test results led to the following conclusions:

1.) The soil profile generally consisted of a moderately consolidated "crust" consisting of a moist silty clay material with some gravels and cobbles. This crust is 2 to 2½ feet in thickness and is underlain by a very poorly consolidated clay-silt in a saturated state, with the water table measured at 6 feet during drilling and at 4 feet 2 weeks later. A portion of the site is overlain by imported pit run gravel 6 to 12 inches thick. The upper soils are unsuitable for support of moderate to heavy loads. Such loads should be supported on the shale lower in the profile. Light loads from single story construction may be supported on the upper soil. The crust must be utilized for support of even light loads and excavation into the crust for foundation elements should be avoided. To avoid excessive uniform and differential settlements the crust must be utilized to carry the major load influence and to distribute the load to the underlying low bearing soils. In the foundation design employing the upper soils for support, two items must be considered. First, the bearing capacity of the crust must not be exceeded. If this occurs, consolidation within the crust itself could cause excessive movement. The test results in this material indicate a maximum allowable bearing capacity of 650 PSF. Second, the zone of major load influence must be confined to the crust. If sufficient load is transferred to the poorly consolidated soils underlying the crust, settlement will occur in this material increasing the shear stresses in the crust and leading to the eventual possibility of shear failure of the crust. The depth of the major influence zone

is a function of footing width. The wider the footing, the deeper the major load influence extends. Maximum footing width, in this case, is therefore limited by the thickness of the crust and should not exceed 80% of the depth of the crust (approximately 2 ½ feet). The effective crust depth may be increased by compacting gravel, or some other suitable material under foundation elements. The on site gravels may be used for this purpose.

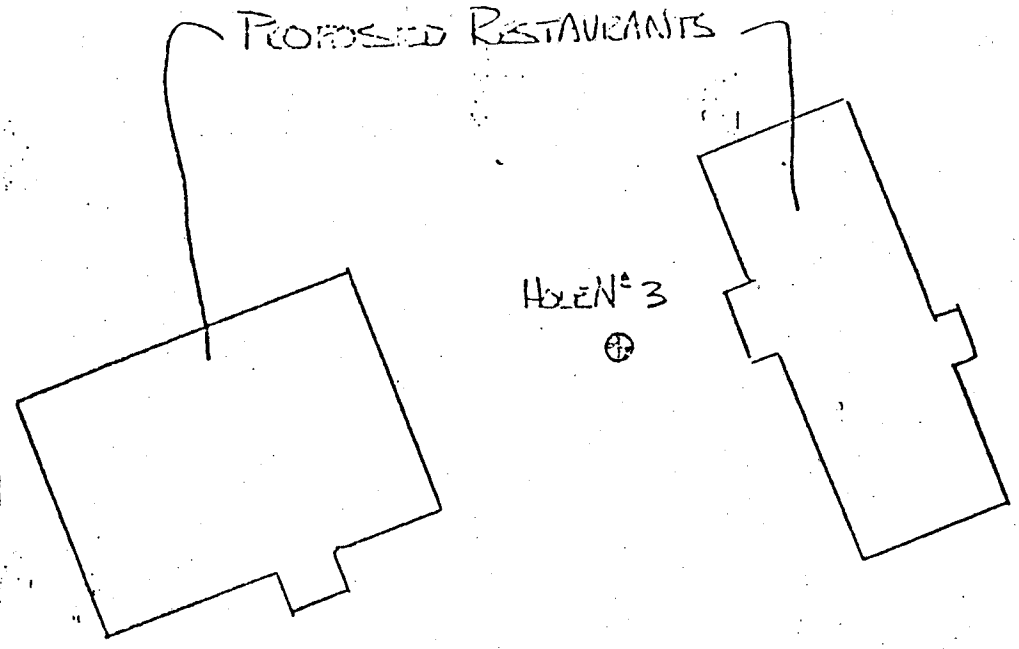
2.) The CBR value of 6.0, while slightly higher than that of many soils found in the valley, was accompanied by a swell of 4.46%. A swell value of 3% is generally accepted as a maximum allowable without special provisions for additional surcharge or additional drainage and moisture protection.

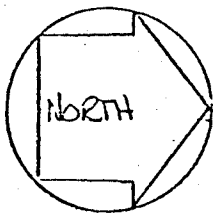
Very truly yours,

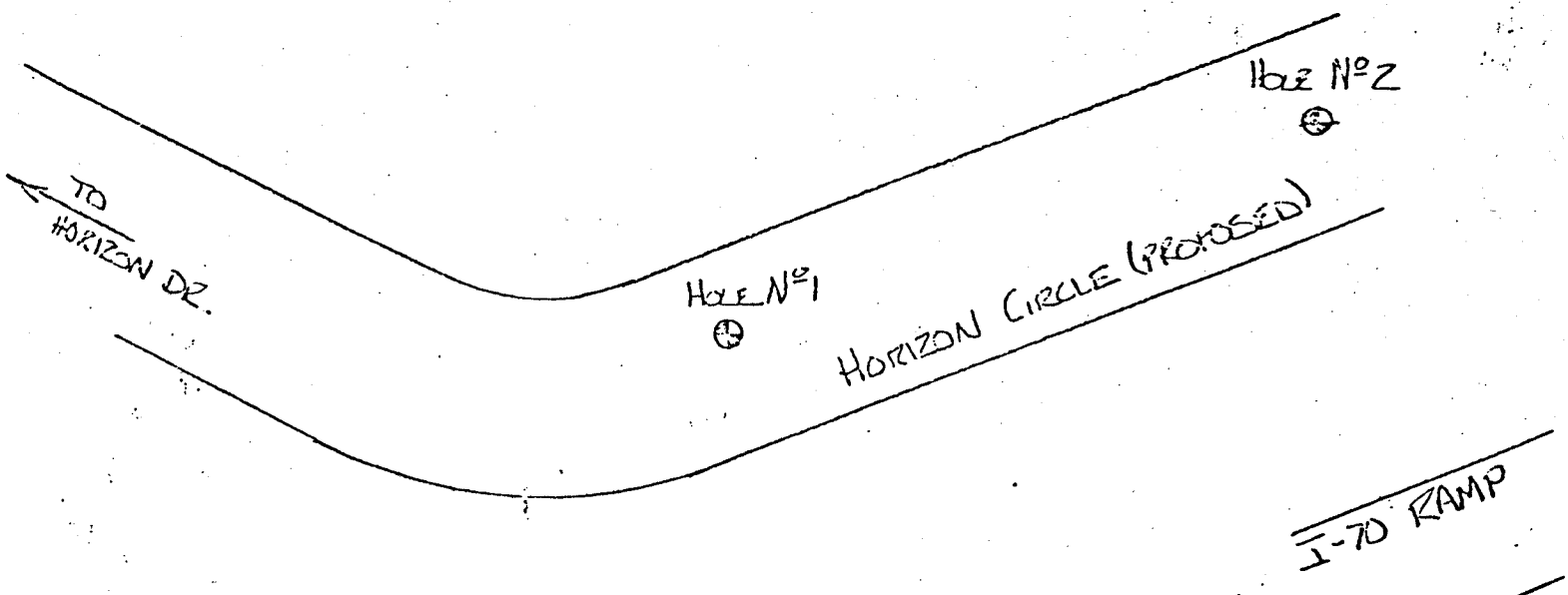
WESTERN ENGINEERS, INC.

Bruce D. Marvin, P.E.

sc







TEST HOLE LOCATIONS

J AND J DEVELOPMENT

WORK ORDER NUMBER _____

SUBSURFACE EXPLORATION
DRILL HOLE LOG AND PENETRATION RESISTANCE

PAGE ___ OF ___ PAGES
HOLE NO 3

Project J & J Development — Ground Elev. _____
Location Horizon Drive, I - 70 — Depth to Water Table(Ft) 4
Drill Contract Western Engineer — Foreman _____ — Date Water Table gaged 8/29/78
Hole Logged by J.C. — Hammer Weight _____ Height of Drop _____ Date 8/9/78

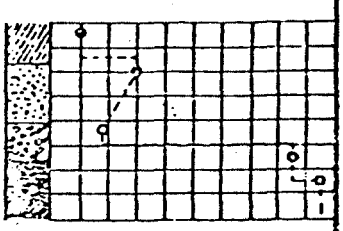
NOTES TYPE & SIZE OF HOLE TYPE OF BIT OR SPOON LOSS OF DRILLING WATER	CORE RECOVERY %	NO. BLOWS	MOISTURE %	SAMPLES FOR TESTING	DESCRIPTION AND CLASSIFICATION OF MATERIAL	DEPTH	LOG	PENETRATION RESISTANCE (BLOWS PER FOOT) ● ACTUAL ○ EXTRAPOLATED 20 40 60 80
Water Table					Crust: Clay, silty, some gravels, moist to semi-sa saturated, moderately tight, yellow brown	2		
					Clay, silty, saturated, some lenses of sand and fine gravels, poorly consolidated	4		
						6		
						8		
					Same as above, some shale chunks	10		
					Bottom of Hole			

EXPLANATION

No. OF BLOWS ..... RECORD NUMBER OF BLOWS REQUIRED FOR ONE FOOT PENETRATION IF 50 BLOWS RESULT IN LESS THAN 1 FOOT PENETRATION, RECORD DEPTH PENETRATED; THUS, 50/4 INDICATES 4 INCHS PENETRATION WITH 50 BLOWS.

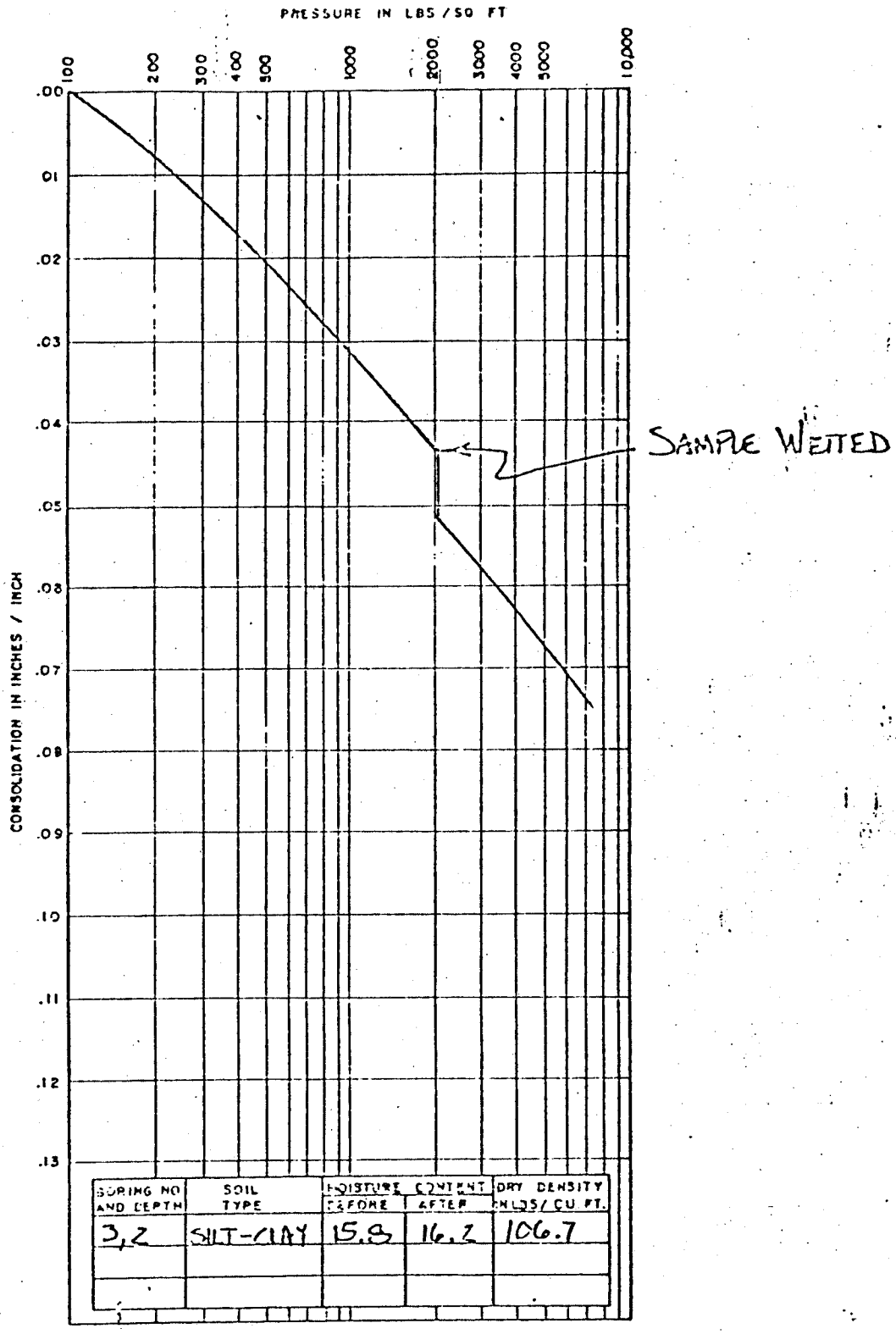
DESCRIPTION AND CLASSIFICATION OF MATERIAL ..... DESCRIBE SOIL TYPE, WITH EMPHASIS ON INPLACE OR NATURAL CONDITION. INCLUDE SOIL CLASSIFICATION GROUP SYMBOL. EXAMPLE: *SAND*, MEDIUM, CLEAN, MOIST, FIRM, DENSE, UNCEMENTED, (SP)

PENETRATION RESISTANCE ..... PLOT AS SHOWN AT RIGHT, WITH DASHED LINES SHOWING THE MATERIALS CONSIDERED TO BE REPRESENTED BY EACH PENETRATION VALUE.



WESTERN ENGINEERS, INC.
Soil Mechanics Engineers

PLATE



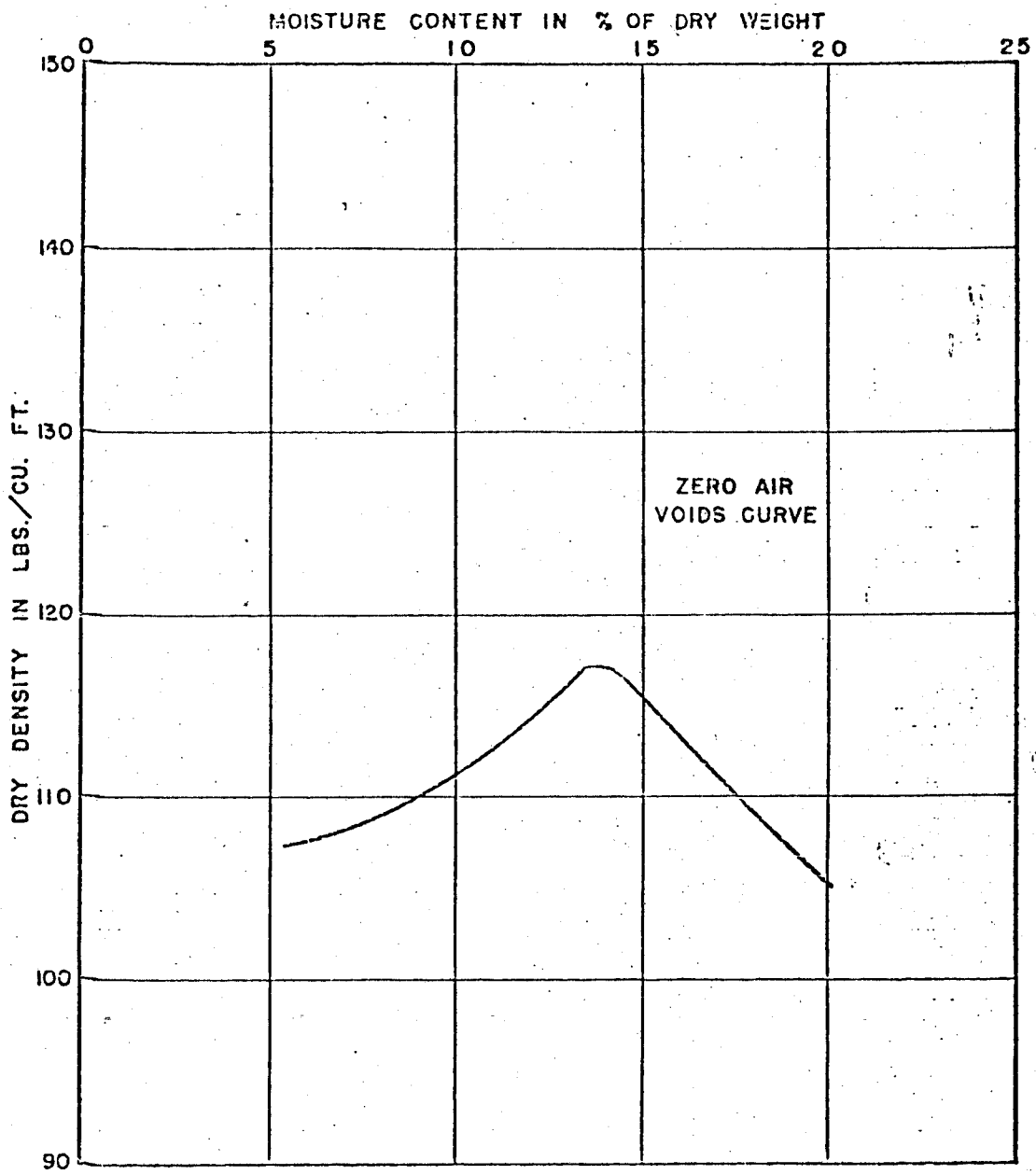
BORING NO AND DEPTH	SOIL TYPE	MOISTURE CONTENT BEFORE	MOISTURE CONTENT AFTER	DRY DENSITY IN LBS/CU FT.
3,2	SILT-CLAY	15.8	16.2	106.7

J AND J DEVELOPMENT

CONSOLIDATION DATA

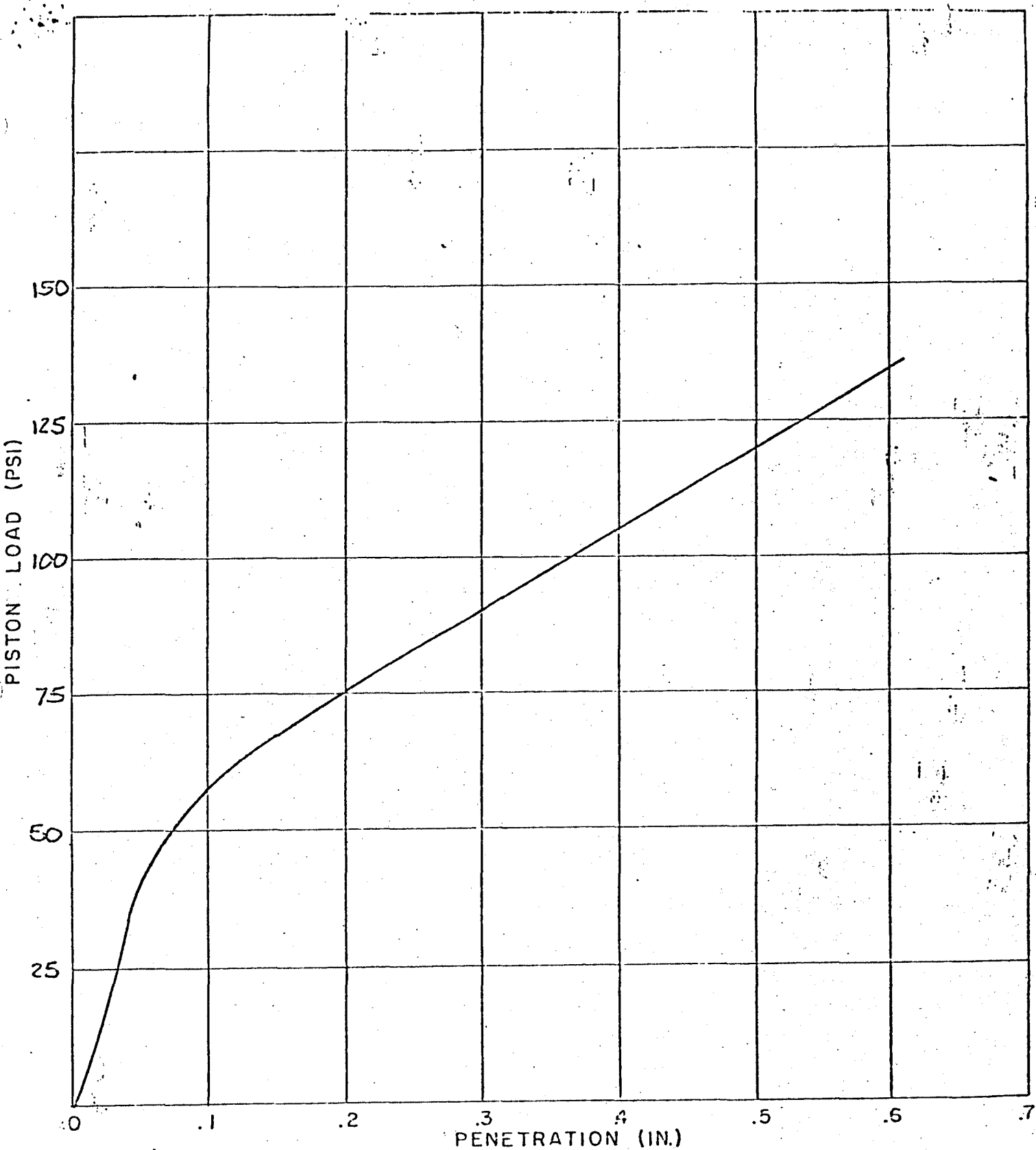
WESTERN ENGINEERS, INC.
GRAND JUNCTION COLORADO

SAMPLE NO. _____ DEPTH 0-2' ELEVATION _____
SOIL CLAY, SILTY, GRAVELLY
LOCATION J & J DEVELOPMENT
OPTIMUM MOISTURE CONTENT 14.0 %
MAXIMUM DRY DENSITY 117.3 PCF
METHOD OF COMPACTION STD. (ASTM D-698)



COMPACTION TEST DATA

PLATE



SAMPLE: J & J DEVELOPMENT SUBGRADE
DENSITY: 95% ± ASTM D698
CBR .1" PEN. = 6.0 (CORR.)
CBR .2" PEN. = 5.1 (CORR.)
BEFORE SOAKING:
MOISTURE CONTENT: 10.0%
DRY UNIT WEIGHT: 111.4 PCF
AFTER SOAKING:
MOISTURE CONTENT, TOP 1": 23.9%
AVG. MOISTURE CONTENT: 19.1%

CALIFORNIA BEARING RATIO

Lincoln DeVore
1000 West Fillmore St.
Colorado Springs, Colorado 80907
(303) 632-3593
Home Office

December 27, 1978

Burger King Corp.
16052 Beach Boulevard, Suite 155-N
Huntington Beach, CA 92647

Re: SUBSURFACE SOILS INVESTIGATION

GRAND JUNCTION, COLORADO

Gentlemen:

Transmitted herewith is the report concerning a subsurface soils investigation for your proposed building to be located in Grand Junction, Colorado.

Respectfully submitted,

LINCOLN-DeVORE

George D. Morris, P.E.

GDM/cm
LD Job No. 25196

2700 Highway 50 West
Pueblo, Colo 81003
(303) 546-1150

P.O. Box 1427
Glenwood Springs, Colo 81601
(303) 945-6020

109 Rosemont Plaza
Montrose, Colo 81401
(303) 249-7838

P.O. Box 1882
Grand Junction, Colo 81501
(303) 242-8968

P.O. Box 1643
Rock Springs, Wyo 82901
(307) 382-2649

ABSTRACT:

The contents of this report are a subsurface soils investigation and foundation recommendation for a proposed building to be constructed in the northern portion of Grand Junction, Colorado. The Laboratory has not, at this time, seen a set of construction drawings for the proposed project.

After consideration of the investigation and testing program described herein, it is our recommendation that a deep foundation system, such as driven piles or drilled piers or walls extended to ± 8 foot depth, be used to carry the weight of the proposed project. With such a deep foundation system, foundations should penetrate the upper clay materials and rest in the underlying weathered clay or formational Mancos Shale. Where driven piles are used, they should be driven to absolute refusal on the underlying shale, in which case the load carrying capacity will be dependent on the structural capacity of the pile itself. In the case of drilled piers, a minimum of 4 feet of penetration into dense, formational shale should be provided. With this degree of penetration, the maximum end bearing capacity may be taken as 15,000 psf with a maximum allowable side friction of 1500 psf in dense clay or formation. A minimum end dead load pressure of 2000 psf and a minimum

dead load side friction of 600 psf in dense clay or formation should be used in conjunction with drilled piers placed on this site. If foundation walls are extended below the wet upper clays, a maximum bearing capacity of 6000 psf with a minimum required load of 1800 psf must be used on the weathered clays.

Floor slabs, if used, should be placed in sections no greater than 25 feet on a side. These slabs should be positively separated from all structural portions of the building. A vapor barrier and subdrain is recommended beneath all floor slabs placed on this site.

Adequate drainage must be provided at all times. Water should never be allowed to pond above the foundation materials.

More complete recommendations can be found within the body of this report. All recommendations are subject to the limitations set forth herein.

GENERAL:

The purpose of this investigation was to determine the general suitability of the site for construction of a one-story, commercial type building of light to medium weight. Characteristics of the individual soils encountered in the test borings were examined for use in designing foundations for this structure.

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The Laboratory has not, at the present time, seen a set of construction drawings for the proposed structure. However, it is our understanding that the structure is to be a one-story building of masonry construction, with no basement.

The proposed construction site is located on Lot 3 of the commercial development at the exit ramp of Interstate Highway #70 at Horizon Drive in Grand Junction, Colorado. This location is in the SE 1/4 of Section 36, Township 1 North, Range 1 West of the Ute Principal Meridian. This general location is shown on the enclosed General Site Location Diagram.

The topography in the vicinity of this site can be described as flat to gently undulating. The site itself is on an upper alluvial plain of the Colorado River, which underlies the entire Grand Junction area. There are numerous irrigation ditches in this area, including the government Highline Canal which is located to the north and east of this site. The exact direction of surface runoff on this site will be controlled, to an extent, by streets and buildings constructed in this development and, therefore, will be variable. In general, however, surface runoff will travel to the southwest, eventually entering the Colorado River. Both surface and subsurface drainage are fair to poor.

The soil profile on this site can broadly be described as a relatively low density, silty clay material overlying weathered and formational material of the Mancos formation. The upper silty clays are believed to be alluvial in nature, having been deposited by the action of the Colorado River in the past. However, some of this material may have been derived by slopewash from the Book-cliffs to the northeast. As is typical of this type of deposit, these soils were noted to be stratified in nature with occasional sand seams and lenses. These upper silty clay materials have been deposited over material weathered from the Mancos Shale formation.

The Mancos Shale can broadly be described as a thin-bedded, drab, light to dark grey marine shale with occasional thinly interbedded, fine-grained sandstone and limestone. Some layers of the shale contain a significant bentonite content and, therefore, are highly expansive. The majority of the shale, however, has only a moderate expansion potential. Mancos Shale was encountered in all test borings placed on this site at depths ranging from 9 to 11 feet below the ground surface at the time drilled. Above the formation, a weathered clay layer derived from the shale was found. The thickness of this stiff, weathered layer varied from 1 1/2 feet to 4 feet. The Mancos Shale

will form the bearing strata for any of the deep foundation systems placed on this site.

BORINGS, LABORATORY TESTS & RESULTS:

Four test borings were placed on this site, as is indicated on the enclosed Test Boring Location Diagram. These test borings were placed in such a manner as to obtain a reasonably good profile of the subsurface soils. While some minor variations were noted from point to point, the subsurface profile encountered was judged sufficiently uniform that no further test borings were deemed necessary. All borings were advanced with a power-driven, continuous auger drill. Samples were taken with the California split spoon sampler, and by bulk methods. Two percolation test borings were also drilled northwest of the building site.

The soil profile encountered on this site can broadly be described as a three-layer system. The upper layer of this system consisted of a wet colluvial, silty clay material. This material was encountered from the ground surface to depths of 6 to 7 feet. It was somewhat variable in terms of density and moisture, but can be generally described as wet, low density soil with low allowable bearing values.

The second layer of the soil

profile consisted of deeply weathered clay of the Mancos Shale. The density of this material increased with greater depth until the formational shale surface was reached. This clay layer can be used as a foundation soil for a stem wall foundation system extended through the upper soft, wet clays. It is recommended that deep foundation systems of drilled piers or driven piles penetrate the upper, weathered zone of the shale and rest on dense, formational shale materials.

The samples obtained during our field exploration program have been divided into two soil types, both of them lean clays. Soil Type No. 2 corresponded with the upper wet, soft, silty clay material of the soil profile. Soil Type No. 1 corresponded to stiffer material derived from the Mancos Shale formation. More precise engineering characteristics of these two soil types are given on the enclosed summary sheets. The following discussion will be general in nature.

Soil Type No. 1 classified as a lean clay (CL) and was representative of both residually weathered and formational Mancos Shale. Generally, this material is plastic, of very low permeability, and was encountered in density states ranging from moderate to high. In this dense condition, this clay has a tendency to expand against moderate loads upon the addition of moisture. The expansion

pressure varies but is on the order of 1700 psf. The soil has little tendency to long-term consolidation in either weathered or formational states. Allowable bearing values for this soil type will vary depending on the density of the soil layer and the type of foundation used. If walls are extended through the low-density upper clay, they can rest on the weathered shale at an average depth of 8 feet. At this depth, the allowable bearing can be taken as 6000 psf maximum, with a required minimum load of 1800 psf. If driven piles are used, they should be driven to absolute refusal and the carrying capacity will be equal to the structural capacity of the pile. Where drilled piers are used, they should penetrate the upper, weathered materials and achieve at least 4 feet of penetration into dense, formational shale at a depth averaging 14 feet. With this degree of penetration, drilled piers may be proportioned on the basis of a maximum end bearing capacity of 15,000 psf with an allowable side friction for the shale of 1500 psf. A minimum end dead load pressure of 2000 psf and a minimum dead load side friction of 600 psf should be maintained at all times. Soil Type No. 1 was found to contain sulfates in detrimental quantities.

Soil Type No. 2 classified as a silty clay (CL) of fine grain size. Generally, this material is slightly plastic, of low permeability, and was encountered

in a wet, low density condition. When in a higher density state, as was encountered in this material at the ground surface, Soil Type No. 2 will have a mild tendency to expand upon the addition of moisture, with swell pressures on the order of 700 psf. When in a lower density, high moisture condition, encountered in most of this material, it will have a distinct tendency to long-term consolidation under load. Taking into account the consolidation potential of this material, the nature of the structure itself and the relatively shallow depth to an adequate bearing strata; it is recommended that foundations not rest in this material, but rather a deep foundation system be used, which rests on the underlying shale or wet clay. Soil Type No. 2 was found to contain sulfates in detrimental quantities.

A free water level eventually established itself at a depth of 2.5 feet. This is all surface water, and below a depth of 8 feet, the moisture content of the soil was rapidly reduced. The moisture contents obtained from our soil samples would indicate materials in a saturated condition from a depth of 1 1/2 feet to a depth averaging 8 feet below the surface. The presence of the saturated soils is believed to be the result of the proximity of the government Highline Canal and local drainage and should be considered as a permanent feature on this site.

The amount of water in the soils will, of course, be subject to seasonal fluctuation. The presence of these soft, wet soils may create some difficulty in the installation of foundation, with dewatering techniques being required. Additionally, a vapor barrier and subdrain should be placed beneath all floor slabs on this site in order to reduce the possibility for wet floors resulting from subsurface moisture.

CONCLUSIONS & RECOMMENDATIONS:

Since the magnitude and nature of the proposed building loads are not precisely known to the Laboratory at this time, the recommendations contained herein must be somewhat general in nature. Any special loads or unusual design conditions should be reported to the Laboratory so that changes in 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.

It is recommended that one of three deep foundation systems be used on this site.

1. The foundation walls should be extended to an average depth of 8 feet so as to rest on the weathered clay derived from the lower shale. Since this material is expansive, a voided stem wall design should be used to place loads

of 6000 psf maximum and a minimum load of 1800 psf on this soil. The excavation must be dewatered.

As an alternate to foundation type #1, the upper 8 feet of soil could be removed and replaced with a non-expansive, granular material which would give higher bearing even when saturated. This must be compacted to a density of at least 95% of its maximum Proctor dry density throughout its depth. The area must be dewatered during placement of this granular fill. The lower levels of the fill must be designed as a horizontal drain and given an off-site outlet.

2. Piles should be driven to refusal in the underlying formational shale and a grade beam foundation placed on top of the pile system. Some dewatering must be anticipated in the upper stem wall system. The pile driver will have some difficulty finding a solid surface on which to rest while driving the piles. Also, the piles would be relatively short since refusal will probably occur at approximately 18 to 20 feet below present ground surface.

3. Drilled piers should be extended at least 4 feet into the formational shale, to an average depth of approximately 14 feet below present ground surface. A grade beam type foundation would be placed on the top of this series of piers. Dewatering would be required in the excavation and the piers will require casing.

As can be seen, all of these foundation types have certain advantages and disadvantages. All are relatively expensive. We feel that the most economical foundation type for the site will probably be driven piles or drilled piers, even with the casing and dewatering required. This report will cover recommendations for these foundation types. If it is decided to use one of the other types, further recommendations can be made in a short time after being notified of this.

Considering the drilled pier or driven pile foundation types, both types of deep foundation systems are associated with a number of advantages and disadvantages with respect to this site. The equipment used for the installation of drilled piers may be more readily available in this area. The materials encountered on this site can probably be quite readily drilled. However, it should be pointed out that due to the soft, wet nature of some of the overlying silty clay materials, problems with soil caving and the presence of ground water may be encountered, which could necessitate the use of casing and dewatering techniques. The use of driven piles would eliminate the need for concern with caving soils and ground water problems. However, the capacity of a pile is somewhat more difficult to establish during the design phase of a project than the

capacity of a drilled pier and pile driving equipment may be less readily available. Therefore, the decision as to which type of deep foundation system is most suitable is purely an economic one, which will be left to the owner or his representative.

If piling is used, the piles should be driven to refusal in the underlying shale. The depth of pile at refusal will vary, but it is believed that refusal will take place at a depth of 18 to 20 feet below the existing ground surface. If the pile is driven to refusal, its load bearing capacity will be dependent on the allowable structural capacity of the piling. This will vary depending on the material and size of the pile. By way of example, a 10 inch H pile could be expected to have an allowable structural capacity of approximately 75 tons, using National Code criteria.

It is not known whether any horizontal loads will be anticipated on this site. However, if horizontal loads exist and exceed 1000 pounds per pile, batter piles will be required. Hammer and cushioning should be matched to each chosen pile type, to insure attainment of the design load capacity during driving. The estimate of pile capacity provided above was intended for purposes of illustration only. The actual design capacities of piles

for this structure should be calculated individually, taking the project characteristics into account. When pile driving operations commence, the pile capacity should be verified, either by means of a pile load test or by use of an appropriate pile driving equation.

Minimum spacing of piles should be twice the average pile diameter of 1.75 times the diagonal dimension of the pile cross-section, but no less than 24 inches. The tops of piles should extend a minimum of 4 inches into the pile cap. No pile should be shorter than 10 feet in length. Vertical piles should not vary more than 2% from the plumb position. Eccentricity of reaction of a pile group with respect to the load resultant should not exceed a dimension which would produce overloads of more than 10% in any one pile. The excavation for walls above the piles must be dewatered, but no dewatering will be required for the piles themselves.

The alternate drilled pier foundation will present a different set of problems. It should be noted that some difficulty with soft, caving soils and ground water conditions may complicate the installation of drilled piers on this site and require the use of casing and dewatering equipment for construction. Piers should extend through the upper, silty clay materials and through

the medium density, weathered zone of the shale and should achieve at least 4 feet of penetration into dense, formational shale materials. With this degree of penetration, a maximum allowable end bearing capacity of 15,000 psf with a maximum allowable side friction of 1500 psf may be used. A minimum end dead load pressure of 2000 psf and a minimum dead load side friction of 600 psf calculated within the shale portion of the drill hole should be maintained at all times. The above side friction values apply to the dense, formational shale materials only. An additional allowable side friction value of 200 psf may be used for the residually weathered shale materials.

It is recommended that shear rings be installed on two foot centers in the formational material in the lower portion of the pier. The bottoms of all piers should be thoroughly cleaned prior to the placement of concrete. Piers should be provided with vertical reinforcing extending the entire length of the pier. The amount of reinforcing required in each pier will depend upon the magnitude and nature of the loads involved. However, as a general rule of thumb, an absolute minimum of one #5 rebar for every 16 inches of pier circumference should be used, with an absolute minimum requirement of two #5 rebars per pier.

To insure that all voids in the

side walls of the pier are filled, concrete with a slump of 5 to 6 inches should be used. Piers having an extremely small diameter on the order of 12 inches or less may use concrete with a slump in excess of 6 inches. Piers must be dewatered prior to the placement of concrete. If this is not possible, concrete should be tremied below standing water. A free fall of concrete in excess of 5 feet should be prohibited unless the pier diameter is large enough to ensure that the concrete will not contact the side walls during the fall. Any casing used during drilling should be pulled as concrete is being placed to allow the complete filling of all voids in the side walls with concrete.

A potential exists on this site for the occurrence of the phenomenon known as negative skin friction. This would affect both the driven pile and drilled pier types of foundation systems. If the potential exists for consolidation to occur in the soft materials lying above the bedrock, either due to the application of a surcharge load at the surface or to a lowering of the water table; the consolidation of this material could exert a drag, or negative skin friction, on the piles or piers penetrating them. The magnitude of negative skin friction will depend upon the amount of consolidation which has occurred and it cannot accurately be ascertained. However, we do not feel

that this can exceed a value on the order of 400 psf acting on the perimeter area of the piers or piles. This load, should it develop, would simply be added directly to the loads applied by the structure. As long as there is no surcharage load applied to induce consolidation, however, and the level of the water table in the alluvial materials remains constant, this phenomenon is not likely to develop.

Adequate drainage must be provided in the foundation area, both during and after construction, to prevent the ponding of water above the foundation materials. The ground surface around the structure should be graded such that surface water will be carried quickly away. Minimum gradient will be dependent upon surface landscaping. Bare or paved areas should have a minimum gradient of 2%, while landscaped areas should have a minimum gradient of 5% for the first 10 feet from the structure. Roof drains, if used, must be carried across all backfilled areas and discharged well away from the structure. A perimeter drain will be required if proper surface drainage cannot be achieved.

Where floor slabs are used, they should be constructed so as to act independently of all structural portions of the building. Floor slabs may be placed directly on grade or over a compacted gravel blanket

foundation and to help transfer loads, it is recommended that a reinforced concrete grade beam be placed continuously around the structure resting on the piers or piles. This grade beam should be reinforced in such a manner that it is capable of carrying its loads over a clear span ot at least 15 feet, or half the distance from pier to pier or pile to pile, whichever is greater. The horizontal reinforcing required in these grade beams should be placed continuously around the structure with no gaps or breaks in the reinforcing steel, unless specially designed. Where foundation walls will retain soil in excess of 4 feet in height, vertical reinforcing should be designed based on an equivalent fluid pressure of 45 pcf for the soil in the active state. Voids should be used to separate the grade beam from the underlying soil between piers or piles except at such spots required for support.

The soils on this site contained sulfates in detrimental quantities. For this reason, a sulfate resistant cement such as Type II Cement is recommended for use in all concrete which will be in contact with the foundation soils. Under no circumstances should calcium chloride ever be added to a Type II Cement. In the event that Type II Cement is difficult to obtain, a Type I Cement may be used, providing the concrete is separated from the

soils by water resistant membranes.

It is recommended that the installation of deep foundation systems be continuously inspected by a qualified soils engineer or his representative in order to establish that proper design bearing material or adequate driving resistance has been achieved. Additionally, any open foundation excavations should be inspected prior to the placement of concrete to establish that materials of proper design bearing capacities have been reached and that no soft spots or debris are present in the foundation area.

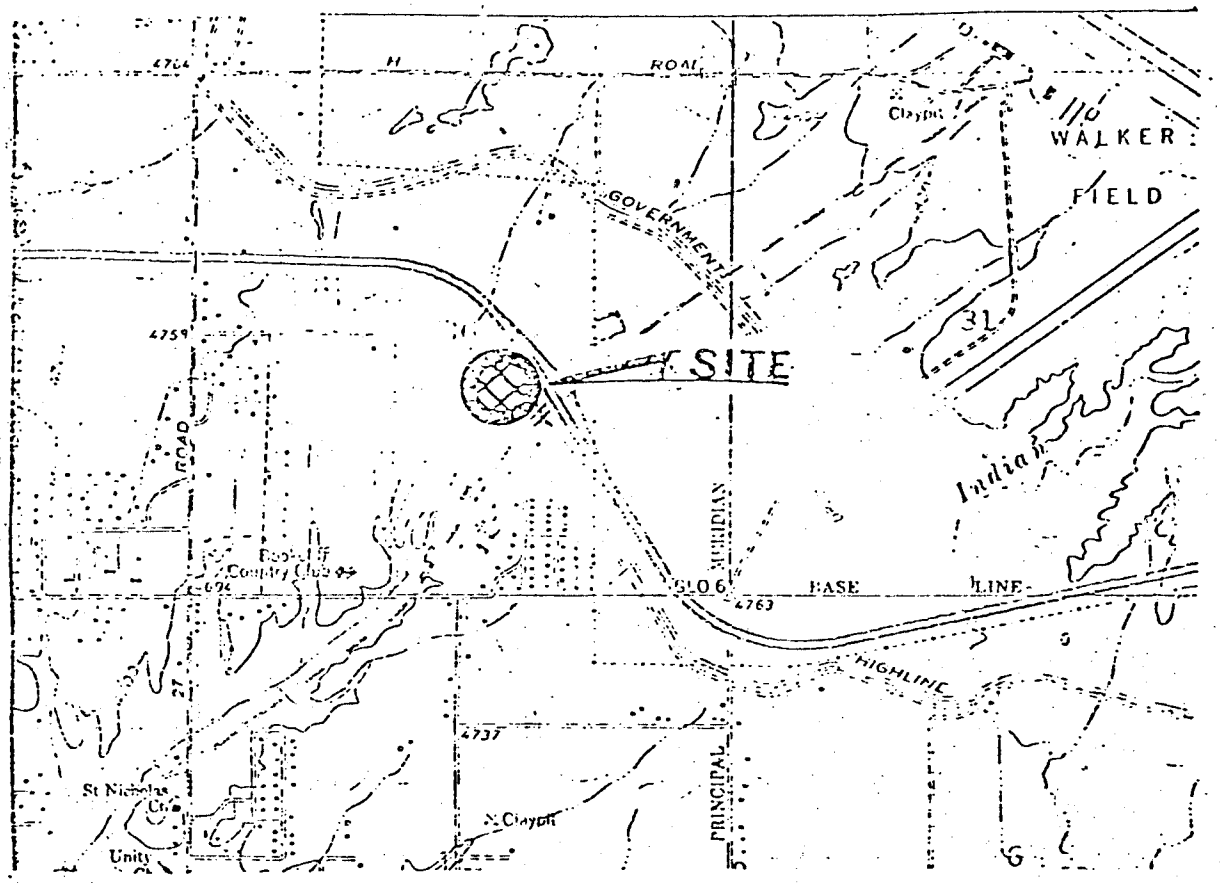
Two percolation test borings were placed on the site northwest of the building proposed. The soil conditions found were essentially the same as those found in the structural test borings. The saturated upper soils would not accept water to any reasonable degree and the percolation rate must be reported as exceeding 60 minutes per inch. Fortunately, a leaching system is not required on the site, since such a system could not be recommended.

The upper soils on this site do not provide a good pavement base. The presence of the saturated zone at 2 feet below the surface will require installation of a capillary break and drain system to prevent base course saturation.

The upper soil itself has a

Hveem R value of 11 on the average. This is low, in addition to the water problem. Considering your requirement for semi-trailer (H-20) loading, a total pavement system thickness (gravel equivalent) of 17 inches is required. This can be obtained in a number of ways. As an example, 2 inch asphalt pavement, underlain by 14 inches of base course (R=70) would satisfy the requirement. Less expensive aggregates can be used under the asphalt provided their R coefficients add up to a total gravel equivalent thickness of 17 and that a drain is provided.

It is believed that all pertinent points concerning the subsurface soils on this site have been covered in this report. If soil types and conditions other than those outlined herein are noted during construction on the site, these should be reported to the Laboratory so that changes in recommendations can be made, if necessary. If questions arise or further information is desired, please feel free to contact the Laboratory.

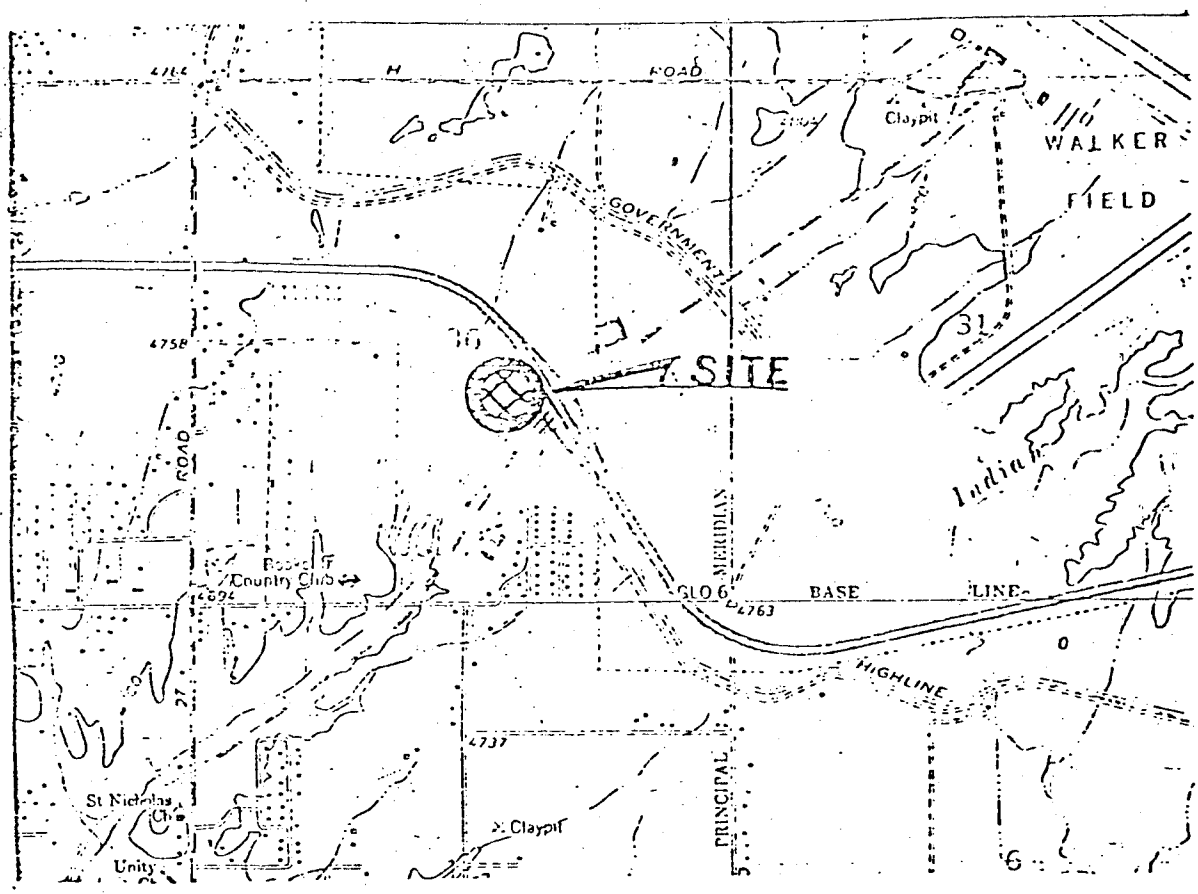


SCALE
1"=2000'

ADAPTED FROM
U.S.G.S. 7½' Quadrangles

SITE LOCATION MAP

THE LINCOLN-DeVORE TESTING LABORATORY
COLORADO Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison. WYOMING Rock Sprin

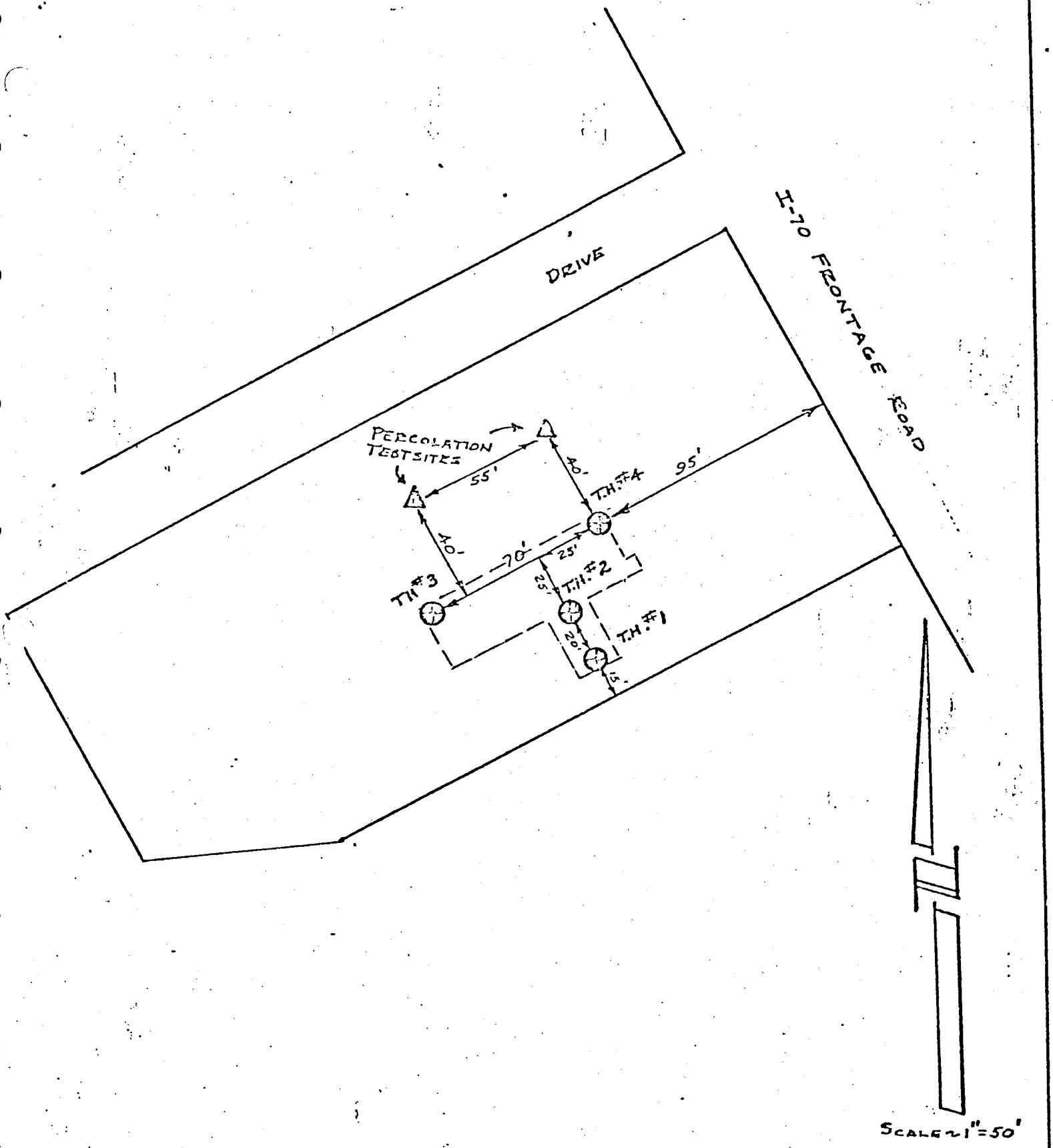


SCALE
1"=2000'

ADAPTED FROM
U.S.G.S. 7½' Quadrangles

SITE LOCATION MAP

THE LINCOLN-DeVORE TESTING LABORATOR
COLORADO: Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison. WYOMING: Rock Sprin



TEST BORING LOCATION DIAGRAM
BURGER KING SITE-HORIZON Dr. & I-70

LINCOLN DeVORE ENGINEERS-GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

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
x x x x x x	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.

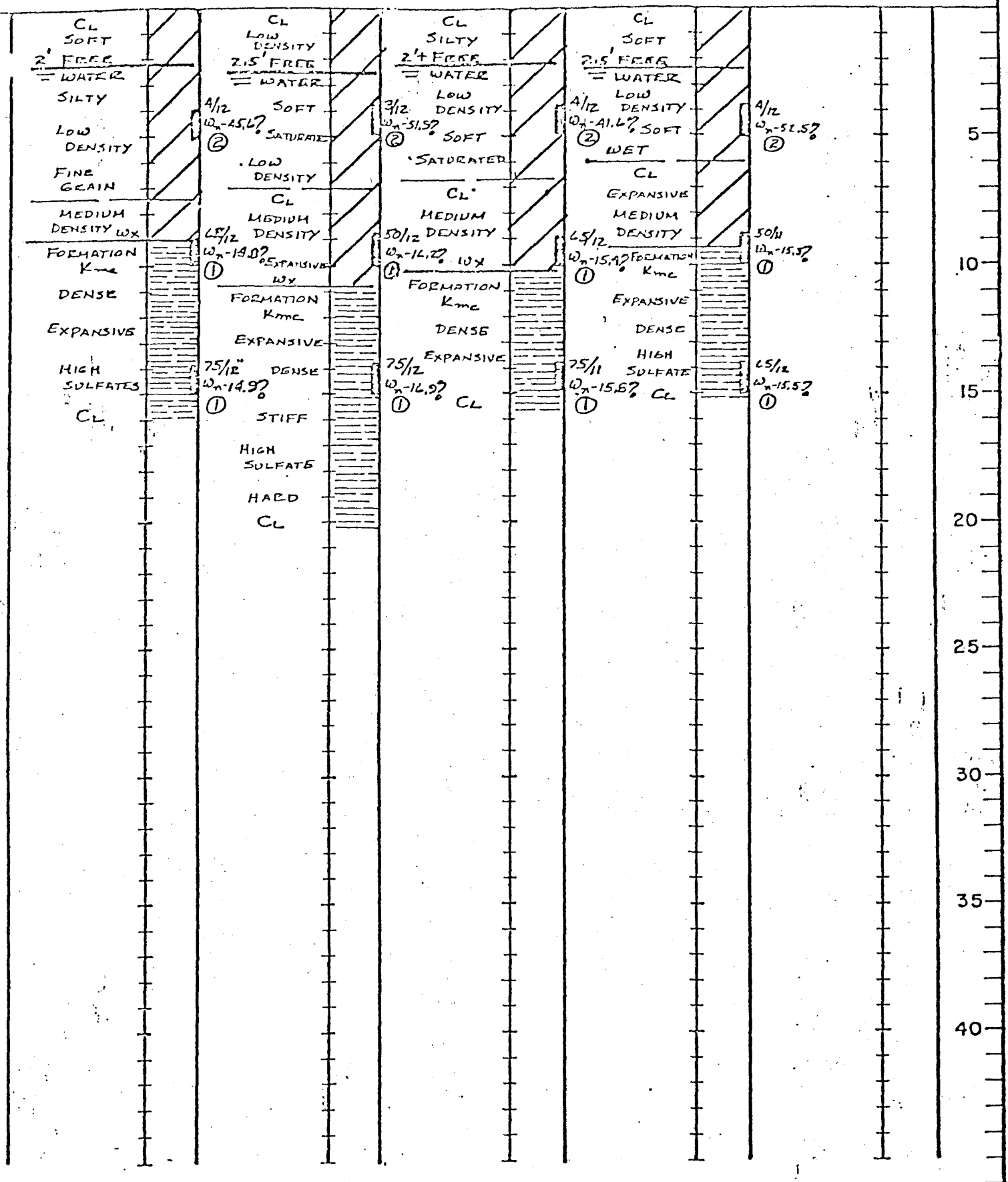
LINCOLN DeVORE TESTING LABORATORY

COLORADO: Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison, Grand Junction. – WYO. – Rock Springs

EXPLANATION OF BOREHOLE LOGS AND LOCATION DIAGRAMS

TEST HOLE NO. 1 2 3

TOP ELEVATION



DRILLING LOGS

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

SUMMARY SHEET

Soil Sample CL

Test No. 25196

Location Horizon Dr. & I-70

Date: 12/13/78

Boring No. 3 Depth 10' (TYP.)

Sample No. 1

Tested by R.K.L.

Natural Water Content (w) ____ %

Specific Gravity (Gs) 2.71

In Place Density (γ_o) 106.3 pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	
4	100.0
10	96.1
20	88.2
40	84.5
100	80.5
200	77.7

HYDROMETER ANALYSIS:

Grain size (mm)	%
.0200	62.5
.0050	38.9

Plastic Limit P.L. 24.3 %

Liquid Limit L. L. 39.2 %

Plasticity Index P.I. 14.9 %

Shrinkage Limit 22.3 %

Flow Index ____

Shrinkage Ratio ____ %

Volumetric Change ____ %

Lineal Shrinkage ____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o ____ %

Maximum Dry Density - γ_d ____ pcf

California Bearing Ratio (av) ____ %

Swell: 1 Days 4.8 %

Swell against 1490 psf Wo gain 11.1 %

BEARING:

Housel Penetrometer (av) 6000 psf

Unconfined Compression (qu) ____ psf

Plate Bearing: ____ psf

Inches Settlement ____

Consolidation — % under — psf

PERMEABILITY:

K (at 20°C) ____

Void Ratio ____

Sulfates 1750+ ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SUMMARY SHEET

Soil Sample CL

Test No. 25196

Location Horizon Dr. & I-70

Date: 12/13/78

Boring No. 3 Depth 10' (TYP.)

Sample No. 1

Test by R.K.L.

Natural Water Content (w) ____ %

Specific Gravity (Gs) 2.71

In Place Density (γ_o) 106.3 pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	
4	100.0
10	96.1
20	88.2
40	84.5
100	80.5
200	77.7

HYDROMETER ANALYSIS:

Grain size (mm)	%
.0200	62.5
.0050	38.9

Plastic Limit P.L. 24.3 %

Liquid Limit L. L. 39.2 %

Plasticity Index P.I. 14.9 %

Shrinkage Limit 22.3 %

Flow Index ____

Shrinkage Ratio ____ %

Volumetric Change ____ %

Lineal Shrinkage ____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o ____ %

Maximum Dry Density - γ_d ____ pcf

California Bearing Ratio (av) ____ %

Swell: 1 Days 4.8 %

Swell against 1690 psf Wo gain 11.1 %

BEARING:

Housel Penetrometer (av) 6000 psf

Unconfined Compression (qu) ____ psf

Plate Bearing: ____ psf

Inches Settlement ____

Consolidation — % under — psf

PERMEABILITY:

K (at 20°C) ____

Void Ratio ____

Sulfates 1750+ ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SUMMARY SHEET

Soil Sample CL (SILTY) Test No. 25196

Location HORIZON Dr. & I-20 Date 12/15/78

Boring No. 1 Depth 1' (TYP)

Sample No. 2 Test by KM

Natural Water Content (w) 45.7 %

Specific Gravity (Gs) 2.24 In Place Density (γ_o) 108.0 pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	100.0
4	99.2
10	97.1
20	93.9
40	91.6
100	81.6
200	72.2

HYDROMETER ANALYSIS:

Grain size (mm)	%
.0200	43.9
.0050	22.5

Plastic Limit P.L. 22.1 %

Liquid Limit L. L. 29.9 %

Plasticity Index P.I. 7.8 %

Shrinkage Limit 21.8 %

Flow Index

Shrinkage Ratio %

Volumetric Change %

Lineal Shrinkage %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o %

Maximum Dry Density - γ_d pcf

California Bearing Ratio (av) %

Swell: 1 Days 2.0 %

Swell against 215 psf Wo gain 12.6 %*

*Swell when dried only.

BEARING:

Housel Penetrometer (av) 1000 psf

Unconfined Compression (qu) psf

Plate Bearing: psf

Inches Settlement

Consolidation 4.7 % under 2000 psf

PERMEABILITY:

K (at 20°C)

Void Ratio

Sulfates 1500+ ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SCS-CONS-5
REV. 11-73
FILE CODE CONS-14-5

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

INVENTORY & EVALUATION

* { INDIVIDUAL / GROUP / UNIT OF GOVERNMENT

REQUESTED BY Bob Coburn, C & M Surveyors & Engineers for Horizon Drive Complex

LOCATION Junction of Horizon Dr. and I-70

ASSISTED BY Dan Lynn, Soil Conservation Service

DATE 6-23-78

SITUATION: Requested preliminary soils information with mapping, descriptions, and engineering interpretations for development.

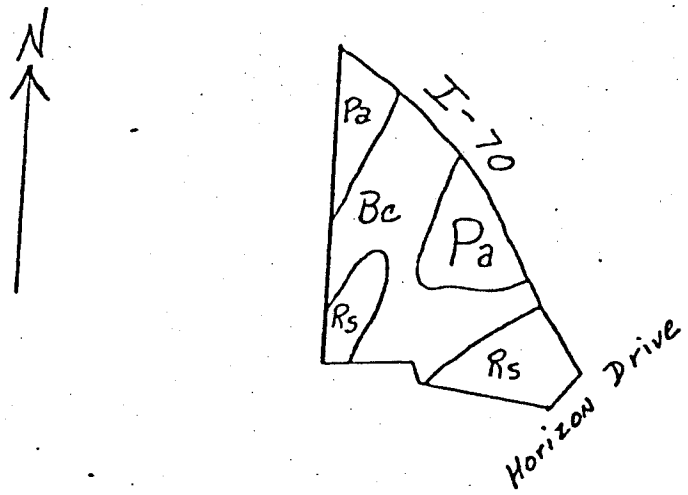
SUGGESTED SOLUTION (S): Bob: See the attached information per your request. On site core drilling was done on 6-22-78 to ascertain whether or not soil features had changed since the original soil survey was made. Findings are as follows: shale (unconsolidated to consolidated) was found at depths from 10" to 30" over the majority of the tract. There is a fluctuating water table located at 4' or less from the soil surface over the entire tract. Engineering recommendations: Slab foundations instead of footing and stem wall foundations should be used to minimize water table and shrink swell hazards. Road base must be in excess of standard amounts to increase

* Circle appropriate category.

C & M

SURVEYORS
ENGINEERS

Horizon Drive Complex



1" = 660'

Soil Conservation Service

BILLINGS SILTY CLAY LOAM, 0 to 2 percent slopes, Class IIs Land (Bc)

This soil, locally called adobe, is one of the most important and extensive in the Grand Valley. It is derived from deep alluvial deposits that came mainly from Mancos shale but in a few places from fine-grained sandstone materials. The deposits ordinarily range from 4 to 40 feet deep but in places exceed 40 feet. The deposits have been built up from thin sediments brought in by the streams that have formed the coalescing alluvial fans or have been dropped by the broad washes that have no drainage channel. The thickest deposit, near Grand Junction, was built up by Indian Wash.

Although moderately fine textured, this Billings soil permits successful growth of deep-rooted crops such as alfalfa and tree fruits. Its permeability is normally not so favorable as that of the Mesa, Fruita, and Ravola soils. Its tilth and workability are fair, but it puddles so quickly when wet and bakes so hard when dry that good tilth can be maintained only by proper irrigation and special cultural practices. Runoff is slow and internal drainage is very slow.

Like all other soils in the area, this one has a low organic-matter content. Under natural conditions it contains a moderate concentration of salts derived from the parent rock (Mancos shale). In places, however, it contains so much salt that good yields cannot be obtained. Some large areas are so strongly saline they cannot be used for crops. Generally, this soil is without visible lime, but it is calcareous. In many places small white flecks or indistinct light-colored streaks or seams indicate that lime, gypsum, or salts are present.

Soil limitations are classified as severe for local roads and streets (poor traffic-supporting capacity, moderate to high water tables common), shallow excavations (high water tables common), and septic tank filter fields (slow permeability, poor internal drainage, seasonal high water table).

PERSAYO-CHIPETA SILTY CLAY LOAMS, 0 to 2 percent slopes, Class IVs (Pa)

At least 80 percent of this complex consists of Persayo silty clay loam, 0 to 2 percent slopes. The other member of the complex, Chipeta silty clay loam, 0 to 2 percent slopes, occurs as small irregular bodies of light-gray to gray silty clay loam too small to separate on the map. These soils are similar in most respects, but they differ slightly in a few. Aside from their color difference - the Persayo soil is a pale yellow whereas the Chipeta is gray - the Persayo has a somewhat higher silt content, a slightly deeper surface soil, and a somewhat less compact subsoil.

The 8- to 10-inch surface soil of Persayo silty clay, 0 to 2 percent slopes, is a pale-yellow silty clay loam that contains a few scattered, pale yellow, easily crumbled, shale fragments. Below this depth the shale fragments generally are increasingly more abundant, but in places there are not many to depths of 15 to 18 inches. This material is hard and compact when it is dry. When wet, however, it is less plastic than in the Chipeta soil and therefore is slightly more permeable to plant roots. The soil is calcareous from the surface downward, although the lime is not visible. A small percentage of salts is common, but the cultivated acreage adversely affected is small. A slight scattering of pebblelike aggregates of gypsum over the surface is common. Seams of gypsum occur in the underlying shale strata. Both soils have developed in place from materials weathered from Mancos shale.

The organic-matter content in both soils is very low. Internal drainage and permeability to plant roots are slow.

Soil limitations are classified as severe for sanitary land fill (depth to rock, slope), septic tank absorption fields (depth to rock, slope), and sewage lagoons (depth to rock, slope). Limitations are moderate to severe for local roads and streets (shrink-swell, depth to rock and slope), shallow excavations (depth to rock, slope), dwellings with basements (shrink-swell, depth to rock, slope), dwellings without basements (shrink-swell, depth to rock, slope.)

ROUGH GULLIED LAND, Class VIIIe (Rs)

This land type is the product of erosion, gullying, and gully-bank caving of Billings soil material.

Erosion, facilitated by occasional mountain freshets and surface flow of irrigation waste water, continues until a gully has been cut down to the sandy substratum. The small continuous flow of irrigation waste water down the gully keeps the sandy substratum wet during the irrigation season. Some irrigation water applied on the fields adjoining the gully follows animal burrows or seeps down through the soil material until it reaches the sandy substratum. It then trickles out into the gully in small springlike veins and carries the saturated sandy material with it. Eventually, the high bank is undermined and topples down into the gully. The underground erosion and caving continually widen the gully. Some of the gully banks are already 50 to 400 yards apart. Unless waste water from irrigated land is disposed of through corrugated iron outlets, the cropland bordering the gullies gradually caves away.

Soil limitations are classified as severe for local roads and streets (slopes, flood hazard), shallow excavations (slopes, flood hazard), dwellings with basements (steep slopes, erosive soil materials), dwellings without basements (steep slopes, erosive soil materials), sanitary land fill (clayey textures, flooding, steep slopes), septic tank absorption fields (slopes), and sewage lagoons (slopes , flood hazard.)

LEGEND AND SUMMARY OF ZONING RESOLUTIONS
REFER TO COMPLETE TEXT OF MESA COUNTY
COMPILED ZONING RESOLUTIONS FOR USES WITHIN ZONING DISTRICTS

ZONE	FIRE ZONE	MINIMUM LOT AREA (BULK)	MINIMUM LOT WIDTH	MINIMUM STREET FRONTAGE	MINIMUM FRONT YARD SETBACKS	MINIMUM SIDEYARD SETBACKS	MINIMUM REARYARD SETBACKS	MAX. HEIGHT	MINIMUM FLOOR AREA PER UNIT
R-1-A	3	ONE ACRE	100 FT	85 FT	MA 100 FT * MI 80 FT C 60 FT O 50 FT See Note	PRIMARY BLDG 15 FT ACCESSORY BLDG 5 FT (REAR 1/2)	PRIMARY BLDG 30 FT ACCESSORY BLDG 10 FT	30 FT	900 SQ FT
R-1-B	3	1/2 ACRE	100 FT	100 FT	SAME AS R-1-A	SAME AS R-1-A	SAME AS R-1-A	SAME AS R-1-A	900 SQ FT
R-1-C	3	6500 SQ-FT	60 FT	30 FT	SAME AS R-1-A	10 FT	10 FT	25 FT	NONE
R-1-D	3	6500 SQ-FT	60 FT	30 FT	SAME AS R-1-A	10 FT	10 FT	25 FT	NONE
R-2	3	** SF 11000 SQ FT 2F 21000 SQ FT	SF 100 FT 2F 120 FT	SF 75 FT 2F 120 FT	SAME AS R-1-A	SAME AS R-1-A	PRIMARY 25 FT ACCESSORY 10FT (Rear 1/2)	35 FT	800 SQ FT
R-2-A	3	2 ACRES	100 FT	75 FT	SAME AS R-1-A	SAME AS R-1-A	PRIMARY 25 FT ACCESSORY 10 FT	35 FT	800 SQ FT
R-3	3	BASE 14000 SQ FT PER UNIT 3300 SQ FT	BASE 85 FT PER UNIT 30 FT	BASE 75FT PER UNIT 25 FT	SAME AS R-1-A	PRIMARY 12 FT ACCESSORY 5 FT (Rear 1/2)	PRIMARY 20 FT ACCESSORY 10FT	35 FT	** SF 800 SQ FT 2F 750 SQ FT MF 500 SQ FT
R-4	3	BASE 10000 PER UNIT 2500 SQ FT	BASE 70 FT PER UNIT 20 FT	BASE 65FT PER UNIT 15 FT	SAME AS R-1-A	PRIMARY 10 FT ACCESSORY 5 FT (Rear 1/2)	SAME AS R-3	40 FT	** SF 700 SQ FT 2F 650 SQ FT MF 500 SQ FT
T	2	10000 SQ FT	75 FT	75 FT	MA, MI, C 100 FT FM CL OR 30 FT FM PL	10 FT	20 FT	NONE	N A
SC	2	5 ACRES	NONE	STATED	SUBJ TO ADJ USES	20 FT	20 FT	35 FT	N A
B	1	NONE STATED			10 FT MIN	SUBJECT TO BLDG CODE	20 FT	NONE	N A
ER	2	NONE STATED FI OVERPLAY		30 FT	20 FT	20 FT 60 FT ***	20 FT 60 FT ***	40 FT	N A
C	2	DEPENDS ON USE			10 FT	SUBJECT TO BUILDING CODE			N A
I	3	DEPENDS ON USE			10 FT	SUBJECT TO BUILDING CODE			N A
AFT	3	DEPENDS ON USE	150 FT	50 FT	SAME AS R-1-A	75/25 FT	50 FT	NONE	NONE
HS	2	75 FT		75 FT	50 FT FM PL	SUBJ TO BLDG CODE	20 FT	40 FT	N A
PD	?	SUBJECT TO APPROVED DEVELOPMENT PLAN FOLLOWING PUBLIC HEARINGS							

* MA Major Arterial
MI Minor Arterial
C Collector
O Other Street

NOTE: All distances from centerline of street

** SF Single Family
2F Duplex
MF Mulifamily

*** Where adjacent to Residential zone

LEGEND AND SUMMARY OF GRAND JUNCTION ZONING REGULATIONS

HA	IG	USE	FIRE ZONE	MAX ALLOWED HEIGHT	** FRONT SETBACK	SIDE YARD	REAR YARD	FRONTAGE MINIMUM	LOT AREA MINIMUM	FLOOR AREA PER UNIT
-2		HEAVY COMMERCE	1	65'	Same as B-3			See section 5 for Parking and Loading Standards.		
		Sample Use: Same as C-1 plus 2nd Hand Stores, Wholesalers, Auto Repair and Electronic.								
-1		LIGHT INDUSTRY	2	65'*	M-50' S-40' C-30' O-25'			See section 5 for Parking and Loading Standards.		
		Sample Use: Same as C-2 plus Indoor Manufacturing, Concrete Products, Freight Yards and truck terminals.								
-2		HEAVY INDUSTRY	3	65'*	Same as I-1			See section 5 for Parking and Loading Standards.		
		Sample Use: Same as I-1 plus large scale industry causing smoke and noise, flammable bulk storage, junk yards.								
		PARKING	NO BUILDINGS PERMITTED							
		Sample Use: Improved off-street parking to support business, commerce or industry abutting a residential zone.								
O		HIGHWAY ORIENTED	2	35'	65'	15'	15'	50'	5,000 sq. ft.	
		Sample Use: Stores, Offices, Restaurants, Motels. See text for additional uses. Processed as a planned development.								
D		PD 8 PD 12 PD 20 PD M PD B	See section 15, Planned Developments for the uses allowed and the development requirements.							

Check with Building Inspector.

* M, S, C & O are abbreviations for types of streets, Major, Secondary, Collector and Others. Where a block is more than half developed, setback minimums must conform to the established setback.

Setbacks on Ute and Pitkin are 50'

A

GEOLOGIC REPORT

ON

JACK TREECE LAND DEVELOPMENT

MESA CO., COLO.

BY

JACK E. ROADIFER

JUNE 25, 1978

A

GEOLOGIC REPORT

ON

JACK TREECE LAND DEVELOPMENT

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by

Jack E. Roadifer

LOCATION: The proposed development is near the center of section 36, T. 1 N., R. 1 W., Mesa Co., Colorado about a mile north of Grand Junction.

GEOLOGIC FORMATIONS: As indicated on the enclosed geologic map, the surface formation in most of this area is the Mancos Shale. In parts of the area there is a thin cover of weathered shale, but the un-weathered Mancos is very near the surface and is the formation on which construction would be done.

STRUCTURE: The Mancos Shale in this area dips about 2 or 3 degrees to the north or northeast toward the axis of the Piceance basin. The nearest fault is along the front of the Uncompaghre plateau about six miles to the south. This fault is inactive.

GEOLOGIC HAZARDS: There are no geologic hazards related to topography. The land is quite flat with a total relief of less than ten feet. Drainage is of local origin and no stream drainages cross the area. No flooding danger is foreseen.

CONSTRUCTION FACTORS: The Mancos Shale has a high shrink-swell potential, and special construction techniques would have to be used to assure a good foundation. Pilings would probably have to be driven for the type of construction proposed in the area. A qualified soils engineer should be consulted before construction is begun.

WATER TABLE: The Mancos Shale is quite impermeable and so a water table should not present any particular problem. The proposed land use should not result in any large amount of water being added to the soil and rocks in the area.

MINERAL RESOURCES: No known mineral resources exist in the area to be occuppied by the proposed development. Future oil or gas fields are possible in the area, but they cannot be evaluated at this time.

WATER SUPPLY AND DISPOSAL: Water will be supplied by the Ute Water Conservancy District and will be disposed of by a local sanitation

district.

SUMMARY: No geologic hazards related to topography or stream drainages exist in the area. Some construction problems related to the presence of the Mancos Shale do exist in the area, but there is no geologic reason why this proposed development should not be allowed.

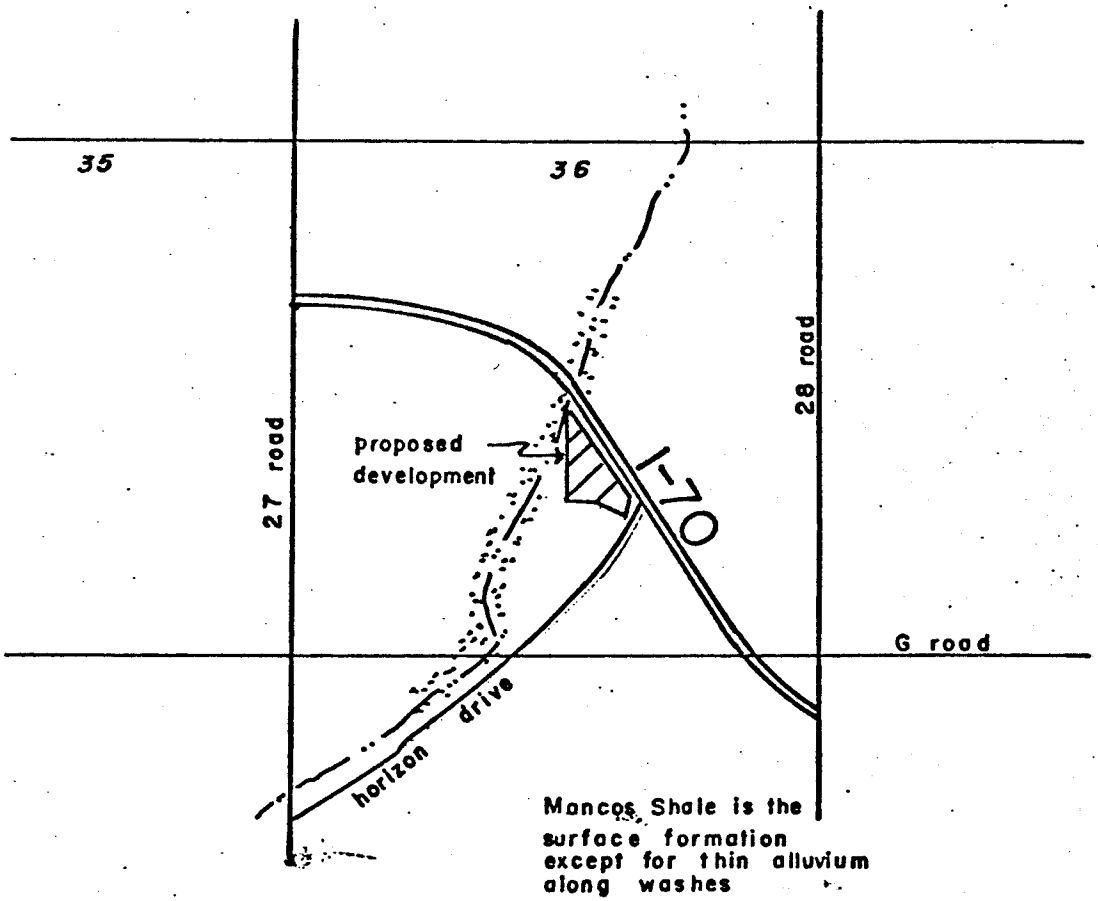
Submitted by;

Jack E Roadifer

Dr. Jack E. Roadifer, Geologist

R1W

T1N



N

GEOLOGIC MAP
JACK TREECE DEVELOPMENT
MESA CO., COLO.

SCALE 1" = 2,000' JUNE 26, 1978

BY: Jack E. Roadifer

C-E Maguire, Inc.
Combustion Engineering,
760 Horizon Drive
Grand Junction, Colorado 81501

Tel. 303/243-7569

MAGUIRE

Architects • Engineers • Planners

DATE: June 23, 1978

TO: Mesa County Planning Commission
Colorado Department of Health

Gentlemen:

A gamma radiation survey was conducted in compliance with Senate Bill #35 as a portion of our client services. The following information is presented as details of this survey.

Proposed Building Site
Location/Description Horizon Drive Commercial Village (10.2 acres)

Owner's Name Treece Land Investments

Owner's Address 2323 N. 7th St., Grand Junction,CO 81501

Survey Requested by C&M Surveyors & Engineers, Inc. - L. Musgrove

Date of Survey 6/23/78 Survey by J. Tell Tappan

Instrument Type Mt. Sopris Model SC-129 Serial Number 300

CALIBRATION: cross calibrated with gas proportional ionization chamber

SURVEY RESULTS (See attached plat map)

(XX) All meter readings less than 0.02 milliRoentgen per hour (20 micro R/h). No tailings indicated.

(___) Highest reading between .02 - .04 milliRoentgens per hour.

(___) Some readings greater than .04 milliRoentgens per hour.

(___) Gamma radiation coming from adjacent area.

(___) Tailings deposits indicated.

Description of Deposit NONE

RECOMMENDATIONS:

Respectfully submitted,

C-E MAGUIRE, INC.

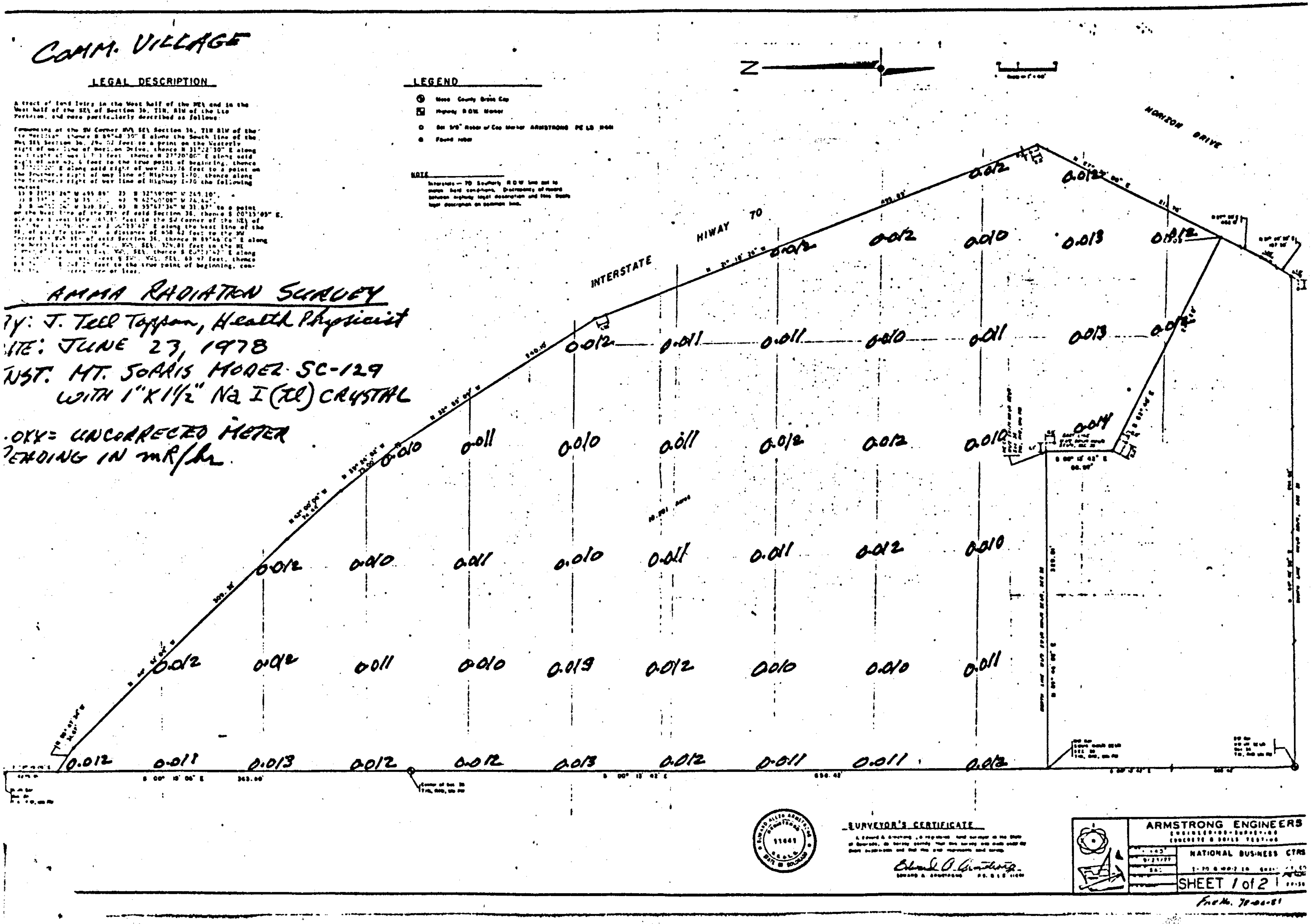
Gordon W. Bruchner

Gordon W. Bruchner, P.E., L.S.

GWB:ymc

Enclosures: Plat Map

cc: 1 - Client w/enclosure
1 - File w/enclosure



COMM. VILLAGE
LEGAL DESCRIPTION
LEGEND
NOTE
GAMMA RADIATION SURVEY
BY: J. Tell Toppan, Health Physicist
DATE: JUNE 23, 1978
INST: MT. SOPRIS MODEL SC-129
WITH 1"X1½" NaI (Tl) CRYSTAL
0.0XX = UNCORRECTED METER READING IN mR/hr
INTERSTATE HIWAY 70
HORIZON DRIVE
SURVEYOR'S CERTIFICATE
ARMSTRONG ENGINEERS
NATIONAL BUSINESS CTRS
SHEET 1 of 2

City of Grand Junction, Colorado 81501
[illegible] North Fifth St., 303 243-2633

April 11, 1980

Mr. Bob Coburn
C&M Surveyors & Engineers
656 31 Road
Grand Junction, CO 81501

Dear Bob:

RE: Horizon 70 Park Subdivision

As requested, I have reviewed the detailed construction plans for streets and storm drains as submitted on April 8, 1980, and have the following comments:

1. The plan should be stamped and signed with your P.E.
2. Add the wording concerning City General Contract Conditions to the notes as discussed in my office on April 8.
3. The cross-pan should be 5 ft. wide instead of the 3 ft. shown.
4. The pavement edge radii at Horizon Drive should be 25 ft. as per City Standard ST-1 for street intersecting with an arterial street.
5. Show a detail of how the curb will be modified at the cross-pan to allow the drainage thru to the catchbasin.
6. The pavement design of August 28, 1978, is acceptable and approved for construction.
7. The revised intersection geometry which basically is a 48 ft. mat with no median is acceptable.
8. The street typical section (50 ft. cross section) and the grade is acceptable.
9. I do not understand the reasoning behind the proposal to delay improving the cul-de-sac until Lot 4 is developed. I am by copy of this letter requesting written direction from Karl Metzner on this matter.
10. The revised street geometry has the curb, gutter and sidewalk cutting across the northeast corner of Lot 2. Since it is not our policy to construct public streets on private property, the required additional right-of-way must be dedicated either by deed to the City or by plat revision. These plans are not approved until this right-of-way is furnished.
11. Since the revised geometry may be of interest to Colorado Division of Highways, their approval should be obtained.
12. As discussed with you and your clients, the street will not function

safely unless and until the medians on Horizon Drive have been modified. This submittal did not include any plans for those median changes. When those plans are prepared, they should be submitted to me for review and approval. Because of the potential traffic hazards, I will not accept the improvements for the Horizon 70 Park street nor will the street be opened for public use until the Horizon Drive medians have been physically modified.

When the above comments have been addressed, please submit a revised plan print and consider the plans for to be approved by this office for construction.

Very truly yours,

Ronald P. Rish

Ronald P. Rish, P.E.
City Engineer

RPR/rs

cc: Bragdon
Metzner
Patterson
Wysocki

City of Grand Junction, Colorado 81501
250 North Fifth St., 303 243-2633

October 6, 1980

Mr. Robert Coburn
C & M Surveyors & Engineers
2820½ North Avenue
Grand Junction, CO 81501

Dear Bob:

Re: Horizon/70 Subdivision

The street and storm sewer constructed in the above subdivision have been final-inspected and apparently all deficiencies noted in the prior inspection have been corrected. We have received the required construction test results and the as-built drawings which acknowledge the facilities have been constructed in accordance with the approved plans and specifications. We received the power-of-attorney for future street improvements to Horizon Drive and the median modifications have been completed as agreed.

The cul-de-sac at the west end of the street has been graveled only as a temporary treatment. It is understood, based on my discussion on the site with Mr. Treece on August 25, 1980, that he is responsible to construct the permanent cul-de-sac with curb, gutter, sidewalk and asphalt pavement as shown on the approved plan when Lot 4 is developed but in no case later than two (2) years from today. I am by copy of this letter advising the Development Department and requesting their concurrence with this proposal.

In light of the above, the street and storm drainage facilities for Horizon/70 Subdivision are accepted by the City except for the remaining cul-de-sac construction, and we are now responsible for the maintenance of those facilities.

Thanks for your cooperation in these matters.

Very truly yours,

Ronald P. Rish, P.E.
City Engineer

cc - John Kenney
Bob Bright
Jim Patterson
Jack Treece
File

Leigh, Scott & Cleary, Inc.

TRANSPORTATION PLANNING
& TRAFFIC ENGINEERING
CONSULTANTS

1615 Downing Street
Denver, Colorado 80218
(303) 861-3088

May 15, 1981

Ms. Diane Smucny
Planner
Seracuse Lawler & Partners, Inc.
714 Equitable Building
Denver, CO 80202

RE: Grand Hotel/Office Complex
Grand Junction, Colorado

Dear Ms. Smucny:

We have completed our analysis of the traffic impacts associated with development of the Grand Hotel/Office Complex in Grand Junction, Colorado. The following comments summarize our findings:

Location and Project Description

The location of the proposed Grand Hotel/Office Complex is shown on Figure 1. The site is located just south of I-70 on the northwest side of Horizon Drive in the northeastern portion of the City of Grand Junction. The proposed development will contain a 280 room hotel and approximately 76,000 square feet of net leaseable general office floor area.

Roadway and Traffic Conditions

Direct access to the hotel/office complex will be provided by an existing frontage road along the south side of I-70. This recently constructed 42 foot wide roadway intersects Horizon Drive about 100 feet south of the eastbound entrance and exit ramps to I-70 and extends northward into the site. East of Horizon Drive, the frontage road has not been improved and is a 20 foot rural type roadway extending easterly along the south side of the Government Highline Canal.

The site will have about 200 feet of frontage along Horizon Drive, a two-lane major, diagonal arterial roadway extending from 7th Street to Walker Field, a distance of nearly three miles. Several important roadway improvements are planned by the City of Grand Junction in order to improve this important roadway to modern

major arterial standards. The most significant of these is the planned widening and reconstruction from 7th Street to Walker Field. The planned roadway cross-section will include four 11-foot through-travel lanes, a 16 foot center median incorporating left-turn lanes, a bikeway or bike-lane on one or both sides of the roadway, and curb and gutters. Signalization of the two I-70 ramp intersections with Horizon Drive is anticipated after the roadway widening is completed and traffic signal warrants are met.

An additional important roadway improvement to Horizon Drive is its planned future extension from 7th Street southwesterly to Patterson Avenue at about First Street. This extension of Horizon Drive will provide for direct access from the developing areas along Horizon Drive to the Grand Junction CBD and the developing areas surrounding the Mesa Mall at Patterson Avenue and 24 Road.

The Colorado Highway Department's 1977 traffic counts indicate that 3,400 vehicles per day traveled Horizon Drive north of I-70 with about 7,000 vehicles south of I-70. A more recent traffic volume count conducted by the City of Grand Junction in 1980 indicates that the traffic volume on Horizon Drive between 12th Street and G Road has increased by over 50 percent to about 11,700 vehicles per day. This significant increase in traffic volume can be attributed to the major developments occurring along Horizon Drive between G Road and Walker Field and the increase in travel to and from Walker Field.

Traffic Generation

Table 1 shows the estimated generation of vehicular traffic at the time of full development of the Grand Hotel/Office Complex. Based on an estimate of the number of occupied rooms, the estimated amount of gross leaseable floor area, and nationally published generation rates from the Institute of Transportation Engineers, it has been estimated that a total of 3,287 vehicle-trips will be generated by the development on an average weekday (about 1,640 vehicles entering and 1,640 vehicles exiting per 24-hour period). During the morning peak-hour 362 vehicle-trips will be generated while during the evening peak-hour, about 329 vehicle-trips will occur.

It should be noted that the amount of peak-hour traffic generated by the hotel development is fairly low. Hotel traffic generally peaks in the morning between 8:00 and 9:00 AM, or after the morning peak-hour of the adjacent street traffic. Similarly, during the afternoon and evening, hotel peak traffic varies between 3:00 to 4:00 PM and 6:00 to 8:00 PM, with a lesser volume between the 4:00 to 6:00 PM evening street peak-hour.

Distribution of Generated Traffic

Figure 1 illustrates the estimated distribution patterns of the traffic generated by the proposed Grand Hotel/Office Complex. As indicated, slightly different traffic distributions can be expected for the hotel and office generated trips. The majority of the hotel generated traffic will be to and from Walker Field and I-70 while the majority of the traffic generated by the office complex will be to and from the major residential areas in and around Grand Junction. As indicated, about 75 percent of the office complex traffic and 48 percent of the hotel traffic will travel Horizon Drive between I-70 and G Road. About 12 percent of the office traffic and 22 percent of the hotel traffic are anticipated to travel I-70 to and from the east.

Generated Traffic Volumes

Based on the distribution patterns of Figure 1 and the estimated number of average weekday generated trips from Table 1, the daily traffic volumes on the surrounding roadway system have been estimated. Figure 2 illustrates the average weekday and morning and evening traffic volumes anticipated to be generated by the Grand Hotel/Office Complex at full development. About 1,830 vehicles per day will travel Horizon Drive south of the site while about 600 vehicles per day will travel Horizon north of I-70.

The peak-hour volumes at the Grand Hotel/Office Complex access drive intersection with Horizon Drive indicate a substantial amount of northbound left-turn entering traffic during the morning peak-hour and eastbound right-turn exiting traffic in the evening peak-hour. The development related peak-hour turning traffic at the I-70 ramp intersections will be minimal.

Access Recommendations

As development continues along the Horizon Drive corridor from 7th Street to Walker Field, the traffic volume on Horizon Drive adjacent to the site will increase significantly. By 1985, approximately 18,000 vehicles per day are expected to travel Horizon Drive south of I-70. Due to this heavy amount of traffic on Horizon Drive, traffic signals will likely be warranted at the hotel/office complex access drive intersection with Horizon Drive based on the Interruption of Continuous Traffic warrant. This warrant applies to operating conditions where traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or hazard in entering or crossing the major street.

The principal concern with signalization of the access drive is its proximity to the future signalized intersections of the I-70 entrance/exit ramps. The eastbound I-70 ramps are only about 100 feet from the access drive, measuring centerline-to-centerline. This distance is far too close for optimum signal coordination along Horizon Drive. However, the following access controls and coordination should allow this roadway situation to operate safely and as efficiently as possible:

1. Future signalization of the I-70 ramp intersections should be interconnected with the access drive traffic signals.

2. The eastbound I-70 ramp intersection signals should be coordinated with the access drive signals to provide a special delayed-green clearance interval (slot clearance) which will clear all vehicles from between the intersections before the side street signal phase changes to green.

3. The channelization of Horizon Drive should incorporate a continuous left-turn lane for southbound Horizon Drive traffic at the eastbound I-70 entrance ramp and adjacent frontage road intersections, as shown on Figure 3.

4. If the amount of traffic making the weaving maneuver from the eastbound I-70 exit ramp to the south frontage road (east of Horizon Drive) increases to a significant number, it may be necessary to prohibit southbound left-turns at the frontage road intersection.

5. Separate left-turn signal phases are not recommended at the access drive and eastbound I-70 ramp intersections with Horizon Drive due to the small amount of opposing through traffic (highly directional traffic on Horizon Drive) and the difficulty of incorporating additional phases into the signal sequence without a resulting decrease in intersection operating capacity.

* * *

The above comments summarize our analysis of the traffic generation and accessibility of the proposed Grand/Hotel Office Complex. Because of time constraints, we have not had the opportunity to explore other alternative solutions to this access question. The recommended signalization offers a workable solution. However, we believe that with much higher volumes on Horizon Drive and increased volumes on the eastbound I-70 off-ramp, relocation of the frontage road intersection to the southwest may have to be undertaken.

We trust that this information will assist you in the further planning for the project. Please give us a call if we can be of additional assistance or answer any questions.

Respectfully submitted,

LEIGH, SCOTT & CLEARY, INC.

By Joyce A. Hart
for Robert E. Leigh, P.E.

REL/JAH/ljc
Enclosures: Table 1
Figures 1, 2 and 3

TABLE 1

ESTIMATED TRAFFIC GENERATION
GRAND HOTEL/OFFICE COMPLEX
Grand Junction, Colorado

Proposed Land Use	Building Size	Daily Trip Generation Rate (1)	Vehicle-Trips Per Day	Peak-Hour Vehicle Trips AM Enter	AM Exit	PM Enter	PM Exit
Grand Hotel	280 rooms	10.5 trips per occupied room	2,352 (2)	130	65	80	83
Office Complex	76,000 s.f.(3)	12.3 trips per 1,000 S.F.	935	141	26	26	140
TOTALS			3,287	271	91	106	223

(1) Source: "Trip Generation: An Informational Report"; Institute of Transportation Engineers, Second Edition, 1979.

(2) Assumes 80% average weekday occupancy.

(3) Estimated leaseable floor area.

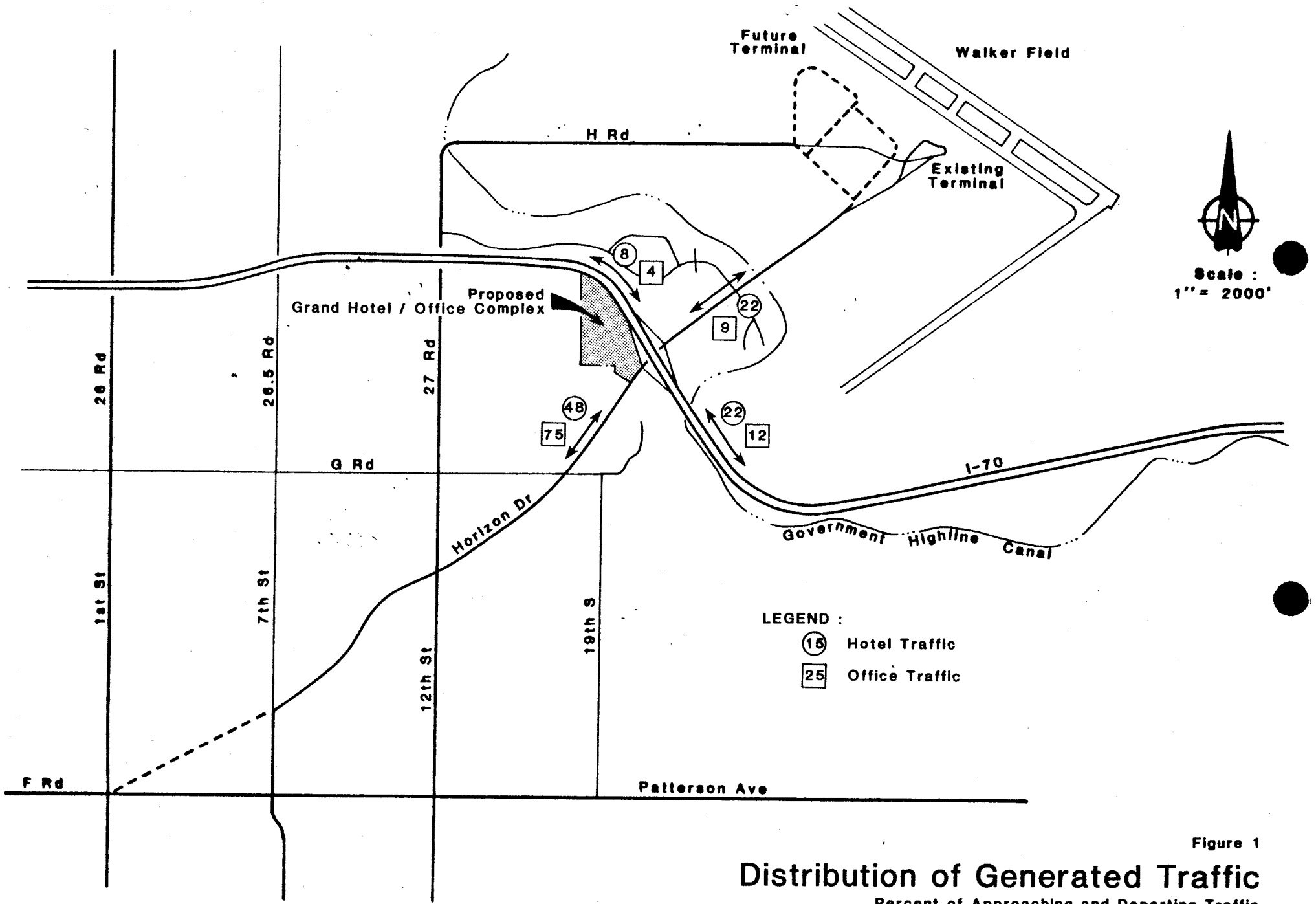
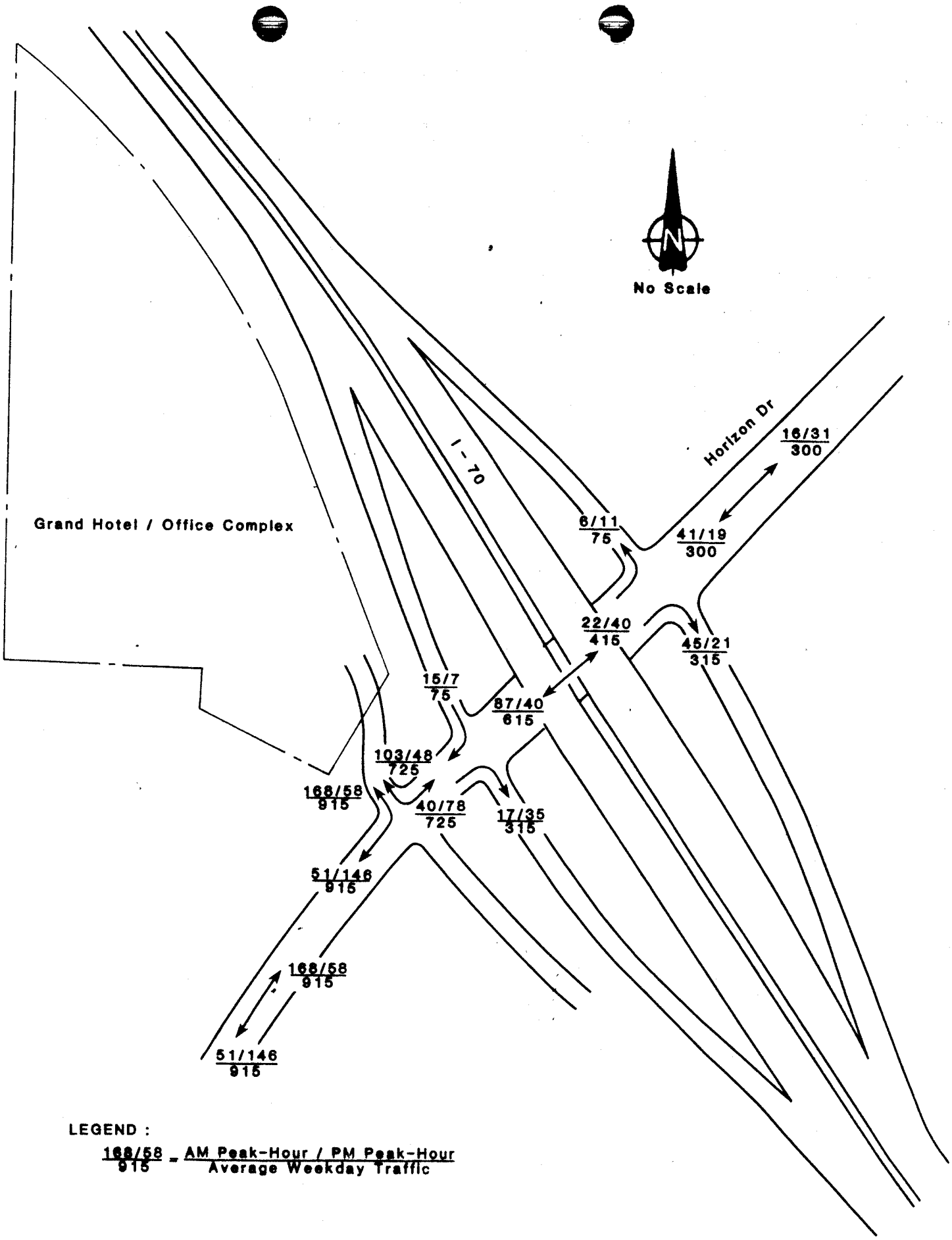


Figure 1

Distribution of Generated Traffic

Percent of Approaching and Departing Traffic



LEGEND :

168/58 / 915 = AM Peak-Hour / PM Peak-Hour / Average Weekday Traffic

Figure 2

Average Weekday Traffic

Generated by Grand Hotel / Office Complex

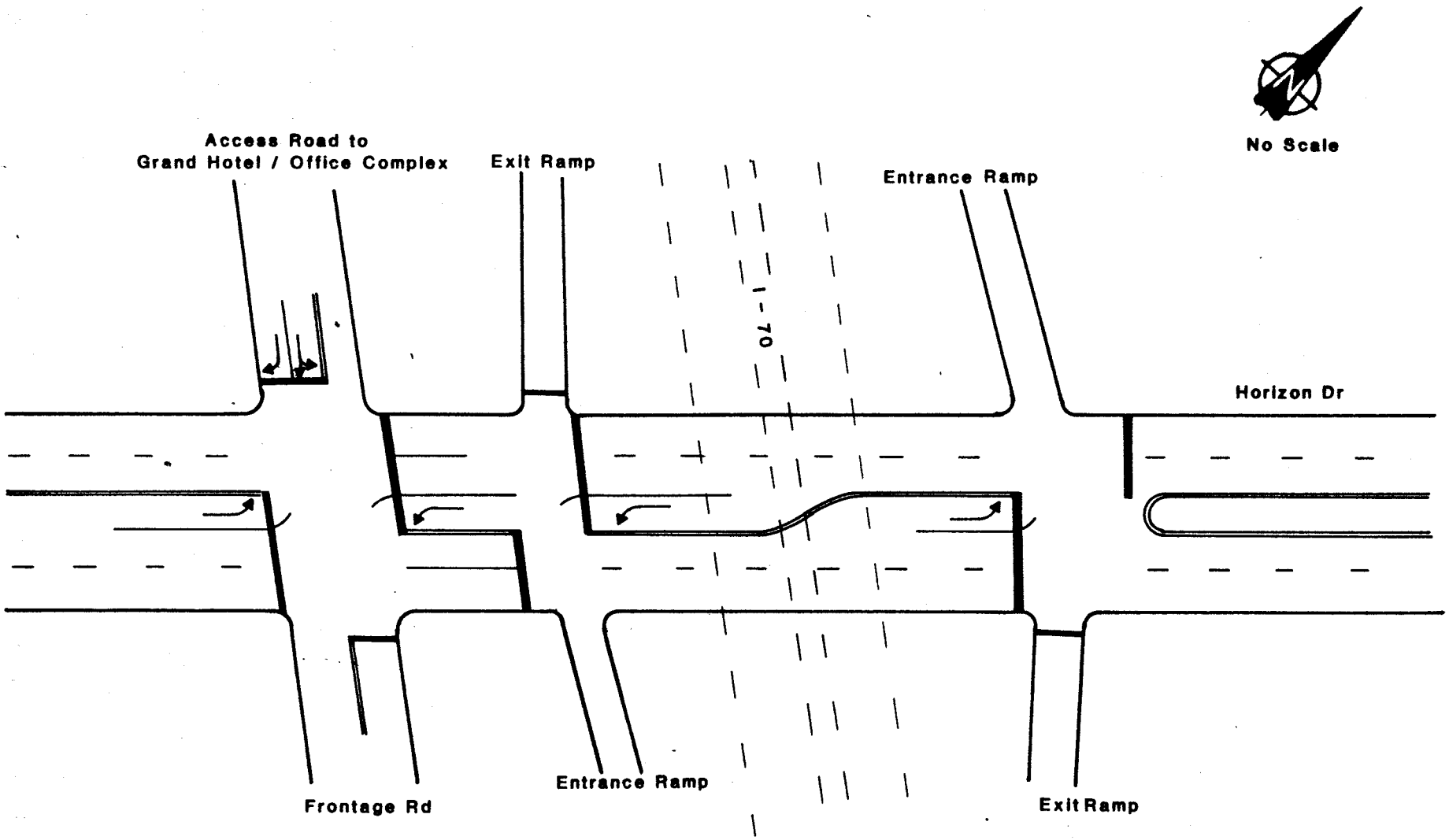
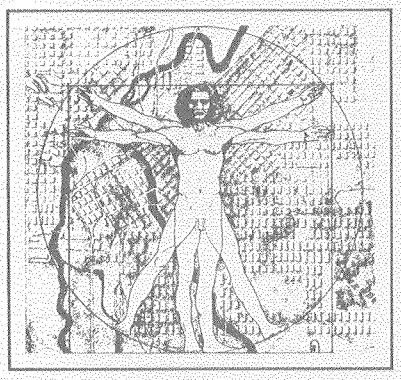


Figure 3

Recommended Horizon Dr Channelization

Title: Grand Hotel



SERACUSE LAWLER & PARTNERS
A CORPORATION

ARCHITECTURE
PLANNING
INTERIOR DESIGN
LANDSCAPE ARCHITECTURE

714 EQUITABLE BUILDING
730 SEVENTEENTH STREET
DENVER, COLORADO 80202
(303) 623 - 7031

JEROME M. SERACUSE AIA
JOHN L. LAWLER AIA
JAM F. WONG AIA
DONALD E. STRAUCH AIA
PAUL S. PIERSON AIA/PE

ASSOCIATES

HARVEY F. JENSEN CSI
GENE HAMBY ASID
JERRIE FLEMING
ERNEST L. PYLE
SARAH A. REEDS AIA
GAYLE G. UDALL
LINDA K. SERACUSE
MARC K. APPLEBAUM
MICHAEL S. BELLO ASLA
AXEL B. RUSSELL
ROBERT W. YEAGER APA/ULI
J. CHRISTOPHER ROONEY
KIM D. PRENTICE
KEVIN S. FOSSE

28 January 1982

City/County Development Department
559 White, Room 60
Grand Junction, Colorado 81501

Attention: Bob Goldin, Senior City Planner

RE: THE GRAND HOTEL

Dear Bob,

Enclosed is a copy of the meeting minutes from our discussion with you and city staff on Thursday, January 21st, 1982, regarding site plan refinements on the approved Final Development Plan for the Grand Hotel.

We are pleased with your decision to handle these proposed changes administratively through an in-house staff review, and are awaiting final comments of the revised site plan from City Sanitation, City Engineer, and Traffic Engineer.

It is our intent to develop a high-caliber hotel project for Grand Junction, and we thank you for your co-operation in reviewing the recommended improvements for the site.

If you have any questions, please feel free to call myself or Kim Prentice, Project Manager at 623-7031.

Sincerely,

SERACUSE, LAWLER & PARTNERS

Diane M. Smucny

Diane M. Smucny
Planner

cc: Karl Metzner
Jim Bragdon
Kim Prentice
Jay Kuhne
Ralph Braden
Jack Lawler

#81/1119 GA

SERACUSE LAWLER & PARTNERS, INC.
730 Seventeenth Street, Suite 714
Denver, Colorado 80202
(303) 623-7031

M I N U T E S

JOB NO: 81/1119

PROJECT:	The Grand Hotel	
DATE:	21 January 1982	
TIME:	1:15 p.m. - 2:30 p.m.	
LOCATION:	City/County Development Department 559 White, Room 60 Grand Junction, CO 81501	
PRESENT:	City/County Development Department:	Karl Metzner Bob Goldin
	City Traffic Engineer:	Jim Bragdon
	Seracuse Lawler & Partners, Inc. (SLP):	Jack Lawler Kim Prentice Diane Smucny
MEETING OBJECTIVES:	City Staff Review of Site Plan Refinements.	

COMMENTS:

1. Contact Bill Reeves, City Sanitation (244-1570) re: trash loading and City vs. private pick-up considerations.

2. Handicapped stall appear too narrow on plan and should be made wider, according to local standards; walkways should be indicated on plan for access from stalls to facility.

3. Aisle width should be 24' minimum.

4. Proposed access road width should be indicated (versus length and width of existing road.)

5. Pole lighting should be 20' high (verify).

6. Indicate future access to office (Phase II).

7. Assured sight distance for vehicles should be considered in placement of entry signal.

8. Show curbing/fencing (?) at parking areas where flush against boundary, to assure vehicular and topographic design coordination.

9. Two way traffic on aisles and drives is desirable except under porte cochere.

10. Approved height of building (100') doesn't include penthouse (Grand Junction Zoning & Development Code, Section 5-1-6 Structure Height, Paragraph C).

11. FAA may need to review changes. Approval has already been given for the 100' ht.; record of this is in City file.

12. Designate employee parking.

13. Fire lanes should be indicated (on access lane, etc.); trash loading area should also be shown on plan.

14. Base permitted signage area on Horizon Drive as a 4-lane.

15. Minimum standard parking stall is 8½' X 18½'; the present City Planning Commission does not acknowledge any smaller "compact" parking spaces.

16. Road vacation is still required for additional segment of access road, as shown on site plan--prior to construction, if possible.

17. Re: Landscaping plan. SLP to coordinate with City Staff to finalize number, location, and types of planting.

Staff agreed to in-house review of site plan for proposed changes. Additional copies were left of the development plan for review by the City Engineer (Rish), Traffic Engineer (Bragdon), and City Sanitation (Reeves). Bob Goldin will handle the in-house review and forward any additional comments to SLP within the next week.

The above mentioned items represent an understanding of the items discussed. Please notify us of any misuderstandings within one week of receipt of this correspondence as we will proceed on the basis that these items are as agreed to by all parties concerned.

/cab

Grand Hotel File

EXHIBIT A

THIS EASEMENT is made and entered into by and between the WALKER FIELD, COLORADO, PUBLIC AIRPORT AUTHORITY, a body corporate and politic and constituting a political subdivision of the State of Colorado, hereinafter called GRANTEE, and JAY R. KUHNE

hereinafter, GRANTOR;

WHEREAS, Grantee is the owner and operator of Walker Field Airport situated in the County of Mesa, State of Colorado, and in close proximity to the land of Grantor, and Grantee desires to obtain and preserve for the use and benefit of the public a right of free and unobstructed flight for aircraft landing upon, taking off from, or maneuvering about said airport; and

WHEREAS, Grantor is the owner in fee simple of that certain parcel of land situated in the County of Mesa, State of Colorado, to wit:

NOW, THEREFORE, in consideration of the sum of One Dollar ($1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, the Grantor, for himself, his heirs, administrators, executors, successors and assigns, does hereby grant, bargain, sell and convey unto the Grantee, its successors and assigns, for the use and benefit of the public, an easement and right of way appurtenant to Walker Field Airport, for the passage of all aircraft ("aircraft" being defined for the purposes of this instrument as any device known or hereafter invented, used or designed for navigation or flight in the air) by whomsoever owned and operated, in the navigable airspace above the surface of Grantor's Property to an infinite height above said Grantor's property, together with the right to cause in said airspace such noise and vibrations, smoke, fumes, glare, dust, fuel particles and all other effects that may be caused by the normal operation of aircraft landing at or taking off from or operating at or on said Walker Field Airport, and Grantor hereby waives, remises and releases any right or cause of action which Grantor now has or which Grantor may have in the future against Grantee, its successors and assigns, due to such noise, vibrations, smoke, fumes, glare, dust, fuel particles caused by the normal operation of such aircraft.

FURTHER, Grantor hereby covenants, for and during the life of this easement, that Grantor:

(a) shall not hereafter construct, permit or suffer to maintain upon said land any obstruction that extends into navigable airspace required for use of said airport runway surfaces; (Navigable airspace is defined for the purpose of this instrument as airspace at and above the minimum flight altitudes, including take off and landing, as prescribed in Federal Aviation Administration Federal Air Regulations Part 91, and as such regulations are amended.)

(b) shall not hereafter use or permit or suffer use of said land in such a manner as to create electrical or electronic interference with radio communication or radar operation between the installation upon Walker Field Airport and aircraft, or to make it difficult for flyers to distinguish between airport lights and others or to result in glare in the eyes of flyers using the said airport, or to impair visibility in the vicinity of the airport, or otherwise to endanger the landing, taking off or maneuvering or aircraft.

Grantor agrees the aforesaid covenants and agreements shall run with the land for the benefit of Grantee, its successors and assigns, until said airport shall be abandoned and shall cease to be used for public airport purposes.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal on this 11th day of June, A.D. 1982.

Jay R. Kuhne by

Ralph Braden, his attorney in fact

STATE OF COLORADO)
PITKIN) ss:
COUNTY OF ~~XXXX~~)

The foregoing instrument was acknowledged before me this 11th day of June, A.D. 1982, by Jay R. Kuhne by Ralph Braden his attorney-in-fact.

My Commission expires: 1-21-85.

Address: 601 E. Hyman Avenue
Aspen, CO 81611

Mary L. Carmichael
Notary Public

RECEIVED MESA COUNTY
DEVELOPMENT DEPARTMENT

JUN 15 1982

BG

Note - sent original to Walker Field 6/15/82.

Development Department

CITY - COUNTY PLANNING
grand junction-mesa county 559 white ave. rm. 60 grand jct.,colo. 81501
(303) 244-1628

October 22, 1982

Mr. Bob Perletz
SLP
Equitable Building, Suite 714
730 17th Street
Denver, CO 80202

Re: Hilton Hotel Landscape Plan

Dear Bob:

Having reviewed your landscape plan received October 19, 1982, I take no exception to the plan with the following recommendations:

1. Make sure no sight distance problems are created at the intersections in regard to the proposed berms and species.

2. I would recommend sending this landscape plan to the City Parks Department for their review as to specific types if you have not already verified it.

3. Verify with Bookcliff Country Club as to the layout proposed.

4. Discuss the method and responsibility of landscape and open space maintenance (i.e. sprinkler system anticipated etc.).

I appreciate your follow-up in regard to the Hilton Hotel project. It should be a fine asset to our community.

Sincerely,

Bob Goldin
Senior City Planner

BG/mm

xc: ~~File~~
City Parks Dept.

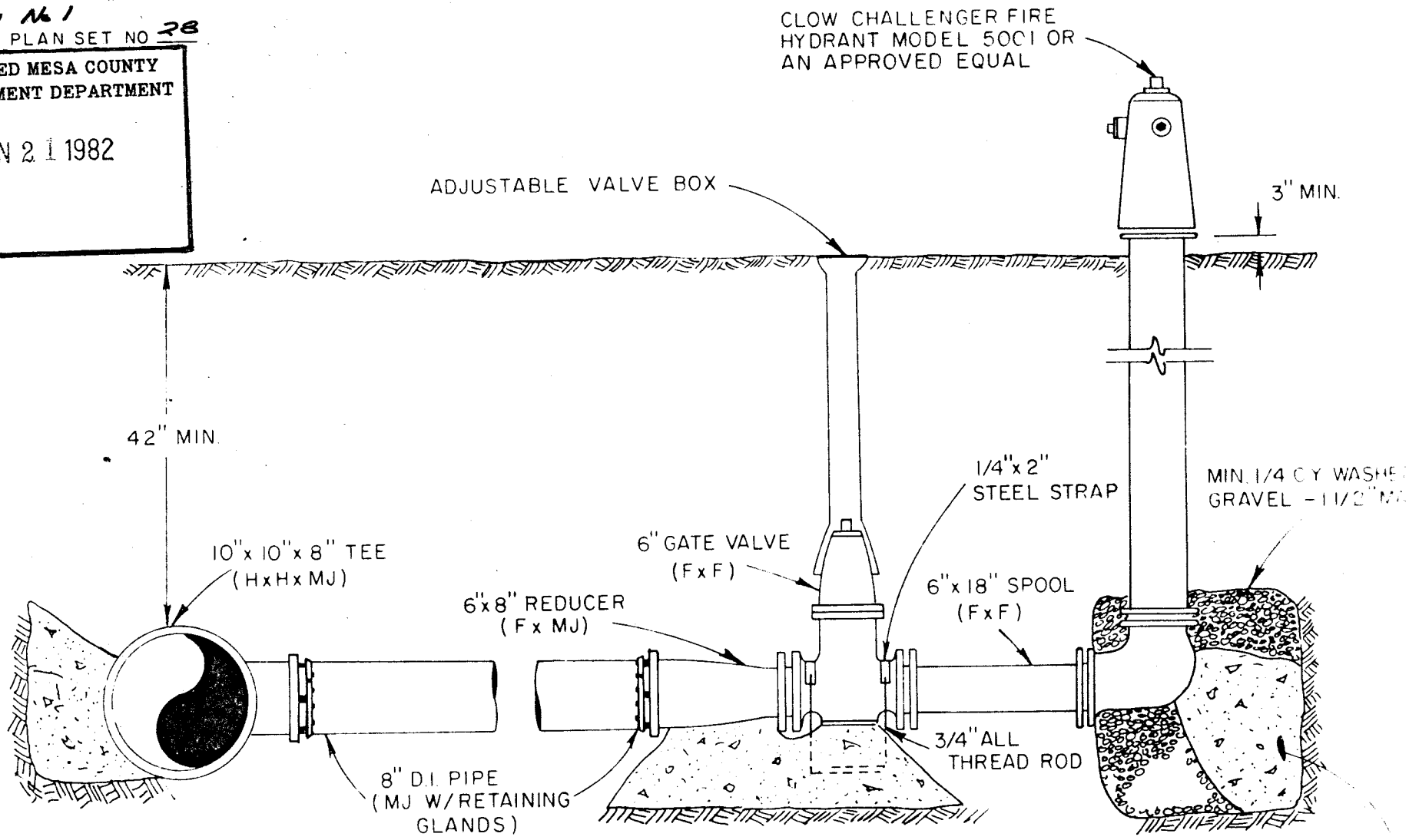
D.H.N.

MODIFICATION No. 1 TO PLAN SET NO 28

~~ADDENDUM~~ TO PLAN SET NO ~~28~~

RECEIVED MESA COUNTY DEVELOPMENT DEPARTMENT

JUN 21 1982



ALL METAL PIPE, VALVES, FITTINGS & APPURTENANCES SHALL BE WRAPED WITH POLYETHYLENE MATERIAL PRIOR TO BACKFILLING

1/4 C.U. THRUST BLOCK MIN. WEEP HOLES SHALL NOT BE COVERED WITH CONCRETE.

TYPICAL FIRE HYDRANT DETAIL

JUN 16 1982

⚠

SUPERCEDES DETAIL 3 – SHEET C1 2 JUNE 16, 1982

Hilton Hotel File
#50-81

SLIPO

Architecture
Planning
Landscape Architecture
Interior Architecture

Terracentre, Suite 300
1100 Stout Street
Denver, Colorado 80204
(303) 623-7031

2 June 1983

Mr. Bob Goldin
Grand Junction Planning Department
559 White, Room 60
Grand Junction, Colorado 81501

RE: GRAND JUNCTION HILTON
LIQUOR LICENSE APPLICATION

Dear Bob:

The Grand Junction Hilton is applying for a liquor license, and the following is the updated information you requested regarding the facility.

A full service hotel, the 269-room Grand Junction Hilton houses a Coffee Shop, Specialty Dining Room, Lobby Lounge and Cocktail Lounge, as well as banquet and meeting room facilities. Actual seating and building code capacity for these functions are:

	SEATING	CODE
COFFEE SHOP	96	125
SPECIALTY DINING	124	174
LOBBY LOUNGE	66	128
COCKTAIL LOUNGE	122	174

The interior design of the hotel is that of a high quality establishment, with generous square footage allowed for each person; which accounts for the low number of actual seating proposed.

The banquet wing houses the following:

	SEATING	CODE
THE GRAND BALLROOM	500	714
COLORADO ROOM	21	21
MESA ROOM	21	21
CENTENNIAL ROOM	21	21
MT. GARFIELD ROOM	22	22

Projected employment will vary according to the occupancy of the hotel, and for different shifts. According to the hotel operator, the best "guestimate" would be:

DAY SHIFT*	6:00 AM - 4:00 PM
Front Desk	2
Administration	4
Coffee Shop	5
Lobby Lounge	6
Laundry	17 (if full occupancy)
Kitchen	4

EVENING SHIFT*	4:00 PM - 2:00 AM
Front Desk	2
Specialty Dining	5
Cocktail Lounge	6
Lobby Lounge	3
Coffee Shop	3
Kitchen	4

NIGHT SHIFT	2:00 AM - 6:00 AM
Front Desk	1
Cleaning	2
Security	1

* Note: Banquet employees (waitresses, busboys and kitchen) will be added as necessary).

At the time of the review process of this development plan, we were instructed to calculate our parking needs as follows:

	SEATING	PARKING
1. 269 Rooms (1 space per room)		269
2. Restaurants (1 space per 3 seats)	220	37**

	SEATING	PARKING
3. Lounges (1 space per 2 seats)	188	47**
4. Banquet and Meeting Rooms (1 space per 4 seats)	605	51**
	Required Parking	404

At your direction, it was assumed that 50% of the guests of the restaurant, lounge, or banquet areas would be staying in a room at the hotel, so the requirement was divided in half.

Required Parking: 404
Provided Parking: 450

In addition, the undeveloped north portion of the site adjacent to Bookcliff Country Club may be temporarily used for overflow parking, if necessary.

I hope these figures satisfy your needs for the current status on the facilities and services offered at the G.J. Hilton. If you have any concerns, please feel free to contact me for clarification or additional information.

Sincerely,

SLP PLANNERS

Diane Smucny

Diane Smucny

DS:lh

cc: Ralph Braden, CEC
Jay Kuhne, CEC
Andy Hecht, Garfield & Hecht
Tony Verrhardt, Innco
Kim Prentice, SLP
John Taylor, SLP

81/1119.01 GA

GRAND JUNCTION HILTON

RECEIVED
OCT 11 1983
CITY - COUNTY
PLANNING DEPARTMENT

October 11, 1983

Mr. Bob Goldin, Senior City Planner
CITY OF GRAND JUNCTION PLANNING DEPT.
559 White Ave. Room 60
Grand Junction, CO 81501

Dear Bob:

We hereby request the Planning Department clearance for insurance of a final certificate of occupancy for the Grand Junction Hilton Hotel at 743 Horizon Drive, Grand Junction, CO 81501.

The only remaining work to be done is the completion of landscaping on the west side and I hereby guarantee the completion of landscaping by November 15, 1983.

This is the only remaining site improvements yet to be completed.

Sincerely,

Anthony Vanhaart
General Manager

AV/bg

cc: R.G. FISHER - Dale Williams
S.L.P. - Kim Prentice

743 Horizon Drive Grand Junction, Colorado 81501 303/241-8888

REVIEW SHEET SUMMARY

FILE# 50-81

ITEM The Grand Hotel/Office Complex — DATE SENT TO REVIEW DEPT. _____

Final Development Plan — DATE DUE 4/14/81

PETITIONER Creative Equity, (Aspen, CO), 714 Equitable Bldg., Denver, CO 80202
(Seracuse Lawler & Partners, Inc., Denver, CO)

LOCATION NW corner of I-70 & Horizon Drive

DATE REC.	AGENCY	COMMENTS
4/14/81	City Utilities	Normally service taps are not allowed into manholes. Since these are 8" service taps and the one from the office building is on a dead end line, these taps into the manholes will be allowed provided an invert is provided in the manhole bottom to accommodate flow from the taps.
4/14/81	City Fire	This plan will be okayed under the stipulation that these buildings are both fully sprinklered. Also we will require one more fire hydrant at the rear of the building that will be accessable to the rear of both buildings. We will okay your figure on the fire flow you figured.
4/14/81	City Police	Any additional traffic controls? Horizon Drive traffic problems increase? Security lighting not shown?
4/14/81	Mt. Bell	We have no comments or requests. The hotel & office building will tentatively be served from the west thru the 15' easement along the west line.
4/14/81	City Engineer	The existing 24 inch storm outlet from I-70 at the southeast corner of the hotel must be accommodated. It looks like they missed it but it presently just outlets into the field. 30 ft. wide easements should be granted on all storm sewers centered on the pipe. A 20 ft. wide easement centered on the sanitary sewer should be granted. Detailed construction plans should be submitted to me prior to construction for the sanitary sewers and storm sewer system components. Somehow the storm runoff should be controlled along the northwest edge to direct the flows from the paved areas from not going onto the adjacent property as implied by arrows on their Drainage and Utility Plan. This is a large paved area and increased runoff will probably be significant. The Drainage and Utility Plan is not clear about the extent of the offsite storm drainage piping down the Horizon Channel. A 10 ft. easement is mentioned. We have consistently secured 30 ft. wide easements on Horizon Channel piping and I recommend that here also. The piping and securing of easements should be by this developer. I take no exception to those storm drains shown but do reserve comment on the sizing until storm runoff calculations and maps showing drainage basins are submitted. These should be submitted when the detailed construction plans are submitted for my review and approval prior to construction.
4/15/81	G.J. Drainage	Out of district.

4/15/81	City Parks & Recreation	Red Oak and White Pine probably will not do well in the heavy shale that is laden with salts of various kinds. Consider Shademaster Thornless Honeylocust, Japanese Pagoda Tree or Cottonless Cottonwood for substitues for Red Oak. None of the substitues except Shademaster Honeylocust will be acceptable as an entry statement. All plant materials listed are medium to high water users. I can foresee a day when we have to choose between people and plants receiving water. I appreciate the effort that has been expended on this landscape plan; basically it is very good. I do not think that anyone who has not lived here for a period of time fully understands the stress our climate puts on plants. I feel very strongly that a minimum water policy needs to be set forth to limit the use of "typical landscape plants" in areas such as the Horizon Drive strip. There are dryland plants available in the landscape industry now and I see no reason we should not encourage their use.
4/15/81	Public Service Electric & Gas	Electric: No objections to "Final Development;" customer to contact P.S.CO. for service point locations. Will request an exhibit type easement at time of construction. THI 4/8/81 GAS: Plat #836-849. No objections. Customer to contact P.S.CO. for meter location. KF 4-11-81
4/16/81	Transportation Engineers	It will be difficult, at best, to use some of the parking spaces in the north corner behind the office building. It is very good to see bicycle parking facilities provided. However, their locations as shown would require bicyclists to go between parked cars to get to the racks. A change in location, but still in a visible area, would improve their accessibility. Service access to the office building seems circuitous and would require difficult maneuvers for trucks.
4/17/81	Staff Comments:	Lighting scheme. Direction parking aisle near lobby. Trash pick-up. Employee parking designated. Curbing or blocking in parking lot. Cul-de-sac (vacate?). Fire access for office, turn around - as per fire. Traffic impact generation needed - ADT. No large growies near entry (block vision). Signage details - to be reviewed. Truck loading area, (access curve to sharp?). No need for POA - already have it. (Got it when platted). Overflow parking (adjacent property?) needs addressing *Construction must begin within 1 year of approval.

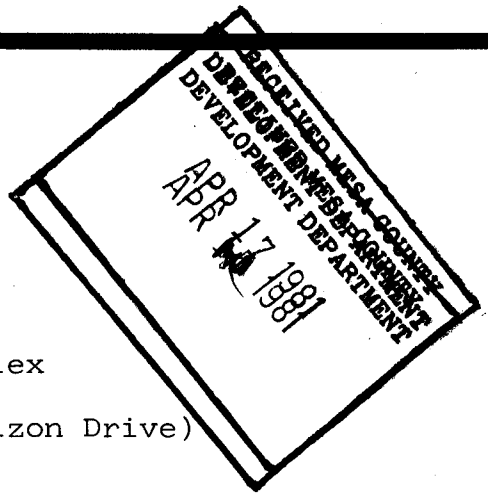
4/28/81 PRICE/DUNIVENT PASSED UNANIMOUSLY A MOTION TO RECOMMEND APPROVAL TO THE CITY COUNCIL OF #50-81, DEVELOPMENT IN H.O., THE GRAND HOTEL AND OFFICE COMPLEX, SUBJECT TO STAFF COMMENTS: THAT THE PROBLEMS OF TRAFFIC, SIGNALIZATION OF THE INTERSECTION, AND ACCESS BE RESOLVED WITH THE CITY ENGINEER.

WALKER FIELD, COLORADO
PUBLIC AIRPORT AUTHORITY

THIRD FLOOR
TOWER BUILDING, WALKER FIELD
Grand Junction, Colorado 81501

Telephone (303)-243-3695

April 17, 1981



Mr. Bob Bright
City/County Planning Dept.
County Courthouse Annex
Grand Junction, Co. 81501

Re: The Grand Hotel/Office Complex
Final Development Plan
(Intersection of I-70 & Horizon Drive)

Dear Mr. Bright:

Please consider the following as review agency comments from the Walker Field, Colorado, Public Airport Authority regarding the above referenced development. As this structure is very close to the downwind arrival pattern for aircraft landing at Walker Field, consideration of these concerns is rather important.

1. Control of skyward lighting, electronic signal generation or interference, smoke and/or dust generation, and antennae or other radio/T.V. tower structure height should be carefully controlled. Also noise, vibrations, and fumes from aircraft overflight may cause a nuisance. Therefore, an avigation easement recognizing these restrictions and overflight problems should be required.

2. Building height at approximately 100' at ground level does not physically penetrate navigable airspace height requirements, but because of the structure proximity to traffic patterns, it is probable that some adjustments may be made. Certainly this will need to be addressed with the Federal Aviation Administration, wherein FAA height approval is required under Federal Air Regulations Part 77. Specifically, the developer/builder must submit FAA Form 7460-1, Notice of Proposed Construction to the Denver Regional office. This should insure notice on affected navigation charts.

3. Vehicular traffic generation on Horizon Drive, the primary access to the airport is also affected. This particular hotel/office complex, although relatively large, isn't necessarily the additional "straw that breaks the camel's back", so to speak, but the synergistic effect of these multiple Horizon Drive area developments is creating a severe vehicular congestion problem on Horizon Drive. Correction of this problem does not lie with only this development, but rather overall improvement to the Horizon Drive roadway itself. Also, the I-70 entrance/exit is adjacent to this development. Therefore, the Airport Authority would recommend a careful review of the development traffic access/flow onto Horizon Drive.

Also, as you requested, I am returning the Final Plat Plan booklet that accompanied this packet. Your consideration of the above will be appreciated.

Sincerely,

Paul D. Bowers

PDB/mm
Encl: Final Plat Plan Booklet

NICHOLS ASSOCIATES, INC. ENGINEERS – PLANNERS
770 Horizon Drive · P.O.Box 1281 · Grand Junction · Colorado · 81501 · Phone 303 · 243 · 8975

April 23, 1981

Mr. Bob Bright
Senior City Planner
City & County Development Department
559 White Avenue
Grand Junction, Colorado 81501

Subject: The Grand Hotel/Office Complex
File No. 50-81

Dear Sir:

We have received the Review Sheet Summary for The Grand Hotel/ Office Complex Final Development Plan.

The comments we have addressed are concerned with the site engineering, utilities, grading and drainage.

1. City Fire: One hydrant added at the rear of the building.

2. City Engineer: Added a drain structure and upgraded proposed drain pipe to accommodate 24-inch pipe outlet from U. S. Highway Interstate 70. Thirty-foot easement for all storm sewers and twenty-foot easement for sanitary sewers will be secured. Storm runoff for all paved areas is controlled by curbs and flow is directed to storm sewer facilities.

We have enclosed five prints of the Drainage and Utility Plans with the revisions shown.

If there are any questions, please call this office.

Very truly yours,

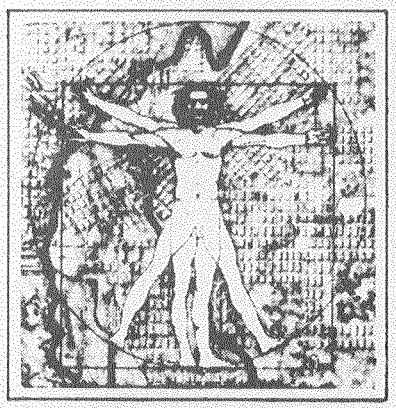
Larry Moran

Lawrence M. Moran
Project Engineer

LMM:em
Enclosures

cc: Diane Smucny
Seracuse, Lawler & Partners

Ron Rish, City Engineer



SERACUSE LAWLER
& PARTNERS
A C O R P O R A T I O N
ARCHITECTS
PLANNERS
INTERIORS

714 EQUITABLE BUILDING
DENVER, COLO. 80202
(303) 623 - 7031

JEROME M. SERACUSE AIA
JOHN L. LAWLER AIA
JAM F. WONG AIA
DONALD E. STRAUCH AIA
PAUL S. PIERSON AIA/PE

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DARYL K. FISCHER
AXEL B. RUSSELL
ROBERT W. YEAGER APA/ULI
J. CHRISTOPHER ROONEY

24 April 1981

Bob Bright, Senior Planner
City/County Development Department
559 White, Room 60
Grand Junction, CO 81501

Dear Bob:

In conjunction with the Grand Hotel/Office complex, enclosed is our reply and addressing of the Review Comments forwarded to us on April 22nd:

1) The requested invert shall be provided in the manhole bottom, or whatever is necessary to accommodate flow from the taps.

2) An additional hydrant is indicated on the Drainage/Utilities Composite as requested between the office and hotel.

3) The City Engineers' comments have been addressed in a separate letter from Nichols and Associates.

4) The landscape plan has been revised to include the suggested species, and eliminating Red Oak and White Pine. Several low water maintenance plant materials have been substituted for original selections.

   All planted areas shall have automatic underground irrigation system; trickle irrigation shall be used where appropriate.

5) Staff comments:

   a. Lighting scheme (location of parking lot fixtures) is indicated on plan.
   b. Trash pick-up is covered in submitted report.
   c. Employee parking area is designated on plan and included in submitted report.
   d. The additional footage of the access road shall be vacated after the final development plan is approved.
   e. The rear of the office site may be accessible for emergency vehicles in a "break-away" area on the north side of the proposed building. The landscaping of this 25' area will accommodate this.

f. No large plant materials are planned for the entry that would inhibit vision.
g. A lease agreement is being arranged to utilize a portion of Lot 3 of Homestead Subdivision for overflow parking.
h. Truck loading/service entry area is 40' wide at rear of hotel and large enough to handle service vehicles for this development.
i. Signage is addressed in the submitted report.

Clarification of the Phasing for this project is indicated on the revised plan which shall be brought to the hearing and left for your files. Phase I, the hotel, is planned to be completed by the end of this year. Phase II is the office and the front pad, with construction schedule not yet determined.

Thank you for forwarding the review comments so quickly.

Sincerely,

SYRACUSE LAWLER & PARTNERS, INC.

Diane M. Smucny

Diane M. Smucny

Enclosures

DMS/pr

O FF 0000000 0000000000 ction sheet O

Acres ______
Units ______
Density ______

File No. #50-81
Zone H.O.
Tax Parcel Number

conditional use

Activity Development in H.O. - The Grand Hotel + Office Complex
Phase Final
Common Location N.W. Corner of Horizon Drive and I-70

Date Submitted ______ Date Mailed Out 4-3-81 Date Posted ______
10 day Review Period Return by 4-14-81 MCC Information Sent ______
Date Adjacent Property Owners Notified of MCPC/GJPC ______ Date Adjacent Property Owners Notitfied of MCC/CIC ______

review agencies	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG
Development Dept.	●	●	●									●		●		●	●	●			●			●		●	●	●	●	●		●	
County Road	●	●												●			●	●									●		●	●			
County Health	●	●																									●		●	●			
County Surveyor	●	●																									●		●	●			
County Parks/Recreation	●	●														●											●		●	●			
County Engineer	●	●												●			●	●									●		●	●			
Transportation Engineer	●	●															●										●		●	●			
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City Parks/Recreation	●	●														●											●		●	●			
City Police Dept.	●	●																									●		●	●			
County Sheriff	●	●																									●		●	●			
Floodplain Administration	●	●										●															●		●	●			
Comprehensive Planning	●	●																									●		●	●			
G.J. Dept. of Energy	●	●																									●		●	●			
Fire CITY	●	●															●										●		●	●			
Irrigation G.V.	●	●												●													●		●	●			
Drainage G.J.	●	●												●													●		●	●			
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Highway Dept.	●	●												●			●	●									●		●	●			
Geological	●	●												●													●		●	●			
Health Dept.	●	●																									●		●	●			
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B...	DATE	
GJPC	4/28/81	Appl - subject to staff & review comments.
CIC	5/20/81	Appl - subject to PC, staff & review comments & that petitioner get together with staff & work out the share of cost of [?]signalization.

Refer to # 49-81 for ROW vacation

Open Space Dedication (acreage) ______ 5% O. S. Fee Required $______ Paid Receipt # ______
Recording Fee Required $______ Paid (Date) ______ Date Recorded ______
Date Resolution Mailed ______

City County Development Department 0000000000000000000000000000