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File PP-1996-077 Name: Hacienda Subdivision – F ¼ / 24 ½ Road

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

DOCUMENT DESCRIPTION:

X	X	Traffic Impact Study – 5/1/96			
X	X	Preliminary Drainage Report – 3/25/96			
X	X	Correspondence			
X		Posting of Public Notice Signs – issued 4/16/96			
X		Photos to file			
X		E-mails			
X		Notes to file			
X	X	Area Summary			
X	X	Planning Commission Minutes – 6/4/96, 6/19/96 – **			
X		Concrete Encasement Details			
X		Detail Map			
X	X	Preliminary Plan – pg 1 through 5			
X		Warranty Deed – Bk 2201 / Pg 191 – not conveyed to City			
X		Special Warranty Deed – Bk 2201 /Pg 201- not conveyed to City			
X		Warranty Deed – Bk 2114 / Pg 434 – not conveyed to City			

DEVELOPMENT APPLICATION

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

Receipt 4043 re-advertising fee
Date
Rec'd By
File No. PP-96-77

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

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
☐ Subdivision Plat/Plan	☐ Minor ☐ Major ☐ Resub				
☐ Rezone			SE corner	From: To:	
☒ Planned Development	☐ ODP ☒ Prelim ☐ Final		F 1/4 RDA 24 1/2 Rd	PR17 + PB	PROPOSED MIXED DENISTY RESIDENTA & BUISNESS
☐ Conditional Use					
☐ Zone of Annex					
☐ Variance					
☐ Special Use					
☐ Vacation					☐ Right-of Way ☐ Easement
☐ Revocable Permit					

☒ PROPERTY OWNER	☒ DEVELOPER	☒ REPRESENTATIVE
J.B.I. ASSOCIATES	SAME	SAME
Name	Name	Name
PAUL I KERN & FRANCES M. KERN		
Address 2324 N. SEVILLE CIR GJ, CO. 81506 2479 F. 25 RD G.J. 81505	Address	Address
City/State/Zip	City/State/Zip	City/State/Zip
242-6720 - 260,7445	SAME	SAME
Business Phone No.	Business Phone No.	Business Phone No.

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

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

Signature of Person Completing Application — Date 3/25/96

Signature of Property Owner(s) - attach additional sheets if necessary — Date 3/25/96

Paul Kern Frances Kern — Date 3/26/96

2945-044-00-053 & -061

SUBMITTAL CHECKLIST

MAJOR SUBDIVISION: PREliminary

Location: 24 1/2 Rd & F 1/4 Rd Project Name: Hacienda

Date Received _____

Receipt # #3780

File # $1095.00 PP-96-77

DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	● City Parks/Recreation	● City Fire Department	● City Attorney	● City G.J.P.C. (8 sets)	O City Downtown Dev. Auth.	● City Police	● County Planning	O Walker Field	● School District #51	● Irrigation District 6	● Drainage District 6	● Water District 11	O Sewer District	● U.S. West	● Public Service	O GVRP	O CDOT	O Corps of Engineers	O Colorado Geological Survey	O U.S. Postal Service	O Persigo WWTF	● TCI Cable						TOTAL REQ'D.
● Application Fee $630 plus $15/hour	VII-1	1																															
● Submittal Checklist*	VII-3	1																															
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
● Application Form*	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
● Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
● Evidence of Title	VII-2	1			1			1																									
● Names and Addresses	VII-2	1																															
● Legal Description	VII-2	1			1																												
● General Project Report	X-7	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
● Location Map full size 8 1/2 x 11	IX-21	1																															
● Preliminary Plan	IX-26	1	2	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30					
O 11"x17" Reduction of Prelim. Plan	IX-26	1				1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
● Preliminary Drainage Report	X-12	1	2																														

NOTES: * An asterisk in the item description column indicates that a form is supplied by the City.

SUBMITTAL CHECKLIST

MAJOR SUBDIVISION: FINAL

Location: 24½ Rd & F¼ Rd Project Name: Hacienda

Date Received _____

Receipt # _____

File # _____

ITEMS		DISTRIBUTION																													
DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	● City Parks/Recreation	● City Fire Department	● City Attorney	● City G.J.P.C. (8 sets)	O City Downtown Dev. Auth.	● City Police	● County Planning	O County Building Department	~~● County Surveyor~~	O Walker Field	● School Dist. #51	● Irrigation District GVIC	● Drainage District GVIC	● Water District Ute	O Sewer District	● U.S. West	● Public Service	O GVRP	O CDOT	O Corps of Engineers	● Colorado Geologic Survey	● U.S. Postal Service	~~● Persigo WWTF~~	● TCI Cable			TOTAL REQ'D.
● Application Fee $740.00 + $15/lot	VII-1	1																													
● Submittal Checklist*	VII-3	1																													
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● Application Form*	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● Evidence of Title	VII-2	1			1			1																							
O Appraisal of Raw Land	VII-1	1			1	1																									
● Names and Addresses*	VII-2	1																													
● Legal Description*	VII-2	1			1																										
O Deeds	VII-1	1			1			1																							
O Easements	VII-2	1	1	1	1			1													1	1	1						1		
O Avigation Easement	VII-1	1			1			1							1																
O ROW	VII-2	1	1	1	1			1													1	1	1						1		
● Covenants, Conditions & Restrictions	VII-1	1	1					1																							
O Common Space Agreements	VII-1	1	1					1																							
● County Treasurer's Tax Cert.	VII-1	1																													
● Improvements Agreement/Guarantee*	VII-2	1	1	1				1																							
O CDOT Access Permit	VII-3	1	1																												
O 404 Permit	VII-3	1	1																												
O Floodplain Permit*	VII-4	1	1																												
● General Project Report	X-7	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1			1
● Composite Plan	IX-10	1	2	1	1																										
● 11"x17" Reduction Composite Plan	IX-10	1				1	1	1	8	1	1	1	1				1	1	1	1	1	1	1	1	1	1		1	1			1
● Final Plat	IX-15	1	2	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
● 11"X17" Reduction of Final Plat	IX-15	1						8	1	1	1			1	1	1	1	1	1	1	1	1				1		1			1
● Cover Sheet	IX-11	1	2																												
● Grading & Stormwater Mgmt Plan	IX-17	1	2															1						1	1			1			
● Storm Drainage Plan and Profile	IX-30	1	2															1			1	1	1					1			
● Water and Sewer Plan and Profile	IX-34	1	2	1			1												1	1	1	1	1					1	1			
● Roadway Plan and Profile	IX-28	1	2															1													
● Road Cross-sections	IX-27	1	2																												
● Detail Sheet	IX-12	1	2																												
● Landscape Plan	IX-20	2	1	1				8																							
● Geotechnical Report	X-8	1	1																						1						
O Phase I & II Environmental Report	X-10,11	1	1																												
● Final Drainage Report	X-5,6	1	2															1													
● Stormwater Management Plan	X-14	1	2															1						1							
O Sewer System Design Report	X-13	1	2	1																1											
O Water System Design Report	X-16	1	2	1															1												
O Traffic Impact Study	X-15	1	2																					1							
● Site Plan	IX-29	1	2	1	1		1		8																						

NOTES: * An asterisk in the item description column indicates that a form is supplied by the City.

PP-96-77

HACIENDA

This proposed subdivision will be located on the North side of F 1/4 Road and 24 1/2 Road. The west 4 1/2 acres is presently zoned Planned Business. The remaining acreage is presently zoned PR 17.

We are proposing retail shopping on the Business Property with one entrance on 24 1/2 Road and one entrance on F 1/4 Road. F 1/4 Road at 24 1/2 Road will be constructed to join the present F 1/4 Road that now exists. The remaining property will be developed as Town Homes and Garden Type Apartments, with Mini Storage for the residents only.

There are three factors that led to the general design of this property. The shape of the property, which is rectangular with a width of 500' plus. The change of elevation, which is approximately 1% from North to South and from East to West. The third is the drainage of surface and irrigation tail waters from the North and East.

We propose to take these waters, as well as the waters from the developed area, and create a park like green area, with a stream like effect, on the South side of the property. We will use a heavy tree buffer between our property and the business property to the South. We expect to use this area as water dentention with the use of check ponds, stone and grass areas to create a quiet area for the residence. The streets directly to the the North will be asphalt with a 4' roadbase shoulder. This street should have minimum traffic. The street system has been designed so that the residents will be able to drive to and from their homes without using the Southernmost street. We have tried to eliminate pedestrian and car traffic in the same areas. This was one of the reasons to create mall and and walking areas wherever possible. We will have a walking path, of asphalt wherever possible completely around the residential area. There are two recreational and activity areas proposed with walking access that has little conflict with car traffic. The completed residential area will be fenced with a masonary fence 5' plus in height, facing F 1/4 Road. Directly behind the wall and between the walking path will be landscaped with large trees that will grow to spread past the wall to shade F 1/4 Road.

All the construction will be of masonary and stucco finish. The final look will be Southwest in design.

There will be a Homeowner or Condominium Association organized to maintain all common areas.

Wherever possible, all entrances will face either East or West to eliminate icy conditions in winter.

This project will provide top quality housing within close walking distance to the Mall. This area will be a medium density area as it has always been planned. All utilities are available. By installing Mini storage for the residents use we will not have to install sanitary sewer on that part of the project.

This project will be phased in over a period of years, and should be a major asset to the area.

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WILLIAM A. IHRIG

William "Bill" Ihrig attended the University of Maryland prior to entering into a construction career in 1948. Mr. Ihrig furthered his formal education at the Columbia School of Technology night school, where he studied Engineering. He also studied Land Use and Planning under Harry Boswell at American University. Mr. Ihrig has been a building contractor and developer since 1956.

Bill Ihrig "retired" to Grand Junction in 1988 and has since developed and built commercial and residential projects. He is presently co-owner of Heritage Senior Homes, which consists of seven facilities located at 15th Street and Walnut, Patterson Road at 28 1/4 Road, and 3781 Heritage Lane in Palisade.

Mr. Ihrig's company, JBI Associates, developed and built 50 units of high-end apartments in Foresight Village, on 25 ½ Road, north of Patterson Road, in 1995.

HACIENDA
A PROPOSED SUBDIVISION

LOCATION - This proposed subdivision is located along the south side of F 1/4 Road and extends eastward from 24 1/2 Road. The west 4.54 acres, located on 24 1/2 Road, is presently zoned "Planned Business". The remaining acreage is presently zoned PR 17.

PROPOSAL - The developer is proposing retail shopping on the Business-Zoned portion of the property, with one entrance/exit on 24 1/2 Road ~~and one entrance/exit on F 1\4 Road~~. F 1/4 Road will be completed by the developer and thereafter will join the presently existing portion of F 1/4 Road to 24 1/2 Road. The remaining property, 25.54 acres will be developed as Town Homes and Garden Type Apartments with on-site mini storage units for the use of residents only.

DESIGN FACTORS - Three factors have guided the proposed general design of this property development.

1. The shape of the property, which is rectangular with an approximate width of 650 feet and a length of 2000 feet.

2. The change of elevation, which is approximately 1% from North to South and from East to West.

3. The drainage of surface and irrigation tail waters from the North and East to the South and West.

DRAINAGE - This Plan proposes to use the drainage waters, as well as the waters from the developed area, to create a park-like green area, with a stream-like effect, along the south perimeter of the property. The water will be utilized to develop a heavy tree and landscape buffer between the Hacienda Development and the business properties to the south. We expect to use this south-perimeter area for water detention with the use of check ponds, combined with stone and grass areas to create a quiet area for the residents.

AUTOMOBILE AND PEDESTRIAN TRAFFIC - The streets will be asphalt, build to present specifications, maintained by the Homeowners Association. The street layout minimizes internal automobile traffic in that it is designed to take all automobile traffic directly north to F 1/4 Road. The Plan minimizes overlapping pedestrian and car traffic and eliminates all auto traffic from the south perimeter quiet zone. A combination of walking path, sidewalks and gates allow residents to walk the community perimeter, walk to the commercial area of the development, and walk to within one fourth mile of Mesa Mall shopping, banking and evening movies.

RECREATIONAL AND ACTIVITY AREAS - There are two major recreational and activity areas proposed with walking access that will have little conflict with car traffic.

FENCING - The completed residential area will be fenced on the North, East and West with a masonry fence, 5 feet plus in height. Directly behind the north-perimeter wall, between the walking path and the wall, will be large trees that will grow to spread over the wall to shade F 1/4 Road.

A high-quality steel fence is planned for the south perimeter, water and quiet-area portion of the development.

UTILITIES - All utilities are available.

GENERALLY - All construction will be masonry with a stucco finish. The final look will be "Southwest" in design. Where possible, entrances face either East or West to eliminate icy conditions in winter.

A Homeowner/Condominium Association will be organized to maintain all common areas.

The Hacienda development will provide a medium density development, as planners have envisioned over the years, with top quality housing, within close walking distance of Mesa Mall.

This project will be built in phases over a planned period of five years, and should constitute a major asset to the area.

STAFF REVIEW

FILE: PP-96-77

DATE: May 29, 1996

STAFF: Kathy Portner

REQUEST: Preliminary Plan--Hacienda

LOCATION: F 1/4 and 24 1/2 Road

APPLICANT: J.B.I. Associates

EXISTING LAND USE: Undeveloped and 1 single family home

PROPOSED LAND USE: Retail/Apartments/Townhomes

SURROUNDING LAND USE:

NORTH:	Agriculture/Undeveloped
SOUTH:	Commercial
EAST:	Single Family Residential/Undeveloped
WEST:	Commercial

EXISTING ZONING: Planned Business(PB) and Planned Residential(PR)

PROPOSED ZONING: Same

SURROUNDING ZONING:

NORTH:	RSF-R (Residential Single Family, Rural)
SOUTH:	PB (Planned Business)
EAST:	PB and PR (Planned Residential)
WEST:	H.O. (Highway Oriented)

RELATIONSHIP TO COMPREHENSIVE PLAN:

No Comprehensive Plan exists for this area. The draft Growth Plan shows this property as commercial for the 24 1/2 Road frontage and medium to high density residential (8-11.9 units per acre) for the remainder.

STAFF ANALYSIS:

In 1984 a plan was approved for the PR zoned part of the property along F 1/4 Road, east of 24 1/2 Road for housing at 17 units per acre. The plan included apartments and townhomes. In 1985 the plan was reverted, but the zoning remained Planned Residential, 17 units per acre. This proposal also includes the 4.54 acre property along 24 1/2 Road which was zoned Planned Business in 1995 at the time of annexation. The list of approved uses for the PB zoning included all B-3 uses with the exception of outdoor sales.

The proposal is for 45,368 s.f. of business/commercial on the 4.54 acre property along 24 1/2 Road, which is zoned PB. The remainder of 25.54 acres is planned for 275 apartment units in 12 buildings, 155 townhome units and 168 storage units for the residents. The overall density proposed is 16.8 units per acre. The project would include improvements to 25 1/2 Road and F 1/4 Road for access to the property. All internal roads are proposed to be 24' wide private drives accessing parking lots for the apartments and parking pods and driveways for the townhomes. The project is proposed in 7 phases, with the first 3 phases being the townhomes and phases 4,5 and 6 being the apartments and the commercial center being the final phase.

Townhome Units

The 155 townhomes units are proposed on 12.3 acres. The townhome garages would be accessed by a 24' driveway to the rear of the buildings. Each unit would have a two-car garage. The front of the units would face a common courtyard, varying in width from 45' to 50'. 119 additional parking spaces are provided in parking pods throughout the development, or .8 spaces per unit. The spaces provided far exceed the Code requirements for multifamily development, which is 1.5 spaces per unit plus 1 space per every 5 spaces for a total of 279 spaces. A total of 429 spaces are provided.

A 10,000 s.f. area in the center of the townhome development is proposed for active recreation. It includes a club house, pool/hot tub, half basketball court and a play area. In addition to that area approximately 60.5% of the area is in open space, which includes the common courtyards and the drainage area along the south boundary. The intent of the drainage area is to provide a natural setting for a proposed walkway. Sidewalks are proposed throughout the development connecting the units. All the common areas will be landscaped by the developer.

One of the concerns staff has had with the proposal is whether there is adequate usable open space. Using the Census figures of 2.164 persons per dwelling unit in the City, there could be a total of 335 residents in the townhome area. A standard being considered by the City for multi-family development is a minimum of 175 s.f. of usable open space per dwelling unit. For this area that would be 27,125 s.f. Up to 50% of the required area can be waived if active recreation amenities are provided, such as pools, tennis courts or playgrounds.

The area provided for the club house, pool, play area and basketball court would count for the 50% credit, so a total of 13,562 s.f. of usable open space would have to be provided. Usable opens space area excludes parking areas, required landscape areas, land with floodway, water

bodies, and land with greater than 15% slope. While approximately 60% of the townhome area is open space, the majority of the open space is the common courtyards between units and the drainageway. However, the applicant has redesigned to provide two large areas of open space, a 9,000 s.f. area north of the active recreation area and a 5,000 s.f. area at the east end. Those areas proposed would meet the minimum standard being considered.

The design of the proposed private internal streets meet the engineering and fire access requirements. Final design would have to assure adequate turn-around areas at the end of all drives.

Apartments

275 apartment units are proposed on 10.9 acres. The units are within 12 buildings, with each building having 15, 20 or 30 units. The required parking for the apartments is 496 spaces and 491 spaces are provided in the apartment area. An additional 39 spaces are located along the north boundary access road that are not needed for the townhome development, but they are not conveniently located for the apartments. Some additional parking spaces might be lost in meeting the parking lot landscaping requirement of interior islands.

A 22,800 s.f. area is proposed in the center of the apartment area to include an activity area, pool, basketball/volleyball court and children's play area. In addition to that area, 64% of the remaining site is in open space, including areas around the buildings and the drainageway. Using the formula stated above, 48,125 s.f. of usable open space should be provided. The area provided for the pool and basketball/volleyball courts could be used for a 50% reduction in that requirement, resulting in 24,062 s.f. being required. The 7,500 s.f. children's play area would also reduce that requirement to 16,562 s.f. Staff recommends the final design include a separation or good buffering between the play are and basketball court.

The large areas provided between the buildings, 50' between most units and 30' minimum could make up the difference of the requirement for usable open space. At staff's recommendation the center buildings have been shifted north or south to provide a larger open space area for each complex.

Storage Units

Storage units for the use of the residents are proposed south of the apartment area. Access to the units would be from the access roads in the development. There would not be access to Patterson Road. The design of the storage units must maintain adequate vehicular maneuvering space between and around units.

Commercial Area

The proposed commercial area along 24 1/2 Road includes 4.3 acres that is zoned Planned Business (PB). A total of 45,368 s.f. of floor space in proposed for office/retail-type uses. The plan is showing two breezeways to breakup the long building facade and to offer easier pedestrian access to the businesses from the residential development to the east. Walk-through

gates to the residential area will also be provided. Staff recommends that the pathway along the drainage continue to 24 1/2 Road to replace the walk through gate shown.

Staff recommended one central entrance off of 24 1/2 Road and that it be a boulevard with sidewalks provided. The parking along the entrance could not back directly into the access lane. The square footage of commercial area shown will likely be reduced in the final plan to provide adequate landscaping in the parking area.

Other Issues

The applicant is proposing a perimeter masonry wall along the east, north and west side of the residential property for screening and noise buffering. A wall is not proposed along the south property line because of the distance from the buildings to the property line and the separation by the drainage. A chain link fence with "visual screening" is proposed along that property line and around the storage units. Staff recommends that the masonry wall be continued along the south property line and include the perimeter of the storage units. The storage units should not be visible from either Patterson Road or 24 1/2 Road.

The covenants for the entire development will include strict design guidelines for the residential and commercial buildings to provide for uniformity.

An area between the wall and F 1/2 Road should be provided for landscaping.

STAFF RECOMMENDATION:

Staff recommends approval of the Preliminary Plan with the following conditions:

1. Final design of each phase must include adequate parking and landscaping for that phase.

2. Final design must include specific landscaping plans for all the common areas.

3. Improvements to F 1/4 Road and 24 1/2 Road will be as required by City Engineering.

4. The storage units will be for the sole use of the residents, with access only through the development. The units will be screened from view on the east, west and south and shall not be visible from Patterson Road or 24 1/2 Road.

5. The square footage of the proposed business uses will be dependent on adequate parking being provided in the final design with all required landscaping.

6. The proposed masonry fence shall include the entire perimeter of the residential development, as well as the storage units.

7. The covenants for the entire development shall include strict design guidelines for the residential and commercial buildings to provide for uniformity.

8. An area between the wall and F 1/2 Road improvements shall be provided for landscaping to be approved with the final design.

RECOMMENDED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #PP-96-77, I move we approve the Preliminary Plan for The Hacienda with the staff recommendation and that we recommend the street standards be varied to allow for internal private streets.

Hacienda
Proj: 3260

AREA SUMMARY

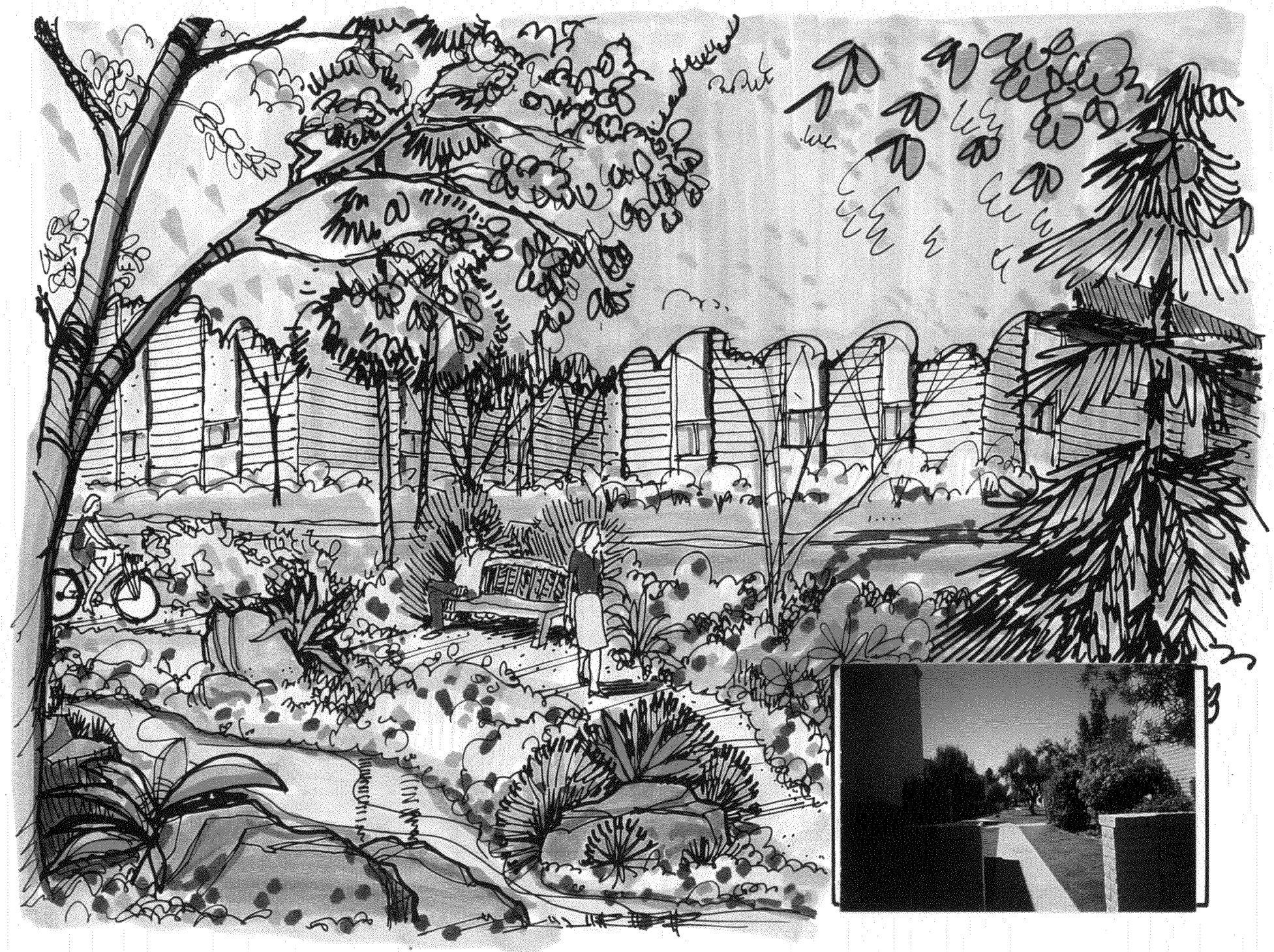
APARTMENTS:

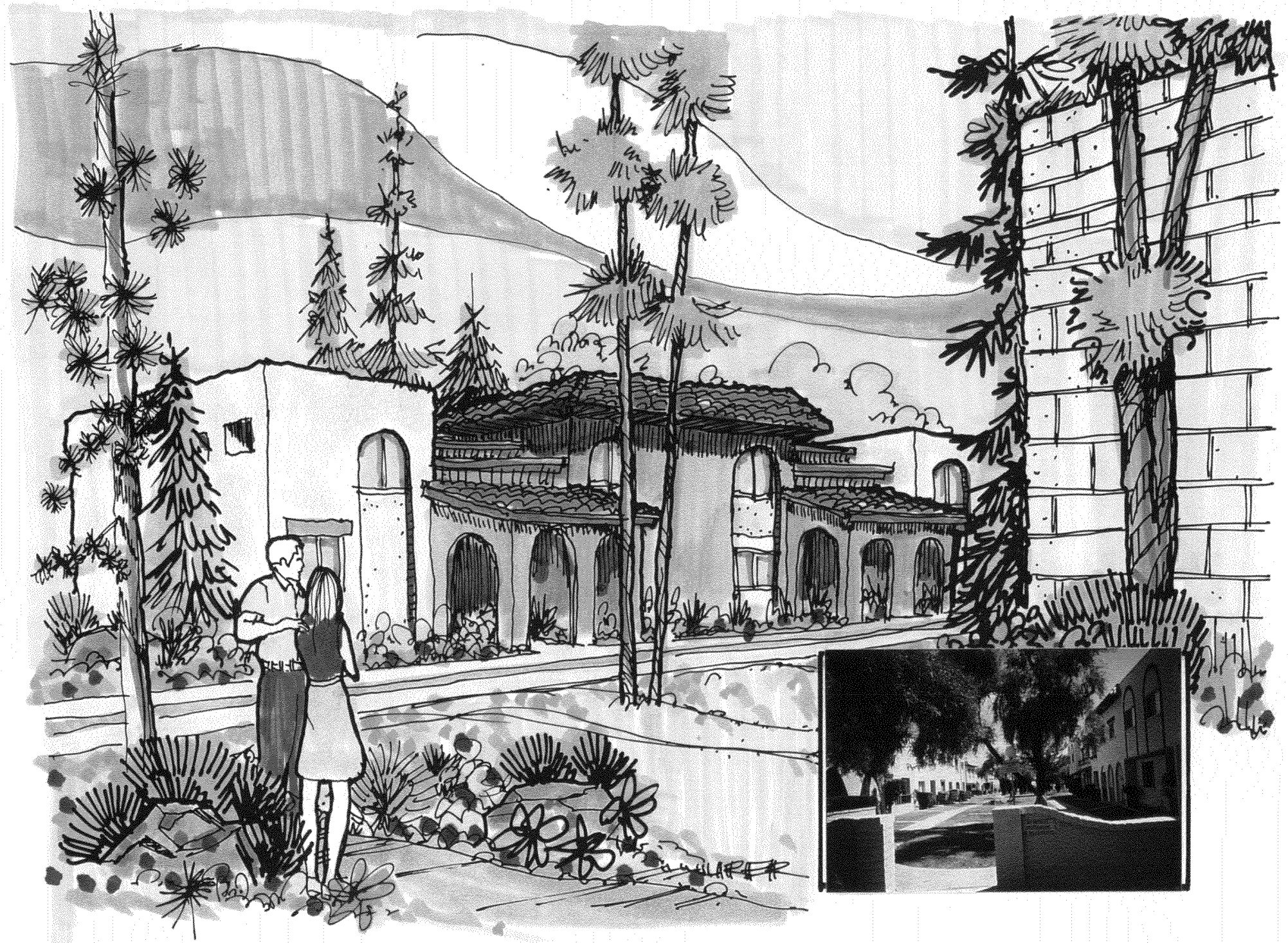
Units			275	
OPEN SPACE			sf	Acres
Required	sf per unit = 175		48125	1.10
Reductions				
Recreation Amenities		50.0%	24063	0.55
Children's Play Area			7500	0.17
Total Required Usable Open Space			16563	0.38
Provided			34758	0.80
Surplus			18196	0.42
Total Open Space			193278	4.44
Residential Building Footprint Area			91392	2.10
Recreational Footprint Area			20880	0.48

TOWNHOMES

Units			155	
OPEN SPACE			sf	Acres
Required	sf per unit = 175		27125	0.62
Reductions				
Recreation Amenities		50.0%	13563	0.31
Total Required Usable Open Space			13563	0.31
Provided			18792	0.43
Surplus			5230	0.12
Total Open Space			106704	2.45
Residential Building Footprint Area			136400	3.13
Recreational Footprint Area			2444	0.06


NO BICYCLES,
SKATEBOARDS,
OR ROLLERSKATES.





PP96-77

The construction of interstructure are considerable only because of the size of the project.

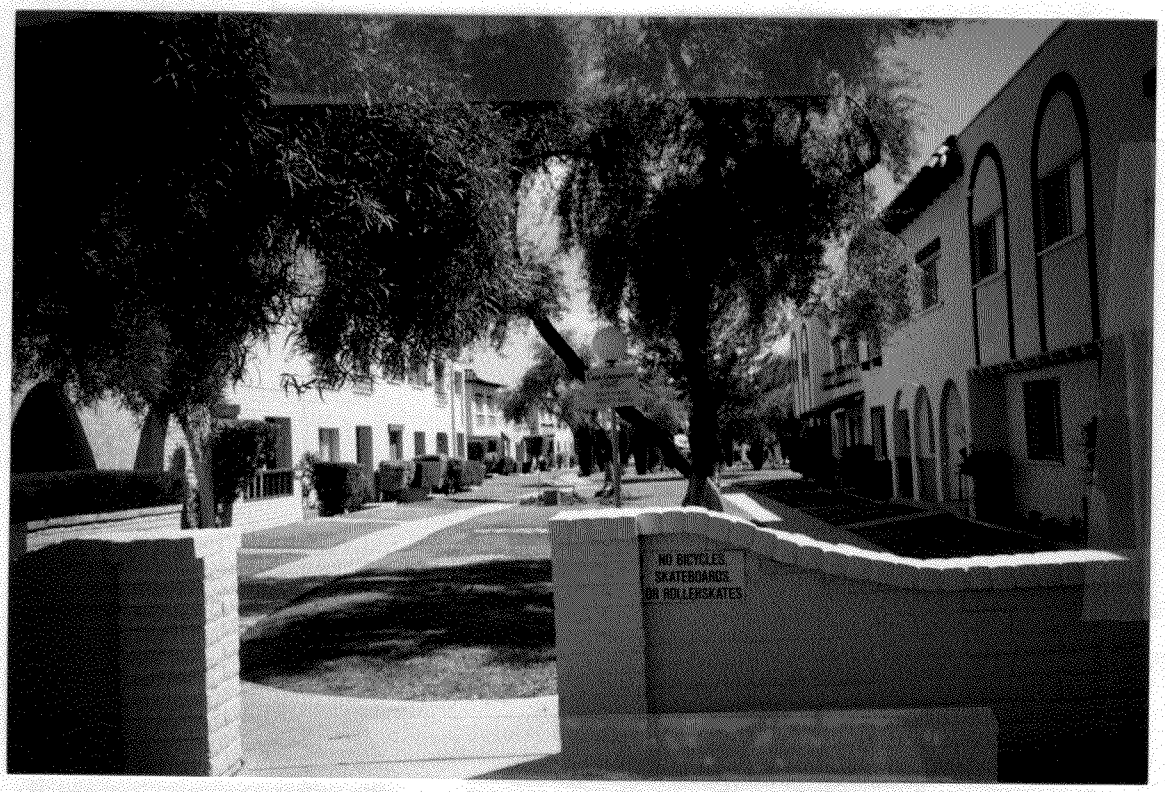
There is a 12" water line in 25 Road and an extension of a 12" line in front of the property with the development of the Fisher Project. We will run an 8" and possibly a 12" line along F 1/4 Road to connect the two 12" lines. This is a part of the overall fire protection. We will install 2 master meter and backflow preventors.

Sewer will be connected to an 8" sewer main along the south side of the property and tied into an 8" sewer in 24.5 Road.

Storm drainage will be controlled on site and detained along the south side of the property and released at the historic rate at the southwest corner of the property.

Gas, telephone, electric and TV are presently in both 24.5 and 25 Road. These will be extended through F 1/4 Road to the project.

All utilities will have to be installed to the property with completion of Phase One. The storm system will be phased with the construction of each phase. The completion of F 1/4 Road will take place with Phase Two. The fencing will be done as each phase is completed.


NO BICYCLES
SKATEBOARDS
OR ROLLERSKATES

2945-044-00-039
EDNA F REUST
2458 F 1/4 RD
GRAND JUNCTION, CO 81505-1204

2945-044-00-040
JANN ERTL
1600 NORTH AVE
GRAND JUNCTION, CO 81501

2945-044-00-041
KRIS COOK
SHEILA M COOK
2464 I 1/2 RD
GRAND JUNCTION, CO 81505-9696

2945-044-00-058
MUSTANG BROADCASTING COMPANY
715 HORIZON DR STE 430
GRAND JUNCTION, CO 81506-8731

2945-044-00-060
JAMES LEE BISHOP
N A BISHOP & J V KUXHAUSEN
1004 OURAY AVE
GRAND JUNCTION, CO 81501-3332

2945-044-00-072
WM D CHURCH
VIRGINIA M
2460 F 1/4 RD
GRAND JUNCTION, CO 81505-1204

2945-044-00-117
DENVER G CHERRY
ETAL C/O MICHAEL BUSSEY
2150 SHENANDOAH DR
GRAND JUNCTION, CO 81503-1065

2945-044-00-140
BETTY WELLS
627 LEE AVE
GRAND JUNCTION, CO 81505-1216

2945-044-00-162
PATRICK G MORAN
JACQUELYN A
515 RADO DR
GRAND JUNCTION, CO 81503-9738

2945-044-00-062
CLIFTON L MAYS
TRULA A
PO BOX 4150
GRAND JUNCTION, CO 81502-4150

2945-044-00-063
ROBERT H FOX
PAMELA A FOX
2517 I RD
GRAND JUNCTION, CO 81505-9532

2945-044-00-065
HERITAGE TRUST CO - TRUSTEE

& GLENN R KEMPERS
PO BOX 4169
GRAND JUNCTION, CO 81502-4169

2945-044-00-066
BEN E CARNES
MAX A KREY
PO BOX 3117
GRAND JUNCTION, CO 81502-3117

2945-044-00-067
BEN E CARNES
MAX A KREY
PO BOX 3117
GRAND JUNCTION, CO 81502-3117

2945-044-00-068
DONALD H DAMRON
IRENE D
2482 F RD
GRAND JUNCTION, CO 81505-1213

2945-044-00-078
CHRIS J GARCIA
SANDRA
2491 F 1/4 RD
GRAND JUNCTION, CO 81505-1203

2945-044-00-123
CLARICE S J O'KEY
2109 LAKESHORE DR # A6
ZAPATA, TX 78076-4416

2945-044-00-152
JAMES E PINGER
THOMAS C PINGER
624 BROKEN SPOKE RD
GRAND JUNCTION, CO 81504-5270

2945-044-00-062
CLIFTON L MAYS
TRULA A
PO BOX 4150
GRAND JUNCTION, CO 81502-4150

2945-044-00-078
CHRIS J GARCIA
SANDRA
2491 F 1/4 RD
GRAND JUNCTION, CO 81505-1203

2945-091-00-078
RODNEY G HUSKEY
LINDA E C/O AVTAX INC
PO BOX 2798
LITTLETON, CO 80161-2798

2945-091-00-086
RODNEY G HUSKEY
LINDA E C/O AVTAX INC
PO BOX 2798
LITTLETON, CO 80161-2798

2945-091-00-118
STERLING COMPANY
1048 INDEPENDENT AVE
GRAND JUNCTION, CO 81505-7185

2945-091-13-003
G & G SERVICES
PO BOX 3329
GRAND JUNCTION, CO 81502-3329

2945-091-13-004
STERLING CO
3001 N 12TH ST
GRAND JUNCTION, CO 81506-2803

2945-091-13-005
STERLING CO
3001 N 12TH ST
GRAND JUNCTION, CO 81506-2803

PP-96-77

POSTING OF PUBLIC NOTICE SIGNS

The posting of the Public Notice Sign is to make the public aware of development proposals. The requirement and procedure for public notice sign posting are required by the City of Grand Junction Zoning and Development Code.

To expedite the posting of public notice signs the following procedure list has been prepared to help the petitioner in posting the required signs on their properties.

1. All petitioners/representatives will receive a copy of the Development Review Schedule for the month advising them of the date by which the sign needs to be posted. **IF THE SIGN HAS NOT BEEN PICKED UP AND POSTED BY THE REQUIRED DATE, THE PROJECT WILL NOT BE SCHEDULED FOR THE PUBLIC HEARING.**
2. A deposit of $50.00 per sign is required at the time the sign is picked up.
3. You must call for utility locates before posting the sign. Mark the location where you wish to place the sign and call 1-800-922-1987. You must allow two (2) full working days after the call is placed for the locates to be performed.
4. Sign(s) shall be posted in a location, position and direction so that:
   a. It is accessible and readable, and
   b. It may be easily seen by passing motorists and pedestrians.
5. Sign(s) MUST be posted at least **10 days** before the Planning Commission hearing date and, if applicable, shall stay posted until after the City Council Hearing(s).
6. **After the Public Hearing(s) the sign(s) must be taken down and returned to the Community Development Department within FIVE (5) working days to receive a full refund of the sign deposit.** For each working day thereafter the petitioner will be charged a $5.00 late fee. After eight working days Community Development Department staff will retrieve the sign and the sign deposit will be forfeited in its' entirety.

The Community Development Department staff will field check the property to ensure proper posting of the sign. If the sign is not posted, or is not in an appropriate place, the item will be pulled from the public hearing agenda.

I have read the above information and agree to its terms and conditions.

Bill C Ihrig — 4/16/96

SIGNATURE — DATE

FILE #/NAME PP-96-77 (Hacienda) — RECEIPT # 3857

PETITIONER/REPRESENTATIVE: Bill Ihrig — PHONE #

DATE OF HEARING: 5/7/96 — **POST SIGN(S) BY:** 5/26/96

DATE SIGN(S) PICKED-UP 4/16/96 — **RETURN SIGN(S) BY:**

DATE SIGN(S) RETURNED 6-21-96 — RECEIVED BY: mc

Refund √ #4000492

May 2, 1996

Kathy Portner
Community Development Department
250 N. 5th Street
Grand Junction, CO 81501

Dear Kathy:

As we discussed, I'd like to pull The Hacienda Preliminary Plan from the May 7th Planning Commission hearing and have it rescheduled for the June hearing to allow us time to work on some revisions to the plan.

Sincerely,

Bill Ihrig

NICHOLS ASSOCIATES, INC.
CIVIL ENGINEERING • SURVEYING • PHOTOGRAMMETRY

751 Horizon Court, Suite 102, Grand Junction, Co 81506
970-245-7101 • FAX 970-245-3251

PP-96-77

Hacienda
Preliminary Drainage Report

Prepared for:

JBI Associates, Inc.
Grand Junction, CO

Prepared by:
Mike Foutz

March 25, 1996

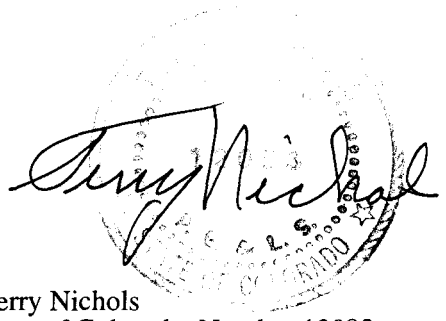
Certification Sheet

March 25, 1996

Development Staff
City of Grand Junction, Colorado

Ladies and Gentlemen:

I certify that this Preliminary Drainage Report for the Hacienda was prepared under my direct supervision.



Terry Nichols
State of Colorado, Number 12093
Registered Professional Engineer

Hacienda
Preliminary Drainage Report

Contents

I. GENERAL LOCATION AND DESCRIPTION

A. Site and Major Basin Location

The Hacienda development is a proposed development in the south half of the southeast quarter of section 4, Range 1 West, Township 1 South, Ute Meridian. The development is approximately one quarter of a mile north of F road between 24.5 and 25 roads. The site is bounded on the north by F 1/4 Road; on the South by pasture and uncultivated land; on the East by pasture; and on the West by 24 1/2 Road. The land North of F 1/4 Road is farmland and a small group of houses. The houses are located between 300 feet and 1000 feet east of 24 1/2 road. One trailer is located on the land east of the site. There is no development immediately south of the site. One farmhouse is situated south of and adjacent to F 1/4 Road within the general site boundary.

B. Site and Major Basin Description

The site has an area of 30 acres. Cover on the site is a mixture of agricultural crops, pasture land, and uncultivated areas covered with native grasses and bushes. The soils at the site are classified as Sagers silty clay loam and Turley clay loam, hydrologic group B by the Soil Conservation Service.

The major basin has an area of 160 acres. Approximately 60% of the land in the major basin is agricultural. Approximately 35% of the land is pasture land and native grasses and shrubs. The remainder is rural residential and several businesses adjacent to F Road. The soils in the major basin are classified as Sagers silty clay loam and Turley clay loam, hydrologic soil group B, by the Soil Conservation Service.

II. EXISTING DRAINAGE CONDITIONS

A. Major Basin

The topography of the major basin is generally comprised of flat fields sloping to the south and southwest. The major basin boundary is defined as follows:

- North - Grand Junction Drainage District open collector ditch and Pomona Lateral ditch.
- East - 25 Road
- South - Patterson Road and Independent Ranchmens Ditch.
- West - 24 1/2 Road

The major basin's drainage patterns are largely controlled by irrigation ditches and field cultivation. Excess precipitation in the major basin is transported to irrigation ditches by a combination of overland flow and shallow channel flow. The ditches transport the runoff to the North side of F road. The flow is transported across F Road in culverts and discharges into the Independent Ranchmens Ditch. The culverts crossing F Road are tied into the F Road storm drain system. A small portion of the runoff is retained on the site in depression storage areas.

The site and the major basin are zoned C (i.e. areas of minimal flooding) by the National Flood Insurance Rate Program. Although the Flood Insurance Rate Maps (FIRMS) do not necessarily identify all areas subject to flooding, no local features have been identified to suggest that the FIRM is incorrect.

B. Site

Drainage patterns for the site are similar to those described for the major basin. An abandoned irrigation ditch follows the East boundary of the site. The West edge of the site is bounded by 24 1/2 Road and an irrigation tailwater ditch. Drainage into the site on the North is controlled by irrigation ditches and culverts under F 1/4 Road as shown on the drainage map.

Six culverts ranging in size from 10" to 15" cross F 1/4 road on the North boundary of the site. The culverts transport irrigation water and stormwater runoff from the northern portion of the major basin to the site. The water then flows across the site in irrigation ditches.

Most of the irrigation and runoff water from the major basin is carried through the site and the property bounding the site on the south in ditches and discharges into the Independent Ranchmens Ditch on the south side of F Road. The remainder discharges into the stormdrain on 24 1/2 Road approximately 250 feet north of F Road. This stormdrain also discharges into the Independent Ranchmens Ditch. The Independent Ranchmens Ditch is piped under Mesa Mall and discharges into the Colorado River.

III. PROPOSED DRAINAGE CONDITIONS

A. Changes in Drainage Patterns

Runoff and irrigation water from the portion of the major basin north of F 1/4 Road currently flow across the site in open ditches. These flows will be piped across the site. The discharge points for these flows will be maintained in the same locations on the southern boundary of the site. Drainage patterns in the major basin north of the site will not be affected by the proposed development.

Runoff from the site will be routed into a series of detention ponds to prevent historic flows from being exceeded. The detention ponds will discharge at or below historic levels. The detention ponds will be located along the southern boundary of the site. The number and size of the detention ponds will be determined in the Final Drainage Report. Discharge from the detention ponds will continue to discharge into the Independent Ranchmens Ditch.

IV. DESIGN CRITERIA AND APPROACH

A. General Considerations

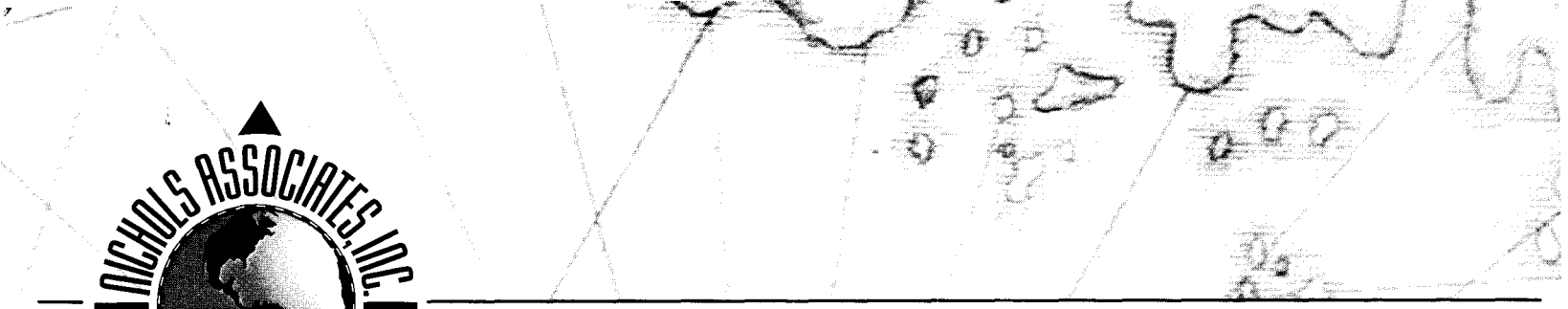
The site and major basin lie within an area that is currently mostly farmland. Stormwater runoff and Irrigation tailwater from the entire major basin currently discharge to the Independent Ranchmens Ditch on the south side of and adjacent to F Road. Many of the storm drains in F Road in this area utilize common culverts to transport street runoff to the Independent Ranchmens Ditch. No known drainage studies have been completed for the major basin. Of primary importance is the consideration of the existing irrigation systems since runoff is controlled by these features. Drainage facilities through and around the site will ensure that adequate capacity for irrigation is maintained. Several properties adjacent to the southern boundary of the site have water rights from the Pomona Lateral. The overall site plan will provide for continued delivery to these properties.

B. Hydrology

Design storm durations will conform with Table VI-2 of the City of Grand Junction Storm Water Management Manual (SWMM). Rainfall intensity information will also be obtained from the SWMM without adjustment for basin area. Runoff calculations will be performed using the SCS TR-55, SCS Unit Hydrograph Method as calculated by the HEC-1 modeling program, or the Haestad computer method. Detention basin design will be accomplished by computer aided manual calculation procedures as outlined in the SWMM or HEC-1 compatible models (HEC-2 or the EPA Storm Water Management Model). Input parameters for the modeling programs will be chosen in accordance with the procedures as outlined in the SWMM and as recommended in the modeling manuals.

C. Hydraulics

Hydraulic calculations and methods will follow those recommended in the SWMM. Mannings equation will be used for pipes and the Modified Mannings equation will be used to determine flows in gutters. The energy and momentum equations will be used to examine surcharge in curb boxes and manholes as well as flow velocities. Parameter selection will be in accordance with standard engineering practices for the materials chosen for inlet. conveyance, and outlets.



NICHOLS ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

P.O. BOX 60010
751 HORIZON CT
SUITE 102
GRAND JUNCTION
COLORADO 81506
TELEPHONE
970-245-7101
FACSIMILE
970-245-3251

Traffic Impact Study

Hacienda

Prepared for:

JBI Associates, Inc.
Grand Junction, CO

Prepared by:

Mike Foutz

May 1, 1996

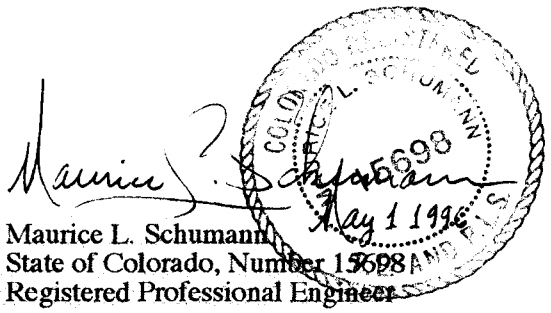
Certification Sheet

May 1, 1996

Development Staff
City of Grand Junction, Colorado

Ladies and Gentlemen:

I certify that this Traffic Impact Study for the Hacienda was prepared under my direct supervision.



Maurice L. Schumann
State of Colorado, Number 15698
Registered Professional Engineer

Traffic Impact Study
Hacienda

Table of Contents

TRAFFIC IMPACT STUDY

HACIENDA
Grand Junction, Colorado

Introduction

The Hacienda site is a 30-acre parcel located south of and adjacent to F 1/4 Road and east of and adjacent to 24 1/2 Road. The site is located approximately one quarter mile northeast of Mesa Mall. Development of the site will include apartments, townhomes, and a business area. The proposed business area of the site will be served by 24 1/2 Road. North-south access to the residential area will be provided by 24 1/2 and 25 Roads. East-west access will be provided by F 1/4 Road. F 1/4 Road currently can only be accessed from 25 Road on the East. Site development will include extending and upgrading to current city standards F 1/4 Road west to 24 1/2 Road.

This Traffic Study focuses primarily on the existing intersection of F Road (Patterson) and 24 1/2 Road. Peak hour and total daily traffic information will also be used to evaluate the proposed intersection of F 1/4 Road and 24 1/2 Road.

Existing and Proposed Site Uses

The site is zoned PB and PR17 but is currently being used for agricultural and pastureland purposes. Development will include construction of approximately 155 townhomes, 275 apartments, and a 42,000 square foot business/retail building.

Existing and Proposed Uses in the Vicinity of the Site

The land bordering the site on the South consists of parcels that extend to F Road. All of these parcels are zoned PB. Existing businesses on these parcels include a bank, furniture store, and a mattress factory. The parcels also contain several single family residences adjacent to F Road. Access to the businesses and residences is from F Road. The land immediately east of the site contains a parcel zoned RSF-R, and a parcel zoned PB. The RSF-R parcel contains a single trailer house and the PB parcel is vacant. The land north of the site is zoned RSF-R and is currently agricultural and residential. The land west of 24 1/2 Road is zoned HO and is currently being developed. Mesa Mall is located approximately one quarter of a mile southwest of the site. The City's Community Development Department staff suggested that much of the vacant land in this area will be utilized for low or medium density multifamily housing in the future.

Existing and Proposed Roadways and Intersections

This study will focus on the intersection of 24 1/2 Road and F Road because it will experience the greatest impact from the development. The intersection of 25 Road and F Road will be impacted by an estimated 30% of the generated residential area traffic however it will experience a negligible amount of traffic generated from the proposed business area. Because of the limited impact on this intersection it will not be analyzed in this report. The proposed intersection of 24 1/2 Road and F 1/4 Road will also be studied in this report.

Existing and Proposed Roadway classifications

Existing and proposed roadway classifications and total daily traffic counts are listed in the table below. The existing traffic counts were obtained from the City of Grand Junction Traffic Department. All counts were adjusted to the present using an annual growth rate of 2%. No counts were available for F 1/4 Road because traffic is very minimal. The existing volume of traffic on F 1/4 Road is conservatively estimated to be 100 vehicles per day. The Total Daily traffic counts are illustrated on Drawing 8.

Roadway Classification Table

Roadway	Existing Total Daily Traffic	Current Classification	Proposed Total Daily Traffic	Proposed Classifications
F Road	13,152	Major Arterial	14,242	Major Arterial
24 1/2 Road	927	Collector	3546	Collector
F 1/4 Road	100	Urban Residential Collector	2735	Urban Residential Collector

Peak Volume Measurement and Analysis Procedures

The actual am and pm peak volumes were counted on April 4, 1996. (See Appendix A.) These volumes were seasonally adjusted with a factor of 1.02. Peak Flows were calculated using the procedure described in the Highway Capacity Manual. Peak hour factors were taken as the peak hour factor of the controlling street which was F Road in this case. The results are summarized in Appendix A. Total peak hour traffic is shown on Drawing 5.

Pedestrian Traffic

No pedestrians were observed at the intersection during the time that the traffic count was made. Site generated pedestrian traffic was not estimated in this study.

Trip Generation and Design Hour Volumes

Trip generation data were obtained from the Institute of Traffic Engineers Trip Generation Manual. Passerby traffic factors were not used in calculation of peak hour traffic movements however they were used for calculation of total daily traffic. Passerby factors were applied only to the trips generated by the proposed business section of the development. The factors used are as shown on the Trip Generation Table in Appendix A. Calculation procedures and results are listed in Appendix B.

Trip Assignment and Trip Distribution

Site generated traffic was distributed generally in accordance with the proportions for current total daily traffic distribution at the intersection of F Road and 24 1/2 Road. It was estimated that 60% of the townhome and apartment generated traffic would use 24 1/2 Road and the remainder would use 25 Road. Trip Assignment and Distribution figures are provided on Drawings 3 and 4.

Intersection Analysis

The intersection of 24 1/2 Road and F Road is a 4-way, signalized, computerized intersection. The intersection is currently coordinated from 4 to 6 pm and runs free at all other times. The current phasing and timing of the intersection was obtained from the City Traffic Department and is included in Appendix C. Intersection geometry and lane widths are shown on drawing 2. The intersection was analyzed for am and pm peak traffic flows for current, proposed, and 20-year projected conditions. The analysis was performed in accordance with the procedures listed in the Highway Capacity Manual. The results are summarized in the LOS Analysis Table below. The calculation sheets for each of the conditions are in Appendix B.

LOS ANALYSIS TABLE

Condition	Time	LOS	Avg. Vehicle Delay (sec)	V/C Ratio
Current	am	C	20.3	0.26
Current	pm	C	21.6	0.46
Proposed	am	C	20.6	0.34
Proposed	pm	C	22.4	0.55
20-year	am	C	21.8	0.51
20-year	pm	E	44.4	0.82

The results indicate the intersection will remain at level of service C for am and pm peak flow conditions after Hacienda has been developed. Degradation of service is only indicated for 20-year pm peak flow conditions. Currently, level of service is at C, 21.6 seconds delay in a range of 15 to 25. The 20-year analysis results indicate the level of service will drop to E, 44.4 seconds delay in the range of 40 to 60. Consequently, additional development in the area may require some mitigation in terms of lane additions or signal timing so that levels of service do not become undesirable.

Proposed Intersection

F 1/4 Road will be extended to the west to form an intersection with 24 1/2 Road. A standard T intersection with a one way stop on F 1/4 Road will be sufficient to accommodate the projected traffic flows. The proposed traffic flows do not meet or exceed any of the warrants listed in section 4C of the Manual on Uniform Traffic Control Devices (MUTCD).

Traffic Accidents

Four accidents involving eastbound vehicles on F Road being struck by westbound vehicles on F Road turning south on 24 1/2 Road have occurred at the intersection in the last two years. The remainder of the accidents do not appear to follow a distinct pattern.

Recommendations and Conclusions

Although the Hacienda development will increase traffic volumes on 24 1/2 Road North of Patterson the current level of service rating of C at the intersection of 24 1/2 Road and F Road will not change. The current "no-timing"configuration for the intersection is be satisfactory to meet developed traffic conditions. Average intersection delays during peak hours will increase by one or two seconds. The highest traffic volumes occur during the evening peak hour. During this time, the volume-capacity ratio for the intersection will increase from a current level of 0.46 to a post development level of 0.55. Post development level of service "C" for the intersection of F and 24 1/2 Roads is acceptable, and consequently no changes are recommended.

The projected traffic volume at the proposed intersection of 24 1/2 Road and F 1/4 Road will be adequately handled by a "T" intersection with a one way stop on F 1/4 Road. Turn lanes will not be needed.

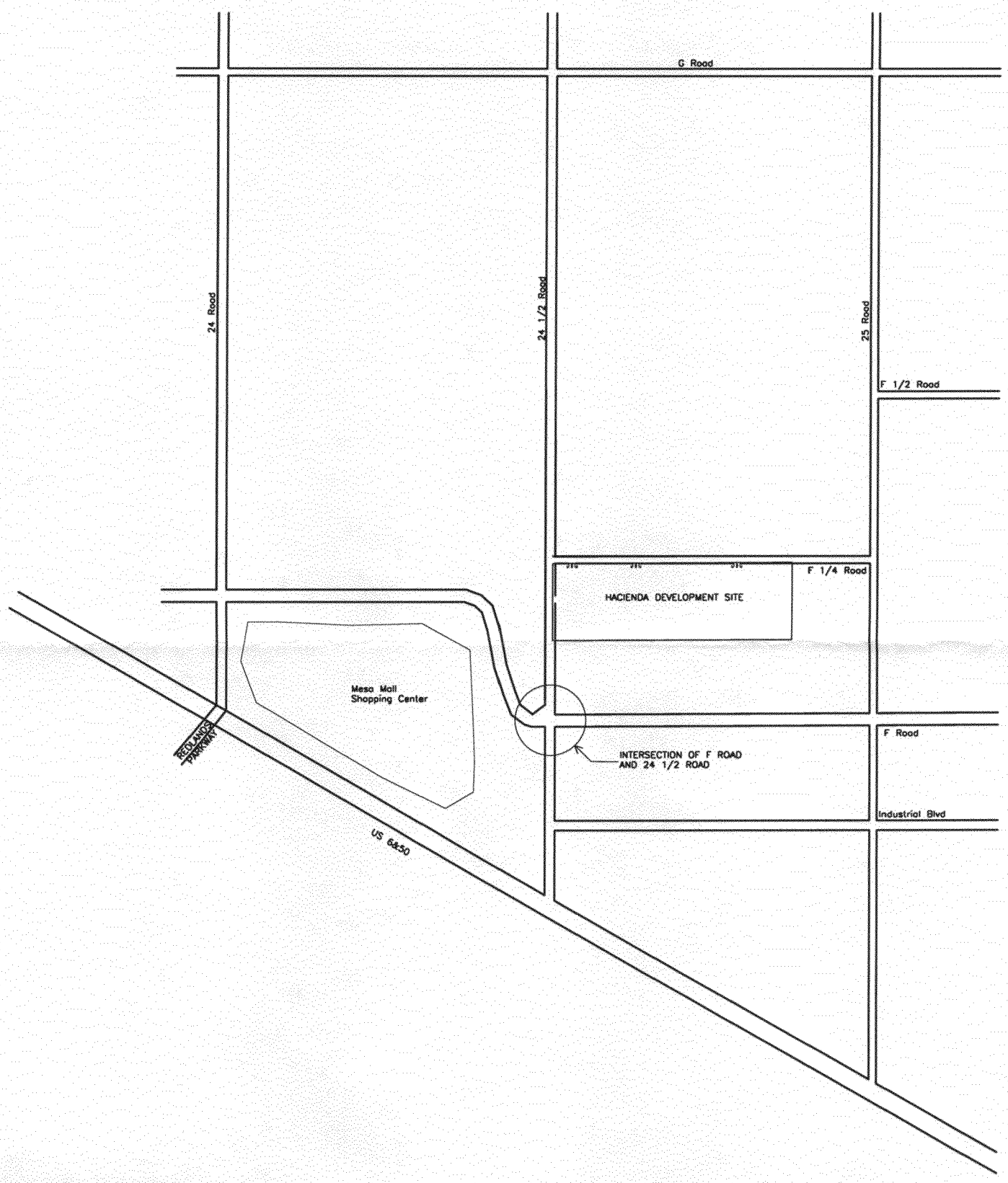
The portion of F 1/4 Road to be constructed as part of this development should be built to current city Urban Residential Collector standards.

Drawings

HACIENDA

GENERAL VICINITY MAP

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

Drawing Number 1

SHEET NUMBER	PROJECT NUMBER	SCALE	DATE DRAWN
OF	3260 NTS	NTS	April 15, 1996

HACIENDA

NICHOLS ASSOCIATES, INC.

CIVIL ENGINEERING ◦ PHOTOGRAMMETRY ◦ SURVEYING
751 Horizon Court ◦ Grand Junction, Colorado 81506 ◦ Phone: 970-245-7101

REVISIONS

NO.	DATE	REMARKS	BY

DESIGNED BY

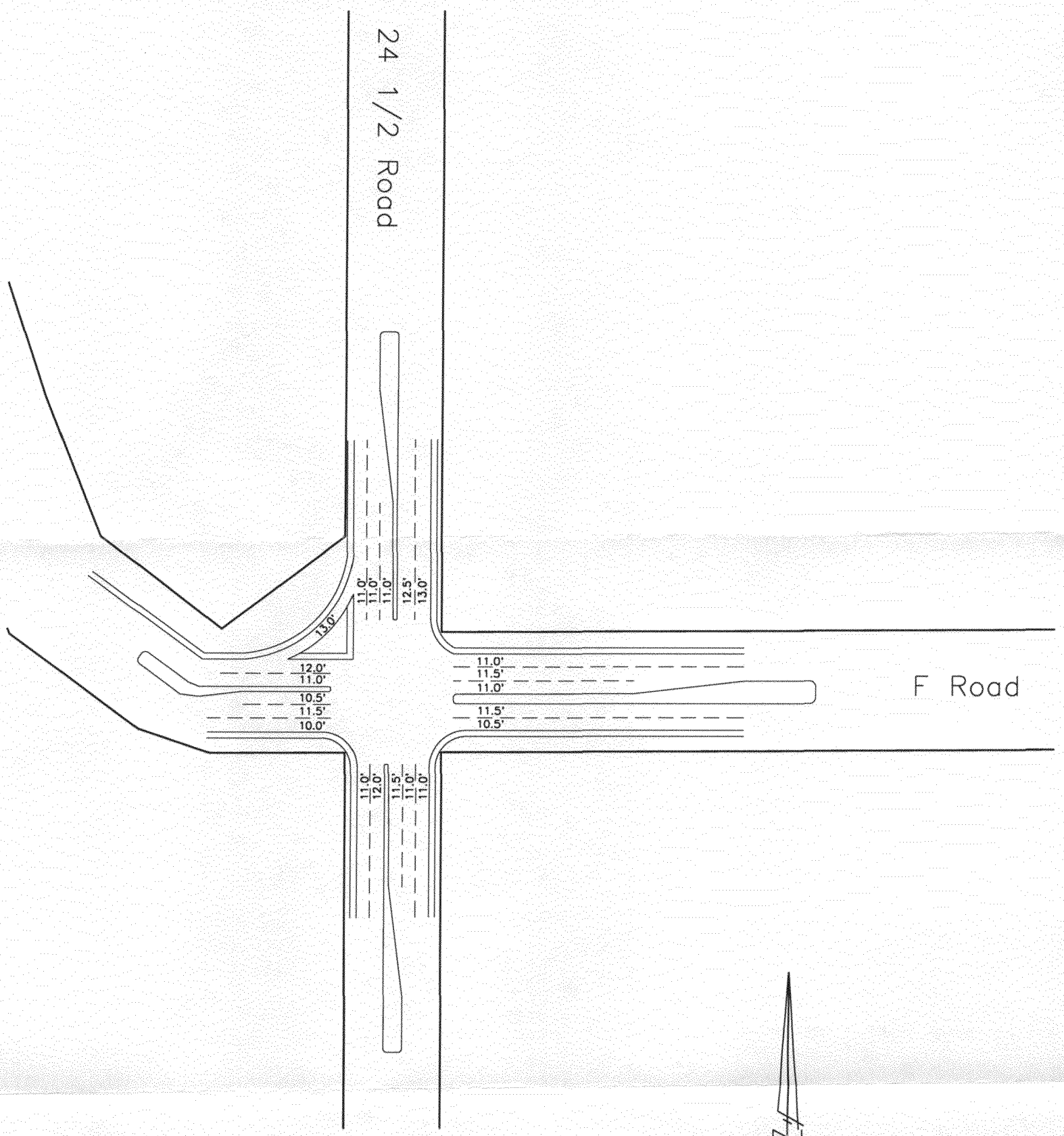
DRAWN BY MF

SURVEY DATE

HACIENDA

24 1/2 ROAD AND F ROAD INTERSECTION

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

NOTES:

1. Intersection is Four Way Signalized Intersection.
2. Intersection is Coordinated From 4–6 pm and runs Free During All Other Hours.
3. Intersection and ROW Dimensions as Drawn are Approximate Only.

Drawing Number 2

SHEET NUMBER ____ OF ____

PROJECT NUMBER 3260

SCALE NTS

DATE DRAWN April 15, 1996

HACIENDA

NICHOLS ASSOCIATES, INC.

CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

REVISIONS

NO.	DATE	REMARKS	BY

DESIGNED BY

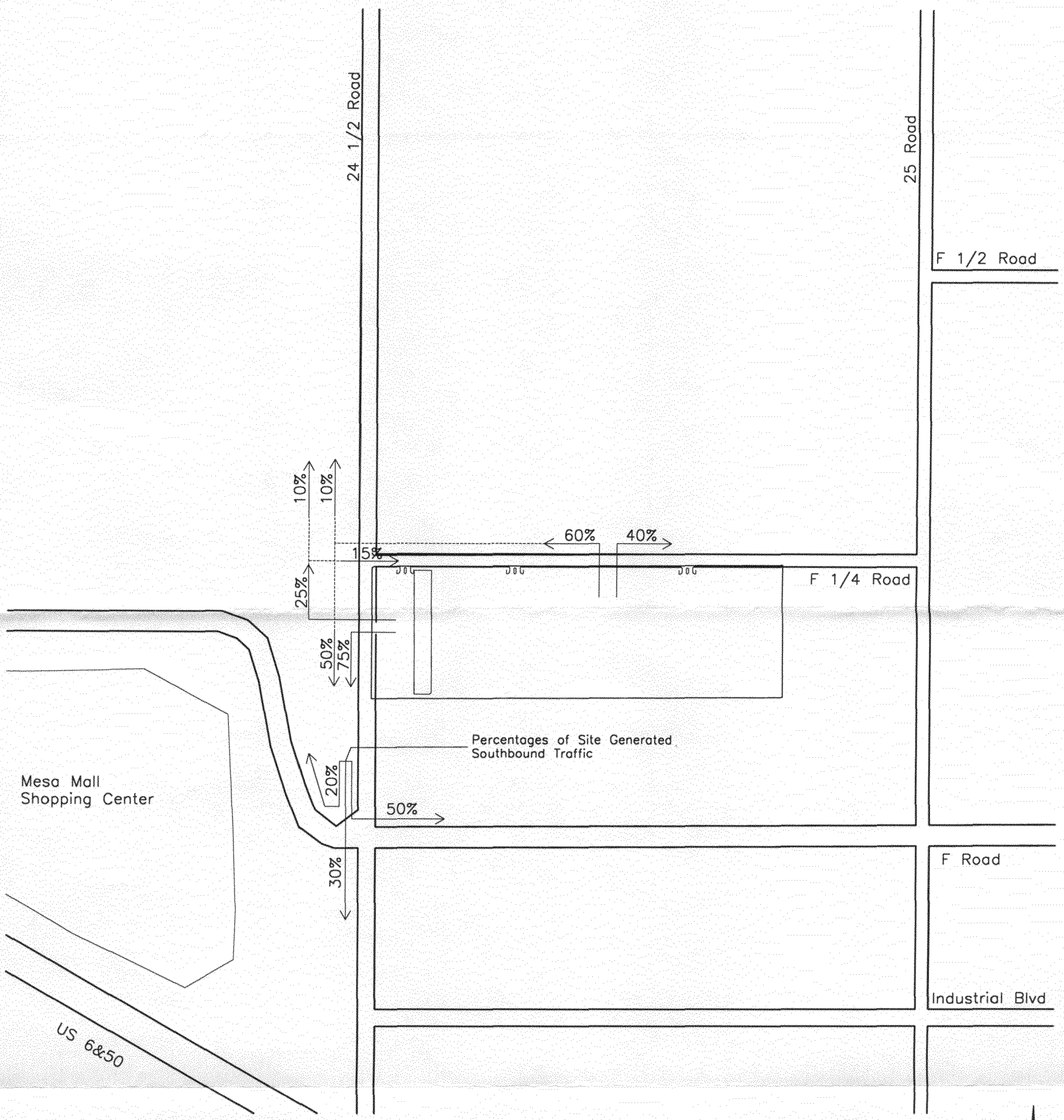
DRAWN BY MF

SURVEY DATE

HACIENDA

TRIP DISTRIBUTION

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

Drawing Number 3

SHEET NUMBER ___ OF ___

PROJECT NUMBER 3260

SCALE NTS

DATE DRAWN April 15, 1996

HACIENDA

NICHOLS ASSOCIATES, INC.
CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

REVISIONS

NO.	DATE	REMARKS	BY

DESIGNED BY

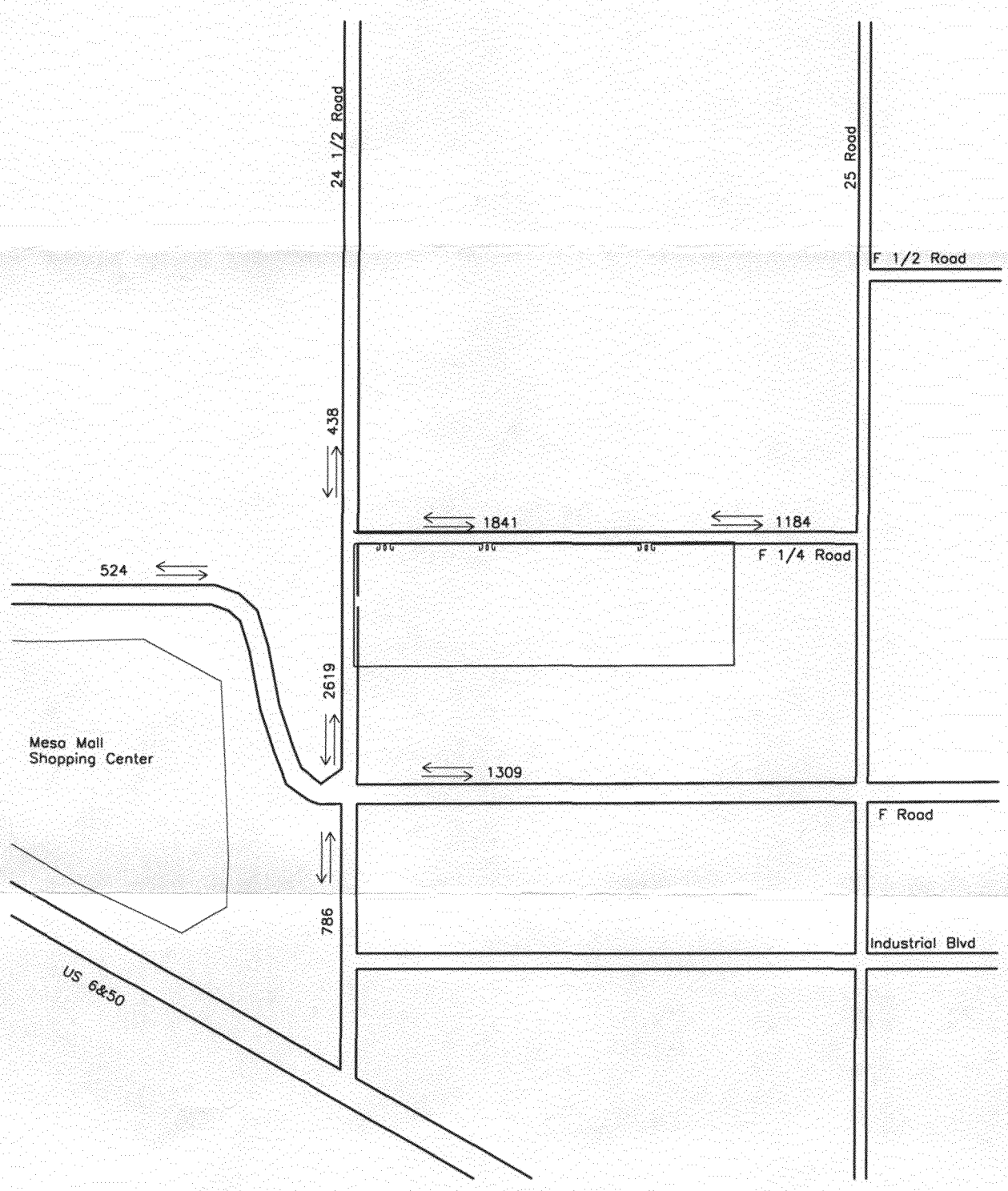
DRAWN BY MF

SURVEY DATE

HACIENDA

DAILY SITE TRAFFIC TRIP ASSIGNMENT

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

Drawing Number 4

SHEET NUMBER	PROJECT NUMBER	SCALE	DATE DRAWN
OF	3260	NTS	April 15, 1996

HACIENDA

NICHOLS ASSOCIATES, INC.

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REVISIONS

NO.	DATE	REMARKS	BY
1	4-30-96	Revised Volumes	MF

DESIGNED BY

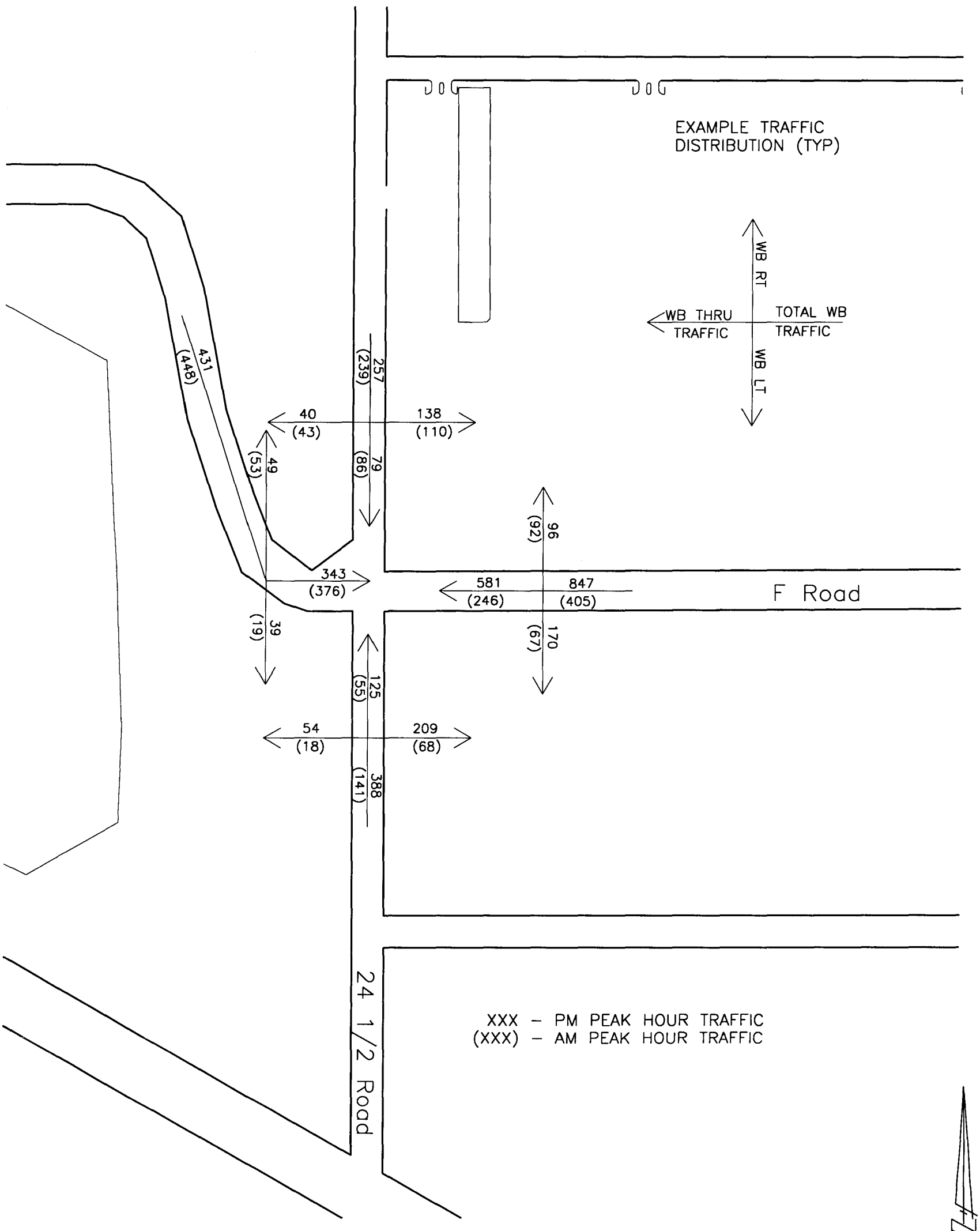
DRAWN BY MF

SURVEY DATE

HACIENDA

PEAK HOUR TOTAL TRAFFIC

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



Drawing Number 5

SHEET NUMBER	PROJECT NUMBER	SCALE	DATE DRAWN
OF	3260	NTS	April 15, 1996

HACIENDA

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REVISIONS			
NO.	DATE	REMARKS	BY
1	4-30-96	Revised Volumes	MF

DESIGNED BY

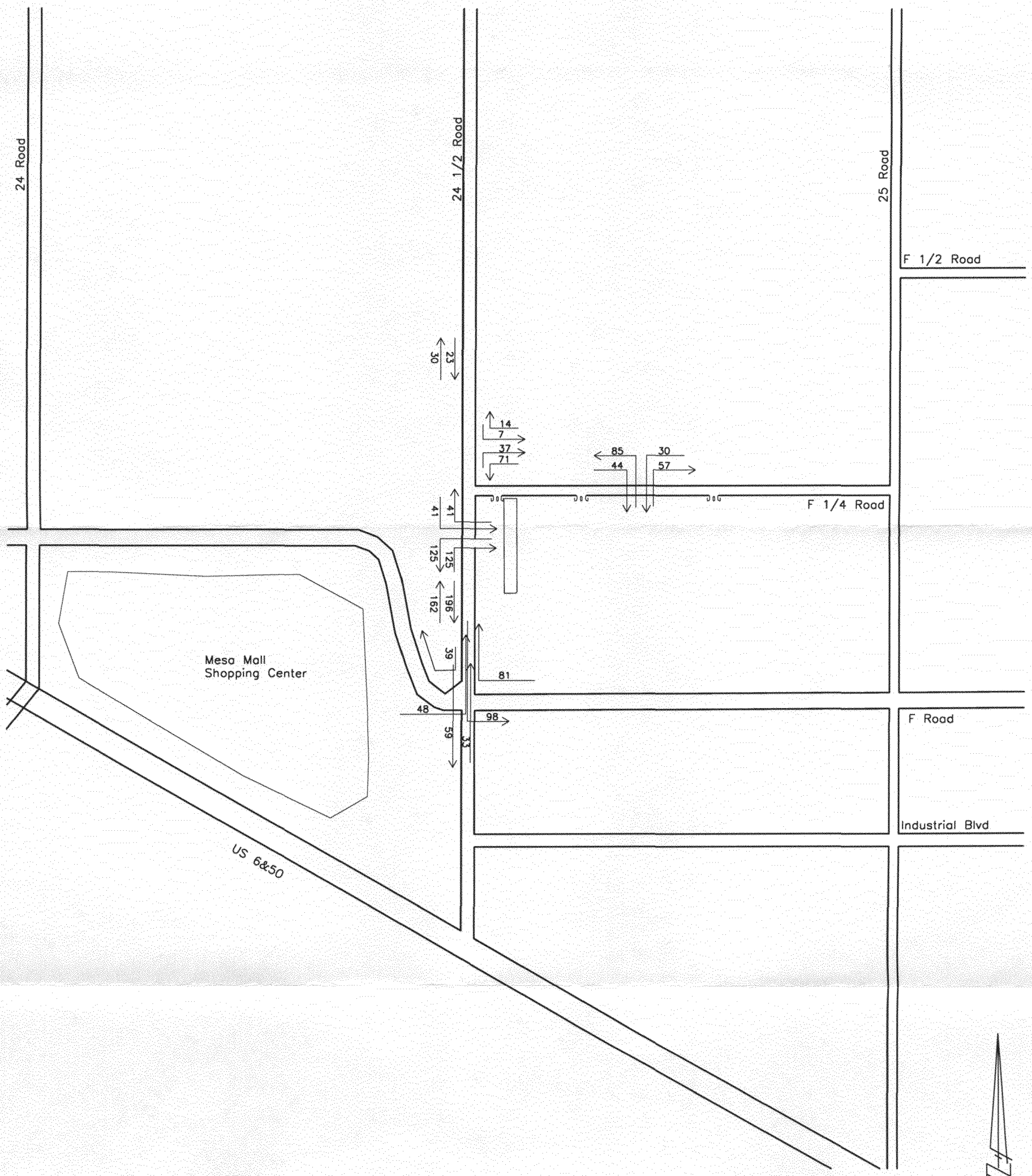
DRAWN BY MF

SURVEY DATE

HACIENDA

A.M. PEAK HOUR SITE TRAFFIC

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

Drawing Number 6

SHEET NUMBER ____ OF ____

PROJECT NUMBER 3260

SCALE NTS

DATE DRAWN April 15, 1996

HACIENDA

NICHOLS ASSOCIATES, INC.

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REVISIONS

NO.	DATE	REMARKS	BY
1	4-30-96	Added Volumes	MF
1	4-30-96	Revised Volumes	MF

DESIGNED BY

DRAWN BY MF

SURVEY DATE

HACIENDA

P.M. PEAK HOUR SITE TRAFFIC

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado

NOT TO SCALE

Drawing Number 7

SHEET NUMBER ___ OF ___

PROJECT NUMBER 3260

SCALE NTS

DATE DRAWN April 15, 1996

HACIENDA

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REVISIONS

NO.	DATE	REMARKS	BY
1	4-30-96	Added Volumes	MF
1	4-30-96	Revised Volumes	MF

DESIGNED BY

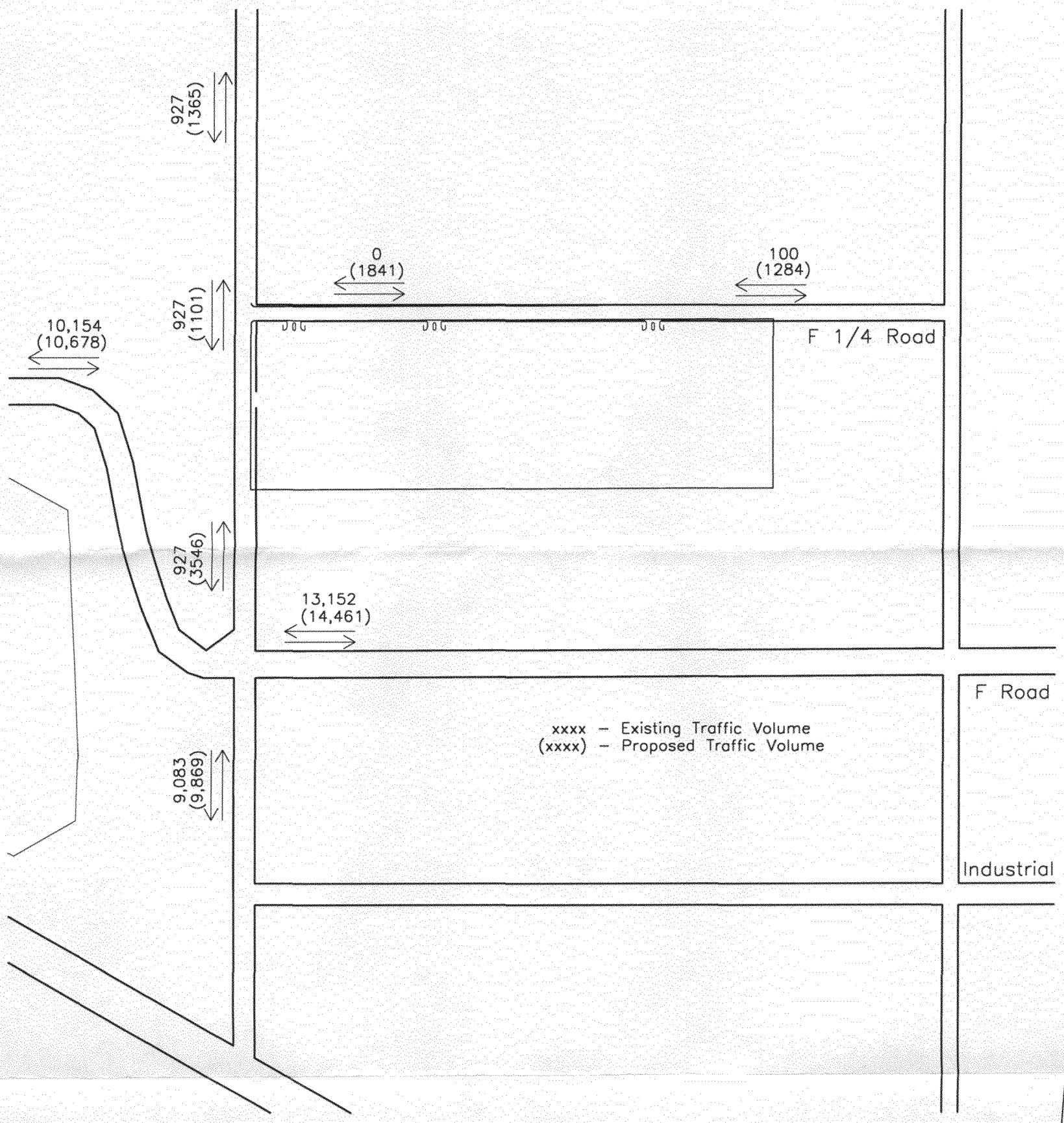
DRAWN BY MF

SURVEY DATE

HACIENDA

CURRENT AND PROPOSED DAILY TRAFFIC VOLUMES

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

Drawing Number 8

SHEET NUMBER ___ OF ___

PROJECT NUMBER 3260 NTS

SCALE NTS

DATE DRAWN April 15, 1996

HACIENDA

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REVISIONS

NO.	DATE	REMARKS	BY
1	4-30-96	Revised Volumes	MF

DESIGNED BY

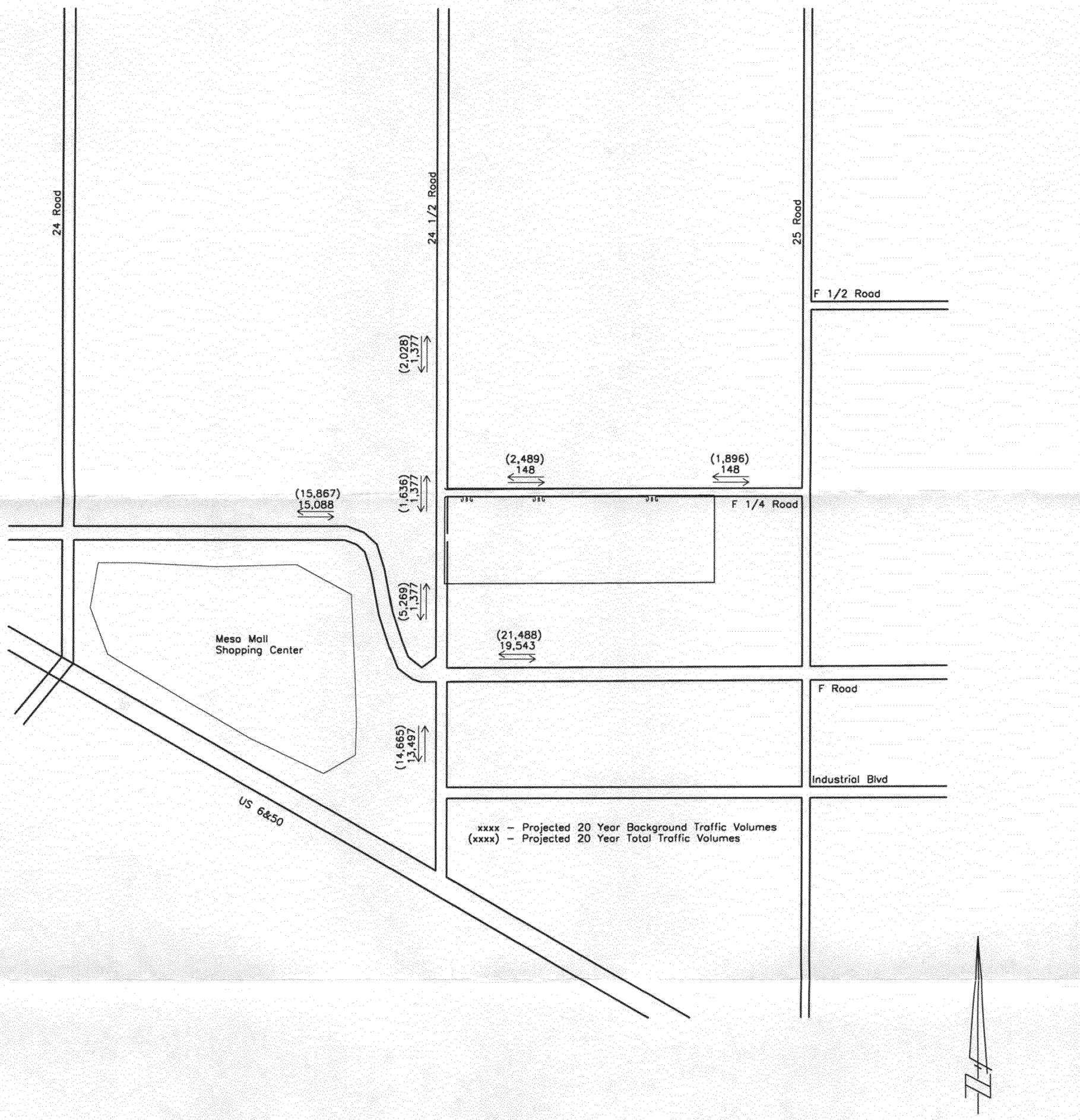
DRAWN BY MF

SURVEY DATE

HACIENDA

PROJECTED 20 YEAR DAILY TRAFFIC VOLUMES

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado



NOT TO SCALE

Drawing Number 9

SHEET NUMBER ____ OF ____

PROJECT NUMBER 3260 NTS

SCALE NTS

DATE DRAWN April 15, 1996

HACIENDA

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REVISIONS

NO.	DATE	REMARKS	BY
1	4-30-96	Revised Volumes	MF

DESIGNED BY

DRAWN BY MF

SURVEY DATE

Appendices

A. Trip Generation
Traffic Count

B. Intersection Capacity Analysis
- B1 Existing P.M. Peak Hour
- B2 Existing A.M. Peak Hour
- B3 Proposed P.M. Peak Hour
- B4 Proposed A.M. Peak Hour
- B5 Projected 20 year P.M. Peak Hour
- B6 Projected 20 year A.M. Peak Hour

C. Intersection Phasing/Timing
Seasonal Adjustment Factors

Appendix A
Trip Generation
Traffic Count

Nichols Associates
Mike Foutz
May 1, 1996

HACIENDA DEVELOPMENT
Trip Generation Tables

General Land Use

Apartments:	275 ea
Townhomes:	155 ea
Retail Space:	47287 sf

Average Weekday Vehicle Trips

Description	Quantity	Units	Land Use Code	Trip Generation Rate	Pass By Volume	Average Vehicle Trips	Avg Adj. for Pass By Vol.	% Enter	Vehicles Entering	% Exit	Vehicles Exiting	Reference Page	Notes
Apartments	275	ea	220	6.28	0%	1727	1727	50%	864	50%	864	320	
Townhomes	155	ea	230	5.86	0%	908	908	50%	454	50%	454	382	
Conv.Store	2.5	1000 sf	853	35	40%	560	336	50%	280	50%	280		rate is an estimate
Spec. Ret. Ctr	43	1000 sf	814	41	20%	1749	1399	50%	874	50%	874	1127	
						4944	**4370**		**2472**		**2472**		

Weekday Peak A.M. Vehicle Trips

Description	Quantity	Units	Land Use Code	Trip Generation Rate	Peak A.M. Vehicle Trips	% Enter	Vehicles Entering	% Exit	Vehicles Exiting	Reference Page	Notes
Apartments	275	ea	220	0.54	149	42%	62	58%	86	323	
Townhomes	155	ea	230	0.44	68	18%	12	82%	56	385	
Conv.Store	3.5	1000 sf	852	fittedcurv	55	50%	28	50%	28	1409	Peak Hour of Adjacent Traffic
Spec. Ret. Ctr	43	1000 sf	814	6.41	276	50%	138	50%	138	1128	
					547		**240**		**307**		

Weekday Peak P.M. Vehicle Trips

Description	Quantity	Units	Land Use Code	Trip Generation Rate	Peak P.M. Vehicle Trips	% Enter	Vehicles Entering	% Exit	Vehicles Exiting	Reference Page	Notes
Apartments	275	ea	220	0.63	173	53%	92	47%	81	324	
Townhomes	155	ea	230	0.54	84	65%	54	35%	29	386	
Conv.Store	3.5	1000 sf	852	estimate	55	50%	28	50%	28	1412	Peak Hour of Adjacent Traffic
Spec. Ret. Ctr	43	1000 sf	814	4.93	212	50%	106	50%	106	1129	
					524		**280**		**244**		

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: am

	F Road						
	WEST			EAST			
	Straight West	Right Turn North	Left Turn South	Straight East	Right Turn South	Left Turn North	Totals
7:00 - 7:05	9	0	3	13	0	0	25
7:05 - 7:10	21	1	3	16	0	0	41
7:10 - 7:15	8	0	3	12	0	0	23
7:15 - 7:20	11	0	1	24	1	1	38
7:20 - 7:25	16	1	1	22	6	0	46
7:25 - 7:30	18	0	0	20	4	0	42
7:30 - 7:35	23	0	2	32	2	0	59
7:35 - 7:40	20	2	2	30	0	0	54
7:40 - 7:45	25	1	2	30	1	0	59
7:45 - 7:50	35	2	3	49	0	0	89
7:50 - 7:55	12	3	4	37	1	0	57
7:55 - 8:00	21	1	9	29	1	0	61
8:00 - 8:05	22	0	8	25	1	0	56
8:05 - 8:10	26	0	4	22	1	1	54
8:10 - 8:15	13	0	11	22	0	1	47
8:15 - 8:20	15	0	5	44	2	0	66
8:20 - 8:25	12	1	3	24	1	1	42
8:25 - 8:30	16	0	5	31	2	0	54
8:30 - 8:35	18	1	3	33	2	0	57
8:35 - 8:40	19	1	7	22	1	2	52
8:40 - 8:45	22	0	3	31	2	0	58
8:45 - 8:50	16	0	5	43	1	0	65
8:50 - 8:55	27	0	6	26	1	0	60
8:55 - 0:00	10	0	6	27	4	0	47

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: am

	24.5 Road						
	NORTH			SOUTH			
	Straight North	Right Turn	Left Turn	Straight South	Right Turn	Left Turn	Totals
7:00 - 7:05	0	1	0	1	2	1	5
7:05 - 7:10	1	3	2	1	0	0	7
7:10 - 7:15	0	3	0	2	0	1	6
7:15 - 7:20	2	3	0	4	1	5	15
7:20 - 7:25	0	0	0	0	0	1	1
7:25 - 7:30	1	3	1	2	0	2	9
7:30 - 7:35	0	2	0	0	1	1	4
7:35 - 7:40	2	3	0	1	0	0	6
7:40 - 7:45	2	7	1	1	0	0	11
7:45 - 7:50	5	8	3	5	0	0	21
7:50 - 7:55	2	5	3	2	0	0	12
7:55 - 8:00	1	10	1	3	0	0	15
8:00 - 8:05	3	7	0	0	0	2	12
8:05 - 8:10	1	6	0	2	0	0	9
8:10 - 8:15	1	0	1	1	0	0	3
8:15 - 8:20	1	5	0	0	1	1	8
8:20 - 8:25	0	4	0	4	0	0	8
8:25 - 8:30	1	8	2	2	0	0	13
8:30 - 8:35	3	5	2	4	0	1	15
8:35 - 8:40	1	2	2	0	0	2	7
8:40 - 8:45	0	4	2	4	0	0	10
8:45 - 8:50	3	8	3	4	0	0	18
8:50 - 8:55	2	6	5	0	0	1	14
8:55 - 0:00	3	8	2	1	1	2	17

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: pm

	F Road						
	WEST			EAST			
	Straight West	Right Turn	Left Turn	Straight East	Right Turn	Left Turn	Totals
4:05 - 4:10	69	2	38	35	3	1	148
4:10 - 4:15	47	2	6	26	4	3	88
4:15 - 4:20	41	1	6	31	5	2	86
4:20 - 4:25	71	1	12	41	1	2	128
4:25 - 4:30	69	1	5	30	4	0	109
4:30 - 4:35	42	2	5	14	5	0	68
4:35 - 4:40	46	0	12	33	5	0	96
4:40 - 4:45	44	0	24	25	2	1	96
4:45 - 4:50	43	0	11	33	3	3	93
4:50 - 4:55	37	0	23	17	4	0	81
4:55 - 5:00	40	0	11	24	1	0	76
5:00 - 5:05	32	0	17	34	2	2	87
5:05 - 5:10	35	0	17	21	3	0	76
5:10 - 5:15	45	0	8	28	0	1	82
5:15 - 5:20	32	1	14	28	3	1	79
5:20 - 5:25	26	0	21	30	2	0	79
5:25 - 5:30	34	0	15	22	0	0	71
5:30 - 5:35	37	0	6	22	4	1	70
5:35 - 5:40	42	0	11	31	1	1	86
5:40 - 5:45	30	0	17	28	1	3	79
5:45 - 5:50	27	0	13	17	0	1	58
5:50 - 5:55	31	0	15	27	2	0	75
5:55 - 6:00	37	0	10	22	2	0	71
6:00 - 6:05	29	0	7	19	0	1	56

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: pm

	24.5 Road						
	NORTH			SOUTH			
	Straight North	Right Turn	Left Turn	Straight South	Right Turn	Left Turn	Totals
4:05 - 4:10	8	14	9	1	1	3	36
4:10 - 4:15	1	15	2	4	2	4	28
4:15 - 4:20	12	22	11	3	3	3	54
4:20 - 4:25	7	11	2	4	1	5	30
4:25 - 4:30	1	10	1	4	1	3	20
4:30 - 4:35	9	43	6	5	1	7	71
4:35 - 4:40	3	29	2	2	0	9	45
4:40 - 4:45	6	5	4	1	0	4	20
4:45 - 4:50	2	7	3	0	0	2	14
4:50 - 4:55	5	6	5	0	0	7	23
4:55 - 5:00	11	25	8	2	0	11	57
5:00 - 5:05	8	2	1	5	0	2	18
5:05 - 5:10	8	14	1	3	0	2	28
5:10 - 5:15	2	30	2	4	0	3	41
5:15 - 5:20	6	26	1	1	0	3	37
5:20 - 5:25	3	10	3	1	1	1	19
5:25 - 5:30	3	12	5	2	0	3	25
5:30 - 5:35	4	10	4	3	0	2	23
5:35 - 5:40	4	13	1	2	0	2	22
5:40 - 5:45	6	20	3	3	0	3	35
5:45 - 5:50	10	19	0	3	0	2	34
5:50 - 5:55	3	13	3	4	0	3	26
5:55 - 6:00	4	19	6	3	0	3	35
6:00 - 6:05	1	16	2	0	0	4	23

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: am

	F Road											F Road Hourly Summations					
	WEST			EAST													
	Straight West	Right Turn North	Left Turn South	Straight East	Right Turn South	Left Turn North	Totals	15 Minute Totals	One Hour Sum Limits	One Hour Totals	Peak Hour Factor	WEST			EAST		
													Right Turn	Left Turn		Right Turn	Left Turn
7:00 - 7:05	9	0	3	13	0	0	25	89	Hour Li	594	0.72	Straight West	North	South	Straight East	South	North
7:05 - 7:10	21	1	3	16	0	0	41	102		625	0.75	219	11	33	314	16	1
7:10 - 7:15	8	0	3	12	0	0	23	89		638	0.77	232	11	38	326	17	1
7:15 - 7:20	11	0	1	24	1	1	38	102		662	0.80	237	10	39	332	18	2
7:20 - 7:25	16	1	1	22	6	0	46	107		690	0.83	242	10	47	342	18	3
7:25 - 7:30	18	0	0	20	4	0	42	126		686	0.83	246	10	51	362	19	2
7:30 - 7:35	23	0	2	32	2	0	59	147		698	0.84	242	10	53	364	14	3
7:35 - 7:40	20	2	2	30	0	0	54	155		696	0.84	240	10	58	375	12	3
7:40 - 7:45	25	1	2	30	1	0	59	172		694	0.84	235	11	59	376	12	3
7:45 - 7:50	35	2	3	49	0	0	89	202		693	0.84	234	10	64	368	13	5
7:50 - 7:55	12	3	4	37	1	0	57	205		669	0.81	231	9	65	369	14	5
7:55 - 8:00	21	1	9	29	1	0	61	207	Max Flo	672	0.81	212	7	67	363	15	5
8:00 - 8:05	22	0	8	25	1	0	56	174									
8:05 - 8:10	26	0	4	22	1	1	54	171									
8:10 - 8:15	13	0	11	22	0	1	47	157									
8:15 - 8:20	15	0	5	44	2	0	66	167									
8:20 - 8:25	12	1	3	24	1	1	42	155									
8:25 - 8:30	16	0	5	31	2	0	54	162									
8:30 - 8:35	18	1	3	33	2	0	57	153									
8:35 - 8:40	19	1	7	22	1	2	52	163									
8:40 - 8:45	22	0	3	31	2	0	58	167									
8:45 - 8:50	16	0	5	43	1	0	65	175									
8:50 - 8:55	27	0	6	26	1	0	60	183	Hour Lim								
8:55 - 0:00	10	0	6	27	4	0	47	172									

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: am

	24.5 Road										
	NORTH			SOUTH							
	Straight North	Right Turn	Left Turn	Straight South	Right Turn	Left Turn	Totals	15 Minute	One Hour	One Hour	Peak Hour
7:00 - 7:05	0	1	0	1	2	1	5	18	Hour Li	112	0.58
7:05 - 7:10	1	3	2	1	0	0	7	28		119	0.62
7:10 - 7:15	0	3	0	2	0	1	6	18		121	0.63
7:15 - 7:20	2	3	0	4	1	5	15	28		118	0.61
7:20 - 7:25	0	0	0	0	0	1	1	22		111	0.58
7:25 - 7:30	1	3	1	2	0	2	9	25		118	0.61
7:30 - 7:35	0	2	0	0	1	1	4	14		122	0.64
7:35 - 7:40	2	3	0	1	0	0	6	19		133	0.69
7:40 - 7:45	2	7	1	1	0	0	11	21		134	0.70
7:45 - 7:50	5	8	3	5	0	0	21	38		133	0.69
7:50 - 7:55	2	5	3	2	0	0	12	44		130	0.68
7:55 - 8:00	1	10	1	3	0	0	15	48	Max Flo	132	0.69
8:00 - 8:05	3	7	0	0	0	2	12	39			
8:05 - 8:10	1	6	0	2	0	0	9	36			
8:10 - 8:15	1	0	1	1	0	0	3	24			
8:15 - 8:20	1	5	0	0	1	1	8	20			
8:20 - 8:25	0	4	0	4	0	0	8	19			
8:25 - 8:30	1	8	2	2	0	0	13	29			
8:30 - 8:35	3	5	2	4	0	1	15	36			
8:35 - 8:40	1	2	2	0	0	2	7	35			
8:40 - 8:45	0	4	2	4	0	0	10	32			
8:45 - 8:50	3	8	3	4	0	0	18	35			
8:50 - 8:55	2	6	5	0	0	1	14	42	Hour Lim		
8:55 - 0:00	3	8	2	1	1	2	17	49			

24.5 Road Hourly Counts					
NORTH			SOUTH		
Straight North	Right Turn East	Left Turn West	Straight South	Right Turn West	Left Turn East
16	48	11	22	4	11
19	54	11	21	2	12
19	57	9	22	2	12
20	54	10	21	2	11
19	56	10	17	2	7
19	60	10	21	2	6
19	65	11	21	2	4
22	68	13	25	1	4
21	67	15	24	1	6
19	64	16	27	1	6
17	64	16	26	1	6
17	65	18	24	1	7

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: pm

	F Road											F Road Hourly Counts					
	WEST			EAST								WEST			EAST		
	Straight West	Right Turn	Left Turn	Straight East	Right Turn	Left Turn	Totals	15 Minute	One Hour	One Hour	Peak Hour	Straight West	Right Turn North	Left Turn South	Straight East	Right Turn South	Left Turn North
4:05 - 4:10	69	2	38	35	3	1	148	322	Hour Li	1156	0.89	581	9	170	343	39	14
4:10 - 4:15	47	2	6	26	4	3	88	322		1084	0.84	547	7	149	329	39	13
4:15 - 4:20	41	1	6	31	5	2	86	323	Max Flo	1078	0.83	545	5	151	331	35	11
4:20 - 4:25	71	1	12	41	1	2	128	302									
4:25 - 4:30	69	1	5	30	4	0	109	323									
4:30 - 4:35	42	2	5	14	5	0	68	305									
4:35 - 4:40	46	0	12	33	5	0	96	273									
4:40 - 4:45	44	0	24	25	2	1	96	260									
4:45 - 4:50	43	0	11	33	3	3	93	285									
4:50 - 4:55	37	0	23	17	4	0	81	270									
4:55 - 5:00	40	0	11	24	1	0	76	250									
5:00 - 5:05	32	0	17	34	2	2	87	244									
5:05 - 5:10	35	0	17	21	3	0	76	239									
5:10 - 5:15	45	0	8	28	0	1	82	245	Hour Lim								
5:15 - 5:20	32	1	14	28	3	1	79	237									
5:20 - 5:25	26	0	21	30	2	0	79	240									
5:25 - 5:30	34	0	15	22	0	0	71	229									
5:30 - 5:35	37	0	6	22	4	1	70	220									
5:35 - 5:40	42	0	11	31	1	1	86	227									
5:40 - 5:45	30	0	17	28	1	3	79	235									
5:45 - 5:50	27	0	13	17	0	1	58	223									
5:50 - 5:55	31	0	15	27	2	0	75	212									
5:55 - 6:00	37	0	10	22	2	0	71	204									
6:00 - 6:05	29	0	7	19	0	1	56	202									

Nichols Associates, Inc.
Mike Foutz
April 8, 1996

HACIENDA
Proj: 3260

Traffic Counts - Summary Tabulation

Count Date: Apr 4 1996
Observer: Bill Ihrig
am/pm: pm

	24.5 Road											24.5 Road					
	NORTH			SOUTH								NORTH			SOUTH		
	Straight North	Right Turn	Left Turn	Straight South	Right Turn	Left Turn	Totals	15 Minute	One Hour	One Hour	Peak Hour	Straight North	Right Turn East	Left Turn West	Straight South	Right Turn West	Left Turn East
4:05 - 4:10	8	14	9	1	1	3	36	118	Hour Li	416	0.76	73	189	54	31	9	60
4:10 - 4:15	1	15	2	4	2	4	28	118		408	0.75	73	189	46	33	8	59
4:15 - 4:20	12	22	11	3	3	3	54	118		421	0.77	74	204	46	33	6	58
4:20 - 4:25	7	11	2	4	1	5	30	112		404	0.74	68	208	36	31	3	58
4:25 - 4:30	1	10	1	4	1	3	20	104		393	0.72	64	207	37	28	3	54
4:30 - 4:35	9	43	6	5	1	7	71	121		398	0.73	66	209	41	26	2	54
4:35 - 4:40	3	29	2	2	0	9	45	136	Max Flo	350	0.64	61	176	39	24	1	49
4:40 - 4:45	6	5	4	1	0	4	20	136									
4:45 - 4:50	2	7	3	0	0	2	14	79									
4:50 - 4:55	5	6	5	0	0	7	23	57									
4:55 - 5:00	11	25	8	2	0	11	57	94									
5:00 - 5:05	8	2	1	5	0	2	18	98									
5:05 - 5:10	8	14	1	3	0	2	28	103									
5:10 - 5:15	2	30	2	4	0	3	41	87									
5:15 - 5:20	6	26	1	1	0	3	37	106									
5:20 - 5:25	3	10	3	1	1	1	19	97									
5:25 - 5:30	3	12	5	2	0	3	25	81									
5:30 - 5:35	4	10	4	3	0	2	23	67	Hour Lim								
5:35 - 5:40	4	13	1	2	0	2	22	70									
5:40 - 5:45	6	20	3	3	0	3	35	80									
5:45 - 5:50	10	19	0	3	0	2	34	91									
5:50 - 5:55	3	13	3	4	0	3	26	95									
5:55 - 6:00	4	19	6	3	0	3	35	95									
6:00 - 6:05	1	16	2	0	0	4	23	84									

Appendix B
Intersection Capacity Analysis

Appendix B1
Existing P.M. Peak Hour

INPUT WORKSHEET

Intersection: PATTERSON AND 24½ ROADS Date: APRIL 4, 1996

Analyst: MIKE FOTZ Time Period Analyzed: PM PEAK Area Type: ☐ CBD ☒ Other

Project No: 3260 City/State: GRAND JUNCTION, CO

VOLUME AND GEOMETRICS

NORTH

104
SB TOTAL
9 → 34 → 61

24½
N/S STREET

9 ↑
593 ← 775 WB TOTAL
173 ↓

IDENTIFY IN DIAGRAM:

1. Volumes
2. Lanes, lane widths
3. Movements by lane
4. Parking (PKG) locations
5. Bay storage lengths
6. Islands (physical or painted)
7. Bus stops

404
EB TOTAL
14 ↑
350 →
40 ↓

PATTERSON E/W STREET
75 ↑
55 ← 213 →
343
NB TOTAL

TRAFFIC AND ROADWAY CONDITIONS

Approach	Grade (%)	% HV	Adj. Pkg Lane		Buses (N_B)	PHF	Conf. Peds. (peds./hr)	Pedestrian Button		Arr. Type
			Y or N	N_m				Y or N	Min. Timing	
EB	0	5	N	–	0	.83	0	Y	22	3
WB	0	5	N	–	0	.83	0	Y	22	3
NB	0	5	N	–	0	.83	0	Y	22	3
SB	0	5	N	–	0	.83	0	Y	22	3

Grade: + up, – down
HV: veh. with more than 4 wheels
N_m: pkg. maneuvers/hr
N_B: buses stopping/hr
PHF: peak-hour factor
Conf. Peds: Conflicting peds./hr
Min. Timing: min. green for pedestrian crossing
Arr. Type: Type 1-5

PHASING

DIAGRAM								
Timing	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =
Protected or Actuated								

Protected turns | Permitted turns | Pedestrian | Cycle Length ____ Sec

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS

Intersection: 24 1/2 and F Road

Time: P.M. Peak, Existing

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvmt Vol. (vph)	4 Peak Hour Factor	5 Flow Rate Vp (vph) 3\4	6 Lane Group	7 Flow Rate in Lane grp (vph)	8 Number of Lanes	9 Lane Util. Factr (U) Tbl 9-4	10 Adj. Flow v (vph) 7x9	11 Prop. of LT or RT
EB	LT	14	0.83	17	LT	17	1	1	17	
	TH	350	0.83	422	EB TH/RT	470	2	1.05	493	
	RT	40	0.83	48					0	0.10
WB	LT	173	0.83	208	LT	208	1	1	208	
	TH	593	0.83	714	WB TH/RT	725	2	1.05	762	
	RT	9	0.83	11					0	0.01
NB	LT	55	0.83	66	LT	66	1	1	66	
	TH	75	0.83	90	NB TH/RT	347	2	1.05	364	
	RT	213	0.83	257					0	0.74
SB	LT	61	0.83	73	LT	73	1	1	73	
	TH	34	0.83	41	TH	41	2	1.05	43	
	RT	9	0.83	11	RT	11	1	1	11	

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, Existing

SATURATION FLOW ADJUSTMENT WORKSHEET

Lane Groups		ADJUSTMENT FACTORS										
1 Appr.	2 Lane Group Mvmt	3 Ideal Sat. Flow pcphgpl	4 No.Of Lanes N	5 lane width tbl 9-5	6 Hvy Veh. Tbl 9-6	7 Grade Tbl 9-7	8 Parking Tbl 9-8	9 Bus Block Tbl 9-9	10 Area Type Tbl 9-10	11 Right Turn Tbl 9-11	12 Left Turn Tbl 9-12	13 Adj Sat Flow (s) (vphg)
	LT	1800	1	0.95	0.97	1	1	1	1	1	0.95	1576
EB	TH/RT	1800	2	0.96	0.97	1	1	1	1	1	1	3352
		1800	0									0
	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
WB	TH/RT	1800	2	0.98	0.97	1	1	1	1	1	1	3422
		1800	0									0
	LT	1800	1	0.98	0.97	1	1	1	1	1	0.95	1626
NB	TH/RT	1800	2	0.97	0.97	1	1	1	1	0.9	1	3049
		1800	0									0
	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
SB	TH	1800	2	0.97	0.97	1	1	1	1	1	1	3387
	RT	1800	1	0.97	0.97	1	1	1	1	1	1	1694

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, Existing

CAPACITY ANALYSIS WORKSHEET

Lane	Groups	3	4	5	6	7	8	9	10	
1 Appr.	2 Lane Group Mvmt	Adj Flow Rate v (vph)	Adj Sat Flow (s) (vphg)	Flow Ratio v\s 3\4	Green Ratio g\C	Lane Grp Cap c (vph) 4x6	v\c Ratio X 3\7	Critical Lane Group ?	Critical Lane Group Sum	
EB	LT	17	1576	0.0107	0.17	418	0.0404		0.4419	EB TH/RT+WB LT+NB TH/RT+SB LT
	TH/RT	493	3352	0.1472	0.31	1039	0.4748	x	0.3239	EB TH/RT+WB LT+SB TH/RT+NB LT
									0.3984	WB TH/RT+EB LT+NB TH/RT+SB LT
WB	LT	208	1609	0.1295	0.17	424	0.4921	x	0.2804	WB TH/RT+EB LT+SB TH/RT+NB LT
	TH/RT	762	3422	0.2225	0.31	1061	0.7179			
NB	LT	66	1626	0.0408	0.14	378	0.1755			
	TH/RT	364	3049	0.1195	0.21	640	0.5691	x		
SB	LT	73	1609	0.0457	0.14	375	0.1959	x		
	TH	43	3387	0.0127	0.21	711	0.0605			
	RT	11	1694	0.0064	0.21	356	0.0305			
Cycle Length:		100			Sum(v/s)critical:			0.4419		
Lost Time Per Cycle:		4			Xc=Sum(v/s)xC/(C-L):			0.46		

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, Existing

LEVEL OF SERVICE WORKSHEET

Lane	Groups	First Term Delay			Second Term Delay			Total Delay & LOS				
1 Appr.	2 Lane Group Mvmt	3 v\c Ratio X	4 Green Ratio g\C	5 Cycle Length sec	6 Delay d1 sec\veh	7 Lane grp Capacity C (vph)	8 Delay d2 sec\veh	9 Progres factor Tbl 9-13	10 Lane Grp Delay (6+8)x9	11 Lane Grp LOS Tbl 9-1	12 Approach Delay sec\veh	13 Appr LOS Tbl 9-1
EB	LT	0.0404	0.17	100	26.36	418	0.00	0.85	22.4	C	19.45	C
	TH/RT	0.4748	0.31	100	21.21	1039	0.27	0.85	18.3	C		
WB	LT	0.4921	0.17	100	28.57	424	0.75	0.85	24.9	C	22.25	C
	TH/RT	0.7179	0.31	100	23.27	1061	1.66	0.85	21.2	C		
NB	LT	0.1755	0.14	100	28.81	378	0.02	0.85	24.5	C	23.98	C
	TH/RT	0.5691	0.21	100	26.93	640	0.91	0.85	23.7	C		
SB	LT	0.1959	0.14	100	28.90	375	0.03	0.85	24.6	C	21.47	C
	TH	0.0605	0.21	100	24.02	711	0.00	0.85	20.4	C		
	RT	0.0305	0.21	100	23.87	356	0.00	0.85	20.3	C		
Intersection Delay		21.6	sec/veh							Intersection LOS:		C

Appendix B2
Existing A.M. Peak Hour

INPUT WORKSHEET

Intersection: PATTERSON AND 24 1/2 ROADS Date: APRIL 4, 1996

Analyst: MIKE FOOTZ Time Period Analyzed: AM PEAK Area Type: ☐ CBD ☒ Other

Project No.: 3260 City/State: GRAND JUNCTION, CO

VOLUME AND GEOMETRICS

NORTH

24 1/2 N/S STREET

SB TOTAL: 44 — 4 / 28 / 12

WB TOTAL: 330 — 11 / 251 / 68

IDENTIFY IN DIAGRAM:

1. Volumes
2. Lanes, lane widths
3. Movements by lane
4. Parking (PKG) locations
5. Bay storage lengths
6. Islands (physical or painted)
7. Bus stops

EB TOTAL: 408 — 5 / 384 / 19

PATTERSON E/W STREET

NB TOTAL: 109 — 18 / 22 / 69

TRAFFIC AND ROADWAY CONDITIONS

Approach	Grade (%)	% HV	Adj Pkg Lane		Buses (N_B)	PHF	Conf. Peds. (peds./hr)	Pedestrian Button		Arr. Type
			Y or N	N_m				Y or N	Min. Timing	
EB	0	5	N	–	0	.84	0	Y	22	3
WB	0	5	N	–	0	.84	0	Y	22	3
NB	0	5	N	–	0	.84	0	Y	22	3
SB	0	5	N	–	0	.84	0	Y	22	3

Grade: + up, – down
HV: veh. with more than 4 wheels
N_m: pkg. maneuvers/hr
N_B: buses stopping/hr
PHF: peak-hour factor
Conf. Peds: Conflicting peds./hr
Min. Timing: min. green for pedestrian crossing
Arr. Type: Type 1-5

PHASING

DIAGRAM								
Timing	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =
Pretimed or Actuated								

Protected turns | Permitted turns | ------- Pedestrian | Cycle Length ____ Sec

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS

Intersection: 24 1/2 and F Road

Time: A.M. Peak, Existing

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvmt Vol. (vph)	4 Peak Hour Factor	5 Flow Rate Vp (vph) 3\4	6 Lane Group	7 Flow Rate in Lane grp (vph)	8 Number of Lanes	9 Lane Util. Factr (U) Tbl 9-4	10 Adj. Flow v (vph) 7x9	11 Prop. of LT or RT
EB	LT	5	0.84	6	LT	6	1	1	6	
	TH	384	0.84	457	EB TH/RT	480	2	1.05	504	
	RT	19	0.84	23					0	0.05
WB	LT	68	0.84	81	LT	81	1	1	81	
	TH	251	0.84	299	WB TH/RT	312	2	1.05	328	
	RT	11	0.84	13					0	0.04
NB	LT	18	0.84	21	LT	21	1	1	21	
	TH	22	0.84	26	NB TH/RT	108	2	1.05	114	
	RT	69	0.84	82					0	0.76
SB	LT	12	0.84	14	LT	14	1	1	14	
	TH	28	0.84	33	TH	33	2	1.05	35	
	RT	4	0.84	5	RT	5	1	1	5	

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, Existing

SATURATION FLOW ADJUSTMENT WORKSHEET

Lane	**Groups**	**ADJUSTMENT FACTORS**										
1 Appr.	2 Lane Group Mvmt	3 Ideal Sat. Flow pcphgpl	4 No.Of Lanes N	5 lane width tbl 9-5	6 Hvy Veh. Tbl 9-6	7 Grade Tbl 9-7	8 Parking Tbl 9-8	9 Bus Block Tbl 9-9	10 Area Type Tbl 9-10	11 Right Turn Tbl 9-11	12 Left Turn Tbl 9-12	13 Adj Sat Flow (s) (vphg)
EB	LT	1800	1	0.95	0.97	1	1	1	1	1	0.95	1576
	TH/RT	1800	2	0.96	0.97	1	1	1	1	1	1	3352
		1800	0									0
WB	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
	TH/RT	1800	2	0.98	0.97	1	1	1	1	1	1	3422
		1800	0									0
NB	LT	1800	1	0.98	0.97	1	1	1	1	1	0.95	1626
	TH/RT	1800	2	0.97	0.97	1	1	1	1	0.9	1	3049
		1800	0									0
SB	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
	TH	1800	2	0.97	0.97	1	1	1	1	1	1	3387
	RT	1800	1	0.97	0.97	1	1	1	1	1	1	1694

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, Existing

CAPACITY ANALYSIS WORKSHEET

Lane Groups		3	4	5	6	7	8	9	10	
1 Appr.	2 Lane Group Mvmt	Adj Flow Rate v (vph)	Adj Sat Flow (s) (vphg)	Flow Ratio v\s 3\4	Green Ratio g\C	Lane Grp Cap c (vph) 4x6	v\c Ratio X 3\7	Critical Lane Group ?	Critical Lane Group Sum	
EB	LT	6	1576	0.0038	0.17	418	0.0142		0.2468	EB TH/RT+WB LT+NB TH/RT+SB LT
	TH/RT	504	3352	0.1503	0.31	1039	0.4847	x	0.2166	EB TH/RT+WB LT+SB TH/RT+NB LT
									0.1457	WB TH/RT+EB LT+NB TH/RT+SB LT
WB	LT	81	1609	0.0503	0.17	424	0.1911	x	0.1155	WB TH/RT+EB LT+SB TH/RT+NB LT
	TH/RT	328	3422	0.0957	0.31	1061	0.3087			
NB	LT	21	1626	0.0132	0.14	378	0.0568			
	TH/RT	114	3049	0.0373	0.21	640	0.1777	x		
SB	LT	14	1609	0.0089	0.14	375	0.0381	x		
	TH	35	3387	0.0103	0.21	711	0.0492			
	RT	5	1694	0.0028	0.21	356	0.0134			
Cycle Length:		100			Sum(v/s)critical:			0.2468		
Lost Time Per Cycle:		4			Xc=Sum(v/s)xC/(C-L):			0.26		

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, Existing

LEVEL OF SERVICE WORKSHEET

Lane	Groups	First Term Delay			Second Term Delay			Total Delay & LOS				
1 Appr.	2 Lane Group Mvmt	3 v\c Ratio X	4 Green Ratio g\C	5 Cycle Length sec	6 Delay d1 sec\veh	7 Lane grp Capacity C (vph)	8 Delay d2 sec\veh	9 Progres factor Tbl 9-13	10 Lane Grp Delay (6+8)x9	11 Lane Grp LOS Tbl 9-1	12 Approach Delay sec\veh	13 Appr LOS Tbl 9-1
EB	LT	0.0142	0.17	100	26.24	418	0.00	0.85	22.3	C	19.48	C
	TH/RT	0.4847	0.31	100	21.29	1039	0.29	0.85	18.3	C		
WB	LT	0.1911	0.17	100	27.06	424	0.03	0.85	23.0	C	18.76	C
	TH/RT	0.3087	0.31	100	20.01	1061	0.06	0.85	17.1	C		
NB	LT	0.0568	0.14	100	28.33	378	0.00	0.85	24.1	C	22.11	C
	TH/RT	0.1777	0.21	100	24.64	640	0.01	0.85	21.0	C		
SB	LT	0.0381	0.14	100	28.26	375	0.00	0.85	24.0	C	21.28	C
	TH	0.0492	0.21	100	23.96	711	0.00	0.85	20.4	C		
	RT	0.0134	0.21	100	23.78	356	0.00	0.85	20.2	C		
Intersection Delay		20.3	sec/veh							Intersection LOS:		C

Appendix B3
Proposed P.M. Peak Hour

INPUT WORKSHEET

Intersection: PATTERSON AND 24 1/2 ROADS Date: DEVELOPED

Analyst: MIKE FOSTZ Time Period Analyzed: PM PEAK Area Type: ☐ CBD ☒ Other

Project No.: 3260 City/State: GRAND JCT, CO

VOLUME AND GEOMETRICS

NORTH

257
SB TOTAL
40 ← 79 → 138

24 1/2
N/S STREET

96 ↑
581 ← 847 WB TOTAL
170 ↓

IDENTIFY IN DIAGRAM:

1. Volumes
2. Lanes, lane widths
3. Movements by lane
4. Parking (PKG) locations
5. Bay storage lengths
6. Islands (physical or painted)
7. Bus stops

49 ↑
431 EB TOTAL → 343
39 ↓

PATTERSON E/W STREET

54 ← 125 ↑ 209 →
388
NB TOTAL

TRAFFIC AND ROADWAY CONDITIONS

Approach	Grade (%)	% HV	Adj. Pkg. Lane Y or N	Adj. Pkg. Lane N_m	Buses (N_B)	PHF	Conf. Peds. (peds./hr)	Pedestrian Button Y or N	Pedestrian Button Min. Timing	Arr. Type
EB	0	5	N	–	0	.83	0	Y	22	3
WB	0	5	N	–	0	.83	0	Y	22	3
NB	0	5	N	–	0	.83	0	Y	22	3
SB	0	5	N	–	0	.83	0	Y	22	3

Grade: + up, – down
HV: veh. with more than 4 wheels
N_m: pkg. maneuvers/hr
N_B: buses stopping/hr
PHF: peak-hour factor
Conf. Peds: Conflicting peds./hr
Min. Timing: min. green for pedestrian crossing
Arr. Type: Type 1-5

PHASING

DIAGRAM								
Timing	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =
Pretimed or Actuated								

Protected turns | Permitted turns | -------- Pedestrian | Cycle Length_____Sec

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS

Intersection: 24 1/2 and F Road

Time: P.M. Peak, Developed

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvmt Vol. (vph)	4 Peak Hour Factor	5 Flow Rate Vp (vph) 3\4	6 Lane Group	7 Flow Rate in Lane grp (vph)	8 Number of Lanes	9 Lane Util. Factr (U) Tbl 9-4	10 Adj. Flow v (vph) 7x9	11 Prop. of LT or RT
EB	LT	49	0.83	59	LT	59	1	1	59	
	TH	343	0.83	413	EB TH/RT	460	2	1.05	483	
	RT	39	0.83	47					0	0.10
WB	LT	170	0.83	205	LT	205	1	1	205	
	TH	581	0.83	700	WB TH/RT	816	2	1.05	856	
	RT	96	0.83	116					0	0.14
NB	LT	54	0.83	65	LT	65	1	1	65	
	TH	125	0.83	151	NB TH/RT	402	2	1.05	423	
	RT	209	0.83	252					0	0.63
SB	LT	138	0.83	166	LT	166	1	1	166	
	TH	79	0.83	95	TH	95	2	1.05	100	
	RT	40	0.83	48	RT	48	1	1	48	

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, Developed

SATURATION FLOW ADJUSTMENT WORKSHEET

Lane	Groups	ADJUSTMENT FACTORS										
1 Appr.	2 Lane Group Mvmt	3 Ideal Sat. Flow pcphgpl	4 No.Of Lanes N	5 lane width tbl 9-5	6 Hvy Veh. Tbl 9-6	7 Grade Tbl 9-7	8 Parking Tbl 9-8	9 Bus Block Tbl 9-9	10 Area Type Tbl 9-10	11 Right Turn Tbl 9-11	12 Left Turn Tbl 9-12	13 Adj Sat Flow (s) (vphg)
EB	LT	1800	1	0.95	0.97	1	1	1	1	1	0.95	1576
	TH/RT	1800	2	0.96	0.97	1	1	1	1	1	1	3352
		1800	0									0
WB	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
	TH/RT	1800	2	0.98	0.97	1	1	1	1	1	1	3422
		1800	0									0
NB	LT	1800	1	0.98	0.97	1	1	1	1	1	0.95	1626
	TH/RT	1800	2	0.97	0.97	1	1	1	1	0.9	1	3049
		1800	0									0
SB	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
	TH	1800	2	0.97	0.97	1	1	1	1	1	1	3387
	RT	1800	1	0.97	0.97	1	1	1	1	1	1	1694

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, Developed

CAPACITY ANALYSIS WORKSHEET

Lane Groups		3	4	5	6	7	8	9	10	
1 Appr.	2 Lane Group Mvmt	Adj Flow Rate v (vph)	Adj Sat Flow (s) (vphg)	Flow Ratio v\s 3\4	Green Ratio g\C	Lane Grp Cap c (vph) 4x6	v\c Ratio X 3\7	Critical Lane Group ?	Critical Lane Group Sum	
EB	LT	59	1576	0.0375	0.17	418	0.1413	x	0.5134	EB TH/RT+WB LT+NB TH/RT+SB LT
	TH/RT	483	3352	0.1442	0.31	1039	0.4650		0.3399	EB TH/RT+WB LT+SB TH/RT+NB LT
									0.5297	WB TH/RT+EB LT+NB TH/RT+SB LT
WB	LT	205	1609	0.1273	0.17	424	0.4836		0.3562	WB TH/RT+EB LT+SB TH/RT+NB LT
	TH/RT	856	3422	0.2503	0.31	1061	0.8073	x		
NB	LT	65	1626	0.0400	0.14	378	0.1723			
	TH/RT	423	3049	0.1386	0.21	640	0.6600	x		
SB	LT	166	1609	0.1033	0.14	375	0.4431	x		
	TH	100	3387	0.0295	0.21	711	0.1405			
	RT	48	1694	0.0285	0.21	356	0.1355			
Cycle Length:		100			Sum(v/s)critical:			0.5297		
Lost Time Per Cycle:		4			Xc=Sum(v/s)xC/(C-L):			0.55		

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, Developed

LEVEL OF SERVICE WORKSHEET

Lane	**Groups**	**First Term Delay**			**Second Term Delay**			**Total Delay & LOS**				
1 Appr.	2 Lane Group Mvmt	3 v\c Ratio X	4 Green Ratio g\C	5 Cycle Length sec	6 Delay d1 sec\veh	7 Lane grp Capacity C (vph)	8 Delay d2 sec\veh	9 Progres factor Tbl 9-13	10 Lane Grp Delay (6+8)x9	11 Lane Grp LOS Tbl 9-1	12 Approach Delay sec\veh	13 Appr LOS Tbl 9-1
EB	LT	0.1413	0.17	100	26.82	418	0.01	0.85	22.8	C	19.51	C
	TH/RT	0.4650	0.31	100	21.14	1039	0.25	0.85	18.2	C		
WB	LT	0.4836	0.17	100	28.52	424	0.70	0.85	24.8	C	23.76	C
	TH/RT	0.8073	0.31	100	24.13	1061	3.31	0.85	23.3	C		
NB	LT	0.1723	0.14	100	28.80	378	0.02	0.85	24.5	C	24.75	C
	TH/RT	0.6600	0.21	100	27.53	640	1.77	0.85	24.9	C		
SB	LT	0.4431	0.14	100	29.96	375	0.57	0.85	26.0	D	22.12	C
	TH	0.1405	0.21	100	24.44	711	0.01	0.85	20.8	C		
	RT	0.1355	0.21	100	24.41	356	0.01	0.85	20.8	C		
Intersection Delay		22.4	sec/veh							Intersection LOS:		C

Appendix B4
Proposed A.M. Peak Hour

INPUT WORKSHEET

Intersection: PATTERSON AND 24½ ROADS Date: DEVELOPED

Analyst: MIKE FOUTZ Time Period Analyzed: AM PEAK Area Type: ☐ CBD ☒ Other

Project No.: 3260 City/State: GRAND JCT, CO

VOLUME AND GEOMETRICS

NORTH

239
SB TOTAL
43 816 110

24 ½
N/S STREET

92
246
67
405
WB TOTAL

IDENTIFY IN DIAGRAM:

1. Volumes
2. Lanes, lane widths
3. Movements by lane
4. Parking (PKG) locations
5. Bay storage lengths
6. Islands (physical or painted)
7. Bus stops

448
EB TOTAL
53
376
19

PATTERSON E/W STREET
55
18
68
141
NB TOTAL

TRAFFIC AND ROADWAY CONDITIONS

Approach	Grade (%)	% HV	Adj. Pkg. Lane Y or N	Adj. Pkg. Lane N_m	Buses (N_B)	PHF	Conf. Peds. (peds./hr)	Pedestrian Button Y or N	Pedestrian Button Min. Timing	Arr. Type
EB	0	5	N	–	0	.84	0	Y	22	3
WB	0	5	N	–	0	.84	0	Y	22	3
NB	0	5	N	–	0	.84	0	Y	22	3
SB	0	5	N	–	0	.84	0	Y	22	3

Grade: + up, – down
HV: veh. with more than 4 wheels
N_m: pkg. maneuvers/hr
N_B: buses stopping/hr
PHF: peak-hour factor
Conf. Peds: Conflicting peds./hr
Min. Timing: min. green for pedestrian crossing
Arr. Type: Type 1-5

PHASING

DIAGRAM								
Timing	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =	G = Y + R =
Pretimed or Actuated								

Protected turns | Permitted turns | Pedestrian | Cycle Length ____ Sec

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS

Intersection: 24 1/2 and F Road

Time: A.M. Peak, Developed

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvmt Vol. (vph)	4 Peak Hour Factor	5 Flow Rate Vp (vph) 3\4	6 Lane Group	7 Flow Rate in Lane grp (vph)	8 Number of Lanes	9 Lane Util. Factr (U) Tbl 9-4	10 Adj. Flow v (vph) 7x9	11 Prop. of LT or RT
EB	LT	53	0.84	63	LT	63	1	1	63	
	TH	376	0.84	448	EB TH/RT	470	2	1.05	494	
	RT	19	0.84	23					0	0.05
WB	LT	67	0.84	80	LT	80	1	1	80	
	TH	246	0.84	293	WB TH/RT	402	2	1.05	423	
	RT	92	0.84	110					0	0.27
NB	LT	18	0.84	21	LT	21	1	1	21	
	TH	55	0.84	65	NB TH/RT	146	2	1.05	154	
	RT	68	0.84	81					0	0.55
SB	LT	110	0.84	131	LT	131	1	1	131	
	TH	86	0.84	102	TH	102	2	1.05	108	
	RT	43	0.84	51	RT	51	1	1	51	

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, Developed

SATURATION FLOW ADJUSTMENT WORKSHEET

Lane	**Groups**	**ADJUSTMENT FACTORS**										
1 Appr.	2 Lane Group Mvmt	3 Ideal Sat. Flow pcphgpl	4 No.Of Lanes N	5 lane width tbl 9-5	6 Hvy Veh. Tbl 9-6	7 Grade Tbl 9-7	8 Parking Tbl 9-8	9 Bus Block Tbl 9-9	10 Area Type Tbl 9-10	11 Right Turn Tbl 9-11	12 Left Turn Tbl 9-12	13 Adj Sat Flow (s) (vphg)
	LT	1800	1	0.95	0.97	1	1	1	1	1	0.95	1576
EB	TH/RT	1800	2	0.96	0.97	1	1	1	1	1	1	3352
		1800	0									0
	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
WB	TH/RT	1800	2	0.98	0.97	1	1	1	1	1	1	3422
		1800	0									0
	LT	1800	1	0.98	0.97	1	1	1	1	1	0.95	1626
NB	TH/RT	1800	2	0.97	0.97	1	1	1	1	0.9	1	3049
		1800	0									0
	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
SB	TH	1800	2	0.97	0.97	1	1	1	1	1	1	3387
	RT	1800	1	0.97	0.97	1	1	1	1	1	1	1694

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, Developed

CAPACITY ANALYSIS WORKSHEET

Lane Groups		3	4	5	6	7	8	9	10	
1 Appr.	2 Lane Group Mvmt	Adj Flow Rate v (vph)	Adj Sat Flow (s) (vphg)	Flow Ratio v\s 3\4	Green Ratio g\C	Lane Grp Cap c (vph) 4x6	v\c Ratio X 3\7	Critical Lane Group ?	Critical Lane Group Sum	
EB	LT	63	1576	0.0400	0.17	418	0.1510		0.3287	EB TH/RT+WB LT+NB TH/RT+SB LT
	TH/RT	494	3352	0.1473	0.31	1039	0.4751	x	0.2403	EB TH/RT+WB LT+SB TH/RT+NB LT
									0.2953	WB TH/RT+EB LT+NB TH/RT+SB LT
WB	LT	80	1609	0.0496	0.17	424	0.1883	x	0.2069	WB TH/RT+EB LT+SB TH/RT+NB LT
	TH/RT	423	3422	0.1235	0.31	1061	0.3983			
NB	LT	21	1626	0.0132	0.14	378	0.0568			
	TH/RT	154	3049	0.0504	0.21	640	0.2402	x		
SB	LT	131	1609	0.0814	0.14	375	0.3490	x		
	TH	108	3387	0.0317	0.21	711	0.1511			
	RT	51	1694	0.0302	0.21	356	0.1439			
Cycle Length:		100			Sum(v/s)critical:			0.3287		
Lost Time Per Cycle:		4			Xc=Sum(v/s)xC/(C-L):			0.34		

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, Developed

LEVEL OF SERVICE WORKSHEET

Lane	**Groups**	**First Term Delay**			**Second Term Delay**			**Total Delay & LOS**				
1 Appr.	2 Lane Group Mvmt	3 v\c Ratio X	4 Green Ratio g\C	5 Cycle Length sec	6 Delay d1 sec\veh	7 Lane grp Capacity C (vph)	8 Delay d2 sec\veh	9 Progres factor Tbl 9-13	10 Lane Grp Delay (6+8)x9	11 Lane Grp LOS Tbl 9-1	12 Approach Delay sec\veh	13 Appr LOS Tbl 9-1
EB	LT	0.1510	0.17	100	26.87	418	0.01	0.85	22.8	C		
	TH/RT	0.4751	0.31	100	21.22	1039	0.27	0.85	18.3	C	19.58	C
WB	LT	0.1883	0.17	100	27.04	424	0.03	0.85	23.0	C		
	TH/RT	0.3983	0.31	100	20.64	1061	0.14	0.85	17.7	C	19.19	C
NB	LT	0.0568	0.14	100	28.33	378	0.00	0.85	24.1	C		
	TH/RT	0.2402	0.21	100	24.98	640	0.04	0.85	21.3	C	22.31	C
SB	LT	0.3490	0.14	100	29.55	375	0.24	0.85	25.3	D		
	TH	0.1511	0.21	100	24.49	711	0.01	0.85	20.8	C	21.99	C
	RT	0.1439	0.21	100	24.45	356	0.01	0.85	20.8	C		
Intersection Delay		20.6	sec/veh							Intersection LOS:		C

Appendix B5
Projected 20 Year P.M. Peak Hour

INPUT WORKSHEET

Intersection: PATTERSON AND 24½ ROADS Date: 20 YR PROJ.

Analyst: MIKE FOOTZ Time Period Analyzed: PM PEAK Area Type: ☐ CBD ☒ Other

Project No.: 3260 City/State: GRAND JCT, CO

VOLUME AND GEOMETRICS

NORTH

382
SB TOTAL
59 117 206

24½
N/S STREET

143
863
253
1259
WB TOTAL

IDENTIFY IN DIAGRAM:

1. Volumes
2. Lanes, lane widths
3. Movements by lane
4. Parking (PKG) locations
5. Bay storage lengths
6. Islands (physical or painted)
7. Bus stops

640
EB TOTAL
73
510
57

PATTERSON E/W STREET
186
80 311
577
NB TOTAL

TRAFFIC AND ROADWAY CONDITIONS

Approach	Grade (%)	% HV	Adj. Pkg Lane Y or N	Adj. Pkg Lane N_m	Buses (N_B)	PHF	Conf. Peds. (peds./hr)	Pedestrian Button Y or N	Pedestrian Button Min. Timing	Arr. Type
EB	0	5	N	—	0	.83	0	Y	22	3
WB	0	5	N	—	0	.83	0	Y	22	3
NB	0	5	N	—	0	.83	0	Y	22	3
SB	0	5	N	—	0	.83	0	Y	22	3

Grade: + up, − down
HV: veh. with more than 4 wheels
N_m: pkg maneuvers/hr
N_B: buses stopping/hr
PHF: peak-hour factor
Conf. Peds: Conflicting peds./hr
Min. Timing: min. green for pedestrian crossing
Arr. Type: Type 1-5

PHASING

DIAGRAM								
Timing G = Y + R =								
Protected or Actuated								

Protected turns | Permitted turns | Pedestrian | Cycle Length ____ Sec

Nichols Associates, Inc
Mike Foutz
April 30, 1996

INTERSECTION ANALYSIS WORKSHEETS

Intersection: 24 1/2 and F Road

Time: P.M. Peak, 20 yr. Projection

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvmt Vol. (vph)	4 Peak Hour Factor	5 Flow Rate Vp (vph) 3\4	6 Lane Group	7 Flow Rate in Lane grp (vph)	8 Number of Lanes	9 Lane Util. Factr (U) Tbl 9-4	10 Adj. Flow v (vph) 7x9	11 Prop. of LT or RT
EB	LT	73	0.83	88	LT	88	1	1	88	
	TH	510	0.83	614	EB TH/RT	683	2	1.05	717	
	RT	57	0.83	69					0	0.10
WB	LT	253	0.83	305	LT	305	1	1	305	
	TH	863	0.83	1040	WB TH/RT	1212	2	1.05	1273	
	RT	143	0.83	172					0	0.14
NB	LT	80	0.83	96	LT	96	1	1	96	
	TH	186	0.83	224	NB TH/RT	599	2	1.05	629	
	RT	311	0.83	375					0	0.63
SB	LT	206	0.83	248	LT	248	1	1	248	
	TH	117	0.83	141	TH	141	2	1.05	148	
	RT	59	0.83	71	RT	71	1	1	71	

Nichols Associates, Inc
Mike Foutz
April 30, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, 20 yr. Projection

SATURATION FLOW ADJUSTMENT WORKSHEET

Lane	**Groups**	**ADJUSTMENT FACTORS**										
1 Appr.	2 Lane Group Mvmt	3 Ideal Sat. Flow pcphgpl	4 No.Of Lanes N	5 lane width tbl 9-5	6 Hvy Veh. Tbl 9-6	7 Grade Tbl 9-7	8 Parking Tbl 9-8	9 Bus Block Tbl 9-9	10 Area Type Tbl 9-10	11 Right Turn Tbl 9-11	12 Left Turn Tbl 9-12	13 Adj Sat Flow (s) (vphg)
	LT	1800	1	0.95	0.97	1	1	1	1	1	0.95	1576
EB	TH/RT	1800	2	0.96	0.97	1	1	1	1	1	1	3352
		1800	0									0
	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
WB	TH/RT	1800	2	0.98	0.97	1	1	1	1	1	1	3422
		1800	0									0
	LT	1800	1	0.98	0.97	1	1	1	1	1	0.95	1626
NB	TH/RT	1800	2	0.97	0.97	1	1	1	1	0.9	1	3049
		1800	0									0
	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
SB	TH	1800	2	0.97	0.97	1	1	1	1	1	1	3387
	RT	1800	1	0.97	0.97	1	1	1	1	1	1	1694

Nichols Associates, Inc
Mike Foutz
April 30, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, 20 yr. Projection

CAPACITY ANALYSIS WORKSHEET

Lane Groups		3	4	5	6	7	8	9	10	
1 Appr.	2 Lane Group Mvmt	Adj Flow Rate v (vph)	Adj Sat Flow (s) (vphg)	Flow Ratio v\s 3\4	Green Ratio g\C	Lane Grp Cap c (vph) 4x6	v\c Ratio X 3\7	Critical Lane Group ?	Critical Lane Group Sum	
EB	LT	88	1576	0.0558	0.17	418	0.2105	x	0.7639	EB TH/RT+WB LT+NB TH/RT+SB LT
	TH/RT	717	3352	0.2140	0.31	1039	0.6902		0.5047	EB TH/RT+WB LT+SB TH/RT+NB LT
									0.7882	WB TH/RT+EB LT+NB TH/RT+SB LT
WB	LT	305	1609	0.1895	0.17	424	0.7197		0.5290	WB TH/RT+EB LT+SB TH/RT+NB LT
	TH/RT	1273	3422	0.3719	0.31	1061	1.1996	x		
NB	LT	96	1626	0.0593	0.14	378	0.2553			
	TH/RT	629	3049	0.2062	0.21	640	0.9821	x		
SB	LT	248	1609	0.1543	0.14	375	0.6614	x		
	TH	148	3387	0.0437	0.21	711	0.2081			
	RT	71	1694	0.0420	0.21	356	0.1999			

Cycle Length:	100	Sum(v/s)critical:	0.7882
Lost Time Per Cycle:	4	Xc=Sum(v/s)xC/(C-L):	0.82

Nichols Associates, Inc
Mike Foutz
April 30, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: P.M. Peak, 20 yr. Projection

LEVEL OF SERVICE WORKSHEET

Lane	Groups	First Term Delay			Second Term Delay			Total Delay & LOS				
1 Appr.	2 Lane Group Mvmt	3 v\c Ratio X	4 Green Ratio g\C	5 Cycle Length sec	6 Delay d1 sec\veh	7 Lane grp Capacity C (vph)	8 Delay d2 sec\veh	9 Progres factor Tbl 9-13	10 Lane Grp Delay (6+8)x9	11 Lane Grp LOS Tbl 9-1	12 Approach Delay sec\veh	13 Appr LOS Tbl 9-1
EB	LT	0.2105	0.17	100	27.15	418	0.04	0.85	23.1	C	21.42	C
	TH/RT	0.6902	0.31	100	23.02	1039	1.38	0.85	20.7	C		
WB	LT	0.7197	0.17	100	29.83	424	4.02	0.85	28.8	D	92.31	F
	TH/RT	1.1996	0.31	100	28.80	1061	109.63	0.85	117.7	F		
NB	LT	0.2553	0.14	100	29.15	378	0.08	0.85	24.8	C	37.66	D
	TH/RT	0.9821	0.21	100	29.88	640	23.33	0.85	45.2	E		
SB	LT	0.6614	0.14	100	30.97	375	2.98	0.85	28.9	D	23.11	C
	TH	0.2081	0.21	100	24.80	711	0.02	0.85	21.1	C		
	RT	0.1999	0.21	100	24.75	356	0.04	0.85	21.1	C		
Intersection Delay		44.4	sec/veh							Intersection LOS:		E

Appendix B6
Projected 20 Year A.M. Peak Hour

INPUT WORKSHEET

Intersection: PATTERSON AND 24½ ROADS Date: 20 YR PROJ

Analyst: MIKE FOSTZ Time Period Analyzed: AM PEAK Area Type: ☐ CBD ☒ Other

Project No.: 3260 City/State: GRAND JCT, CO

VOLUME AND GEOMETRICS

NORTH

355
SB TOTAL
64 128 163

24½
N/S STREET

137
3666
99
602
WB TOTAL

IDENTIFY IN DIAGRAM:

1. Volumes
2. Lanes, lane widths
3. Movements by lane
4. Parking (PKG) locations
5. Bay storage lengths
6. Islands (physical or painted)
7. Bus stops

79
559
6666
EB TOTAL
28

PATTERSON E/W STREET
82
27 101
210
NB TOTAL

TRAFFIC AND ROADWAY CONDITIONS

Approach	Grade (%)	% HV	Adj. Pkg Lane		Buses (N_B)	PHF	Conf. Peds. (peds./hr)	Pedestrian Button		Arr. Type
			Y or N	N_m				Y or N	Min. Timing	
EB	0	5	N	–	0	.84	0	Y	22	3
WB	0	5	N	–	0	.84	0	Y	22	3
NB	0	5	N	–	0	.84	0	Y	22	3
SB	0	5	N	–	0	.84	0	Y	22	3

Grade: + up, – down
HV: veh. with more than 4 wheels
N_m: pkg. maneuvers/hr
N_B: buses stopping/hr
PHF: peak-hour factor
Conf. Peds: Conflicting peds./hr
Min. Timing: min. green for pedestrian crossing
Arr. Type: Type 1-5

PHASING

DIAGRAM								
Timing G = / Y + R =								
Pretimed or Actuated								

Protected turns | Permitted turns | Pedestrian | Cycle Length____Sec

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS

Intersection: 24 1/2 and F Road

Time: A.M. Peak, 20 yr Projection

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvmt Vol. (vph)	4 Peak Hour Factor	5 Flow Rate Vp (vph) 3\4	6 Lane Group	7 Flow Rate in Lane grp (vph)	8 Number of Lanes	9 Lane Util. Factr (U) Tbl 9-4	10 Adj. Flow v (vph) 7x9	11 Prop. of LT or RT
EB	LT	79	0.84	94	LT	94	1	1	94	
	TH	559	0.84	665	EB TH/RT	699	2	1.05	734	
	RT	28	0.84	33					0	0.05
WB	LT	99	0.84	118	LT	118	1	1	118	
	TH	366	0.84	436	WB TH/RT	599	2	1.05	629	
	RT	137	0.84	163					0	0.27
NB	LT	27	0.84	32	LT	32	1	1	32	
	TH	82	0.84	98	NB TH/RT	218	2	1.05	229	
	RT	101	0.84	120					0	0.55
SB	LT	163	0.84	194	LT	194	1	1	194	
	TH	128	0.84	152	TH	152	2	1.05	160	
	RT	64	0.84	76	RT	76	1	1	76	

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, 20 yr Projection

SATURATION FLOW ADJUSTMENT WORKSHEET

Lane Groups		**ADJUSTMENT FACTORS**										
1 Appr.	2 Lane Group Mvmt	3 Ideal Sat. Flow pcphgpl	4 No.Of Lanes N	5 lane width tbl 9-5	6 Hvy Veh. Tbl 9-6	7 Grade Tbl 9-7	8 Parking Tbl 9-8	9 Bus Block Tbl 9-9	10 Area Type Tbl 9-10	11 Right Turn Tbl 9-11	12 Left Turn Tbl 9-12	13 Adj Sat Flow (s) (vphg)
EB	LT	1800	1	0.95	0.97	1	1	1	1	1	0.95	1576
	TH/RT	1800	2	0.96	0.97	1	1	1	1	1	1	3352
		1800	0									0
WB	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
	TH/RT	1800	2	0.98	0.97	1	1	1	1	1	1	3422
		1800	0									0
NB	LT	1800	1	0.98	0.97	1	1	1	1	1	0.95	1626
	TH/RT	1800	2	0.97	0.97	1	1	1	1	0.9	1	3049
		1800	0									0
SB	LT	1800	1	0.97	0.97	1	1	1	1	1	0.95	1609
	TH	1800	2	0.97	0.97	1	1	1	1	1	1	3387
	RT	1800	1	0.97	0.97	1	1	1	1	1	1	1694

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, 20 yr Projection

CAPACITY ANALYSIS WORKSHEET

Lane Groups		3	4	5	6	7	8	9	10	
1 Appr.	2 Lane Group Mvmt	Adj Flow Rate v (vph)	Adj Sat Flow (s) (vphg)	Flow Ratio v\s 3\4	Green Ratio g\C	Lane Grp Cap c (vph) 4x6	v\c Ratio X 3\7	Critical Lane Group ?	Critical Lane Group Sum	
EB	LT	94	1576	0.0597	0.17	418	0.2251		0.4878	EB TH/RT+WB LT+NB TH/RT+SB LT
	TH/RT	734	3352	0.2189	0.31	1039	0.7061	x	0.3569	EB TH/RT+WB LT+SB TH/RT+NB LT
									0.4391	WB TH/RT+EB LT+NB TH/RT+SB LT
WB	LT	118	1609	0.0733	0.17	424	0.2783	x	0.3082	WB TH/RT+EB LT+SB TH/RT+NB LT
	TH/RT	629	3422	0.1837	0.31	1061	0.5927			
NB	LT	32	1626	0.0198	0.14	378	0.0851			
	TH/RT	229	3049	0.0750	0.21	640	0.3573	x		
SB	LT	194	1609	0.1206	0.14	375	0.5171	x		
	TH	160	3387	0.0472	0.21	711	0.2249			
	RT	76	1694	0.0450	0.21	356	0.2142			
Cycle Length:		100			Sum(v/s)critical:			0.4878		
Lost Time Per Cycle:		4			Xc=Sum(v/s)xC/(C-L):			0.51		

Nichols Associates, Inc
Mike Foutz
May 1, 1996

INTERSECTION ANALYSIS WORKSHEETS
Intersection: 24 1/2 and F Road
Time: A.M. Peak, 20 yr Projection

LEVEL OF SERVICE WORKSHEET

Lane	Groups	First Term Delay			Second Term Delay			Total Delay & LOS				
1 Appr.	2 Lane Group Mvmt	3 v\c Ratio X	4 Green Ratio g\C	5 Cycle Length sec	6 Delay d1 sec\veh	7 Lane grp Capacity C (vph)	8 Delay d2 sec\veh	9 Progres factor Tbl 9-13	10 Lane Grp Delay (6+8)x9	11 Lane Grp LOS Tbl 9-1	12 Approach Delay sec\veh	13 Appr LOS Tbl 9-1
EB	LT	0.2251	0.17	100	27.22	418	0.05	0.85	23.2	C	21.63	C
	TH/RT	0.7061	0.31	100	23.16	1039	1.55	0.85	21.0	C		
WB	LT	0.2783	0.17	100	27.48	424	0.10	0.85	23.4	C	20.55	C
	TH/RT	0.5927	0.31	100	22.16	1061	0.66	0.85	19.4	C		
NB	LT	0.0851	0.14	100	28.44	378	0.00	0.85	24.2	C	22.76	C
	TH/RT	0.3573	0.21	100	25.64	640	0.15	0.85	21.9	C		
SB	LT	0.5171	0.14	100	30.30	375	1.03	0.85	26.6	D	22.59	C
	TH	0.2249	0.21	100	24.89	711	0.03	0.85	21.2	C		
	RT	0.2142	0.21	100	24.83	356	0.05	0.85	21.1	C		
Intersection Delay		21.8	sec/veh							Intersection LOS:		C

Appendix C
Intersection Phasing/Timing

TIMING SHEET

DATE: 1-3-96

24 1/2 & FRL — PHASE 2

INTERVAL	INT NO.	0	1	2	3	4	5	6	7	8	9
DIRECTION			EB L+	WB	SB L+	NB	WB L+	EB	NB L+	SB	
REST	00										
INITIAL	01		3	8	3	4	3	8	3	4	
PASSAGE	02		2.5	5	2.5	3	2.5	5	2.5	3	
YELLOW	03		3	4	3	4	3	4	3	4	
RED CLEARANCE	04			1		1		1		1	
MAXIMUM 1	05		17	31	14	21	17	31	14	21	
MAXIMUM 2	06										
WALK	07			7		7		7		7	
PED. CLEARANCE	08			14		14		14		14	
MIN. RECALL	09			X				X			
MAX. RECALL	10										
PED. RECALL	11										
NON-LOCK	12		X	X	X	X	X	X	X	X	
CNA 1	13			X				X			
CNA 2	14										
FLASH WALK	15										
PHASE OMIT	16										
PED. OMIT	17										
SOFT RECALL	18										
T. B. C.	23/24										
AMPLIFIER DELAY											

OLA _____

OLB _____

OLC _____

OLD _____

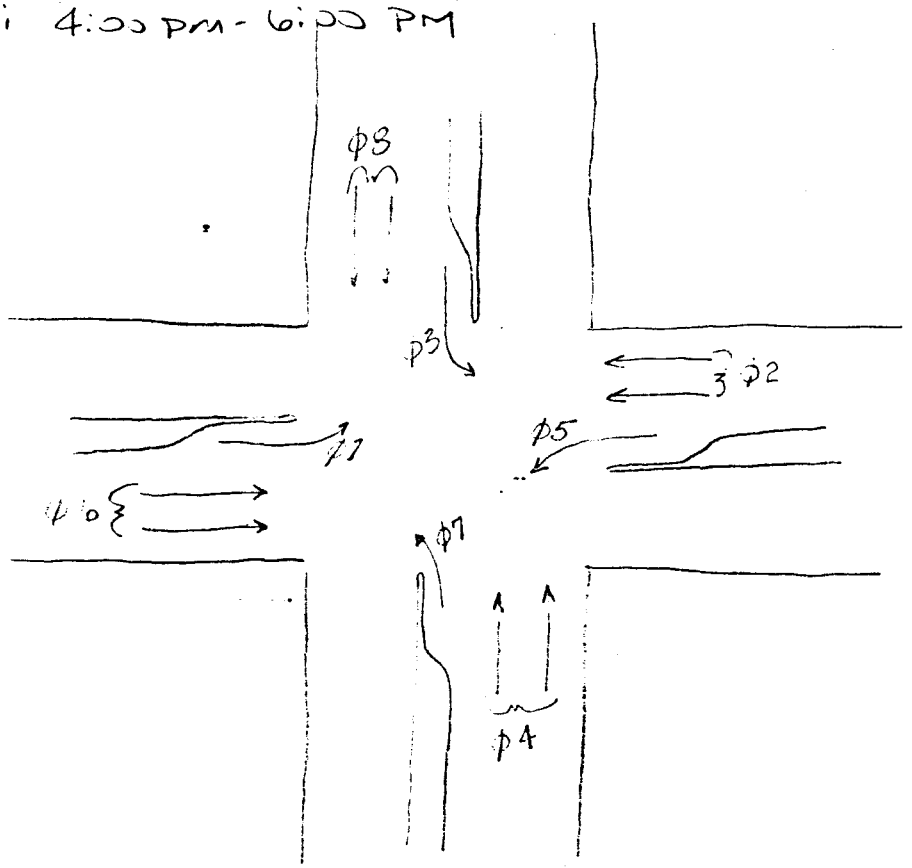
SPECIAL INSTRUCTIONS 4.00 PM to 17:25PM 100 sec cycle

1=17 2=32, 3=17 4=34

5=17 6=32 7=17 X=34

Free: 6:00 PM - 4:00 PM

Coord: 4:00 PM - 6:00 PM



To: MARKR,DONN,JODYK,DOUGC,TERRYB,JIMT,LARRYT,KATHYP,DEBBIEK
From: Dave Tontoli
Subject: DESIGN HOURLY VOLUMES
Date: 8/25/94 Time: 10:11a

I have completed four (4) Average annual traffic counts (AADT) These counts are used for the following:

1. Locating areas where new facilities or improvements to existing facilities are needed.
2. Measuring and evaluating traffic flow and demand.
3. Developing.
4. Programming capital improvements.

I'm excited because we have factors that will bring a present count (for example a count that was conducted in Febuary, our lowest traffic volume month) to a yearly average. Especially useful for impact requirements.

How the counts were conducted was to set counters for a 24 hour a day, one week period, each month of the year. The one (1) week counts were averaged, the twelve monthy, one (1) week counts were added and averaged, and each monthly count was divided by the average of the 12 months. The product is a percentage factor (example 1.07) for each month to be multipled to the month traffic count.

The following is the locations and factors:

Horizon Drive, between G Road and I70
Jan. 1.15%
Feb. 1.07%
Mar. 1.05%
Apr. .95%
May. .98%
Jun. .92%
Jul. .94%
Aug. .94%
Sep. .93%
Oct. 1.08%
Nov. 1.00%
Dec. 1.07%

Patterson Road, between 27 1/2 and 28 Rd.
Jan. 1.26%
Feb. 1.02%
Mar. 1.02%
Apr. 1.02%
May. 1.03%
Jun. .90%
Jul. 1.02%
Aug. .88%
Sep. .90%
Oct. .99%
Nov. 1.03%
Dec. 1.03%

South 5TH Street, between Pitkin and South Ave.

Jan. 1.15%
Feb. 1.09%
Mar. 1.05%
Apr. .97%
May. .97%
Jun. .97%
Jul. .99%
Aug. .96%
Sep. .94%
Oct. .95%
Nov. .99%
Dec. .99%

Hgwy 6/50, between 23 1/2 and 24 Rd.
Jan. 1.24%
Feb. 1.11%
Mar. 1.07%
Apr. 1.01%
May. 1.01%
Jun. .95%
Jul. .77%
Aug. .78%
Sep. .96%
Oct. 1.07%
Nov. 1.04%
Dec. 1.23%

I will be [illegible] to meet with all who are in need of further i[illegible]ation and additional help.

Also FYI, the new permanent count stations, that I had installed with Grant monies, are doing these counts as well.

REVIEW COMMENTS

FILE #PP-96-77 **TITLE HEADING:** Preliminary Plan - The Hacienda

LOCATION: SE corner F 1/4 and 24 ½ Roads

PETITIONER: J.B.I. Associates

PETITIONER'S ADDRESS/TELEPHONE: 2324 N. Seville Circle
Grand Junction, CO 81506
242-6720/260-7445

PETITIONER'S REPRESENTATIVE: Bill Ihrig/Terry Nichols

STAFF REPRESENTATIVE: Kathy Portner

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS ON OR BEFORE 5:00 P.M., APRIL 25, 1996.

GRAND JUNCTION DRAINAGE DISTRICT **4/10/96**
John L. Ballagh **242-4343**

1. The closest Grand Junction Drainage District facility is the Carpenter Drain which lies north of this site. Surface water from the development does not get into the Carpenter Drain.
2. The plans show an existing 18" storm sewer but only for a short distance south of the SW corner of the development. It might be very reasonable to have the engineer quantify the base flow(s) in that 18" storm sewer, identify all the contributing areas, evaluate the capacity of the 18" storm sewer, identify the route of the 18" storm sewer all the way to whichever natural watercourse (i.e. Colorado River). The responsible agency for the 18" line should be identified.

CITY FIRE DEPARTMENT **4/10/96**
Hank Masterson **244-1414**

1. The inside turning radius of our ladder truck is 30' and the outside turning radius is 50'. Petitioner must submit a site plan showing that all intersections required for fire department truck access will provide this turning spacing.
2. All three story apartments must have 13R type fire sprinkler systems. The strip mal building as shown is required to be fully fire sprinklered.
3. For the final plan, submit a complete utility composite showing fire line sizes and hydrant locations. Minimum line size is 8". Hydrants are required at intersections and must be spaced no more than 300' apart and located so that no property frontage is more than 150' from a hydrant. Include in the utility composite the location and sizes of underground water lines for all fire sprinkler systems.

PUBLIC SERVICE COMPANY **4/8/96**
Jon M. Price **244-2693**

1. Public Service Company will require either a "blanket utility easement" or a signed agreement stating that the developer will provide an "as-built" survey of Public Service Company facilities. This survey is to be performed by individuals licensed by the State of Colorado.

2. The 14' easement, located along the southern right-of-way line of F.25 Road, must be within 6" of final grade. Both gas and electric facilities will be extended into the project from 24.5 Road.

CITY COMMUNITY DEVELOPMENT **4/12/96**
Kathy Portner **244-1446**
See attached comments.

UTE WATER DISTRICT **4/12/96**
Gary R. Mathews **242-7491**

1. A utility composite is needed for review before approval. This project is required to participate in a 12" main line extension for Fisher Subdivision at 24 ½ Road. The water main size for F 1/4 Road will be decided by Ute Water. Further discussion with the developer is needed for water line size, water meter and fire plug locations.
2. Water mains shall be C-900, class 150. Installation of pipe fittings, valve and services including testing and disinfection shall be in accordance with Ute Water standard specifications and drawings.
3. Developer is responsible for installing meter pits and yokes.
4. Policies and fees in effect at the time of application will apply.

CITY DEVELOPMENT ENGINEER **4/15/96**
Jody Kliska **244-1591**

1. No traffic study has been submitted yet.
2. What are the proposed uses of the planned business area?
3. A center entry to the businesses from 24 ½ Road with pedestrian access to the businesses is desirable. Current parking configuration does not appear to meet landscaping and lighting ordinance and will need to be reconfigured to meet that.
4. Adequate stormwater facilities must be constructed with the first phase, as well as necessary street improvements.

CITY POLICE DEPARTMENT **4/16/96**
Dave Stassen **244-3587**

1. Some provision needs to be made for a fence along the east of the commercial and extending along the north and south sides at least to the front edge of the building. This would hopefully be wrought iron or chain link. This fence would funnel pedestrian traffic away from the back of the building.
2. I would recommend doing away with the cover's for the parking in phase 6. This only encourages vandalism to cars, thefts from cars, and hinders resident's ability to watch each others cars for criminals.
3. If the storage units could be reoriented to go north and south, it would reduce the occurrence of unit burglary.

MESA COUNTY SCHOOL DISTRICT #51 **4/15/96**
Lou Grasso **242-8500**

SCHOOL - CURRENT ENROLLMENT / CAPACITY - PROJECT IMPACT *
Appleton Elementary - 277 / 250 - 49
West Middle School - 531 / 500 - 20
** Fruita Monument High School - 1337 / 1100 - 26

* Impact computed on townhouses only
** Year-round school

CITY PARKS & RECREATION **4/16/96**
Shawn Cooper **244-3869**

Parks and Open Space Fees - Phase I - 36 units @ $225 = $8,100.

CITY UTILITY ENGINEER **4/11/96**
Trent Prall **244-1590**

1. Petitioner needs to identify which portions of the sewer will be publicly maintained and which will be privately maintained by the Homeowner's Association.
2. Alignment of the sewer shown appears adequate, more comments upon final submittal.
3. The City of Grand Junction Utility Division has no other objections to this proposal.

U.S. WEST **4/16/96**
Max Ward **244-4721**

U.S. West will need to see utility easements on plat. Please contact field engineer Max Ward.

CITY DEVELOPMENT ENGINEER - (Traffic Study) **4/26/96**
Jody Kliska **244-1591**

1. No recommendations were included with the study. Based upon the information presented, the recommendations should indicate the extent of 24 1/2 Road improvements needed for the appropriate roadway section, a verification of the F 1/4 Road classification and a recommendation to construct the intersection of F 1/4 and 24 1/2 to accommodate a turn lane on F 1/4 Road.
2. Another recommendation should be for different signal timing for the future, as the analysis indicates a LOS F with the 20 year projections. It appears a change in signal timing, rather than additional turn lanes, would produce a better LOS than F.
3. The study identifies 24 1/2 Road as a minor arterial; it is currently classified as an urban collector street.
4. Trip generation table: passby factors were incorrectly applied to the average weekday traffic for entering and exiting volumes. Then intent of allowing passby traffic is that percentage is subtracted from new trips added to the adjacent street system. The entering and exiting volumes for the site are not reduced, because the passby traffic is still coming and going. However, the passby traffic was not applied to the analysis for peak hours, so it is not an issue. Comment if for information.
5. On the drawing for am and pm peak hour site traffic, show the distribution at the F 1/4 and 24 1/2 Road intersection. At F and 24 1/2, the trip assignment shows 20% WB and 30% SB, but the distribution assumes equal percentages.
6. The projected 20 ADT for F 1/4 Road is above the threshold for an urban residential collector as shown in the City standards. It appears an urban collector section is more appropriate.
7. Please submit two complete copies of an updated traffic study for this project.

TCI CABLEVISION **4/23/96**
Glen Vancil **245-8777**

See attached comments.

TO DATE, COMMENTS NOT RECEIVED FROM:

City Property Agent	Mesa County Planning
City Attorney	Grand Valley Irrigation

We're taking television into tomorrow.

TCI Cablevision of Western Colorado, Inc.

April 23, 1996

Hacienda Sub.
Terry Nichols / Bill Ihrig
% Community Development Department
250 North 5th Street
Grand Junction, CO 81501

Ref. No. CON19617

Dear Mr. Nichols and Mr. Ihrig;

We are in receipt of the plat map for your new subdivision, **Hacienda Sub.**. We will be working with the other utilities to provide service to this subdivision in a timely manner.

I would like to take this opportunity to bring to your attention a few details that will help both of us provide the services you wish available to the new home purchasers. These items are as follows:

1. We require the developers to provide, at no charge to TCI Cablevision, an open trench for cable service where underground service is needed and when a roadbore is required, that too must be provided by the developer. The trench and/or roadbore may be the same one used by other utilities so long as there is enough room to accommodate all necessary lines.

2. We require developers to provide, at no charge to TCI Cablevision, fill-in of the trench once cable has been installed in the trench.

3. We require developers to provide, at no charge to TCI Cablevision, a 4" PVC conduit at all utility road crossings where cable TV will be installed. This 4" conduit will be for the sole use of cable TV.

4. Should your subdivision contain cul-de-sac's the driveways and property lines (pins) must be clearly marked prior to the installation of underground cable. If this is not done, any need to relocate pedestals or lines will be billed directly back to your company.

5. TCI Cablevision will provide service to your subdivision so long as it is within the normal cable TV service area. Any subdivision that is out of the existing cable TV area may require a construction assist charge, paid by the developer, to TCI Cablevision in order to extend the cable TV service to that subdivision.

6. TCI will normally not activate cable service in a new subdivision until it is approximately 30% developed. Should you wish cable TV service to be available for the first home in your subdivision it will, in most cases, be necessary to have you provide a construction assist payment to cover the necessary electronics for that subdivision.

Additionally, you will need to make certain that we have access easement across 25 Road and along F 1/4 Road in order to properly serve your subdivision.

Should you have any other questions or concerns please feel free to contact me at any time. If I am out of the office when you call please leave your name and phone number with our office and I will get back in contact with you as soon as I can.

Sincerely,

Glen Vancil

Glen Vancil,
Construction Supervisor 245-8777

2502 Foresight Circle
Grand Junction, CO 81505
(970) 245-8750

PP-96-77 Hacienda
Community Development Review Comments
4/12/96 Kathy Portner

1. Redesign the east end of the development to increase the amount of open space. As we discussed, that can be achieved by shortening the street segments to the east.

2. All internal streets must loop or have adequate turn-around area.

3. Redistribute parking pods as much as possible to increase open space areas, reduce long expanses of parking and make pods conveniently located for all units.

4. The perimeter wall of the development should be masonry on all sides, including the west and south side to minimize the noise impact of adjacent commercial uses.

5. Walk through gates should be provided from the development to the adjacent commercial development to the west.

6. The design of the commercial building might include a breezeway, or other break in the building to accommodate walk-through traffic and add architectural interest.

7. Covenants for the entire development should contain strict design guidelines for construction design and materials for all structure, including residential, storage units and the commercial building.

8. The storage units would have to be restricted for use by the residents of the development.

9. The highest density units, at the west end of the project, have very little direct access to open space. Are there any redesign options to better distribute the density and open space?

10. The plan should contain the conceptual idea for the linear drainage/open space at the south end of the property.

11. What screening is proposed for the storage units? Are there any provisions for RV storage?

12. The access to the commercial strip would be better located centered on the development with a blvd. type entrance.

13. Proposed square footage and uses of the commercial area must be identified. The size of the commercial building might be limited by the parking and landscaping requirements.

14. Based on other similar projects you're familiar with, justify the amount of open space that is being provided. What is the

targeted market for the units.

15. Show the proposed design of the internal streets and describe the maintenance mechanism proposed.

PROJ:3260

REVIEW COMMENTS

FILE #PP-96-77 TITLE HEADING: PRELIMINARY PLAN - THE HACIENDA

LOCATION: SE CORNER F 1/4 AND 24 1/2 ROADS

PETITIONER: J. B. I. ASSOCIATES

PETITIIONER'S ADDRESS/TELEPHONE: 2324 N. SEVILLE CIRCLE
GRAND JUNCTION, CO 81506
242-6720/260-7445

PETITIONER'S REPRESENTITIVE: BILL IHRIG/TERRY NICHOLS

STAFF REPRESENTATIVE: KATHY PORTNER

CITY FIRE DEPARTMENT 4/10/96 - REPLY 4/25/96
HANK MASTERSON 244-1414

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1. The inside turning radius of our ladder truck is 30'and the outside turning radius is 50'. Petitioner must submit a site plan showing that all interesections required for fire department truck access will provide this turning spacing.

RESPONSE: Turning radius are shown on revised preliminary meet requirements.

2. All three story apartments must have 13R type fire sprinkler systems. The strip mall building as shown is required to be fully fire sprinklered.

RESPONSE: We will comply to 13 R. Strip mall will comply before construction.

3. For the final plan, submit a complete utility composite showing fire line sizes and hydrant locations. Minimum line size is 8". Hydrants are required at intersections and must be spaced no more than 300'apart and located so that no property frontage is more than 150'from a hydrant. Include in the utility composite the location and sizes of underground water lines for all fire sprinkler systems.

RESPONSE: Will comply later as per conversation with Hank Masterson.

PUBLIC SERVICE COMPANY 4/8/96 REPLY 4/25/96
JON M. PRICE 244-2693

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1. Public Service Company will require either a "blanket utility easement" or a signed agreement stating that the developer will provide an "as-built" survey of Public Service Company facilities. This survey is to be performed by individuals licensed by the State of Colorado.

RESPONSE: We agree to the requirements.

PP-96-77/REVIEW COMMENTS/page 2

2. The 14' easement, located along the southern right-of-way line of F.25 Road, must be within 6" of final grade. Both gas and electric facilities will be extended into the project from 24.5 Road.

RESPONSE: We agree to the requirements.

CITY COMMUNITY DEVELOPMENT 4/12/96 REPLY 4/25/96
KATHY PORTNER 244-1446

See attached comments.

UTE WATER DISTRICT 4/12/96 REPLY 4/25/96
GARY R. MATHEWS 242-7491

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1. A utility composite is needed for review before approval. This project is required to participatein a 12" line extension for Fisher Subdivision at 24 1/2 Road. The water main size for F 1/4 Road will be decided by Ute Water. Further discussion with the developer is needed for water line size, water meter and fire plug locations.

RESPONSE: We understand the requirements and expect to be able to meet same.

2. Water mains shall be C-900, class 150. Installation of pipe fittings, valve and services including testing and disinfection shall be in accordance with Ute Water standard specifications and drawings.

RESPONSE: We understand the requirements and expect to be able to meet same.

3. Developer is responsible for installing meter pits and yokes.

RESPONSE: We understand the requirements and expect to be able to meet same.

4. Policies and fees in effect at the time of application will apply.

RESPONSE: We understand the requirements and expect to be able to meet same.

CITY DEVELOPMENT ENGINEER 4/15/96 REPLY 4/25/96
JODY KLISKA 244-1591

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1. No traffic study has been submitted yet.

RESPONSE: Traffic study has been submittted.

2. What are the proposed uses of the planned business area?

RESPONSE: Business area will be retail and is designed based on B-3 guidelines.

3. A center enty to the businesses from 24 1/2 Road with pedestrian access to the business is desirable. Current parking configuration does not appear to meet landscaping and lighting ordinance and will need to be reconfigured to meet that.

RESPONSE: Revised preliminary addresses entry and meets landscaping requirements. Lighting will be met before final plat.

4. Adequate stormwater facilities must be constructed with the first phase, as well as necessary street improvements.

RESPONSE: We acknowledge issue and will work out same.

CITY POLICE DEPARTMENT 4/16/96 REPLY 4/25/96
DAVE STASSEN 244-3587

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1. Some provision needs to be made for a fence along the east of the commercial and extending along the north and south sides at least to the front edge of the building. This would hopefully be wrought iron or chain link. this fence would funnel pedestrain traffic away from the back of the building.

RESPONSE: The fencing on the business is not a problem.

2. I would recommend doing away with the cover's for the parking in phase 6. This only encourages vandalism to cars, thefts from cars, and hinders resident's ability to watch each others cars for criminals.

RESPONSE: The carports will all be lighted and the residents will have a choice whether to seek covered parking or open parking, which is available.

3. If the storage units could be reoriented to go north and south, it would reduce the occurance of unit burglary.

RESPONSE: We have changed the alignment of storage units.

MESA COUNTY SCHOOL DISTRICT #51 4/15/96 REPLY 4/25/96
LOU GRASSO 242-8500

SCHOOL-CURRENT ENROLLMENT/CAPACITY - PROJECT IMPACT*
Appleton Elementary-277/250-49
West Middle School-531/500-20
**Fruita Monument High School-1337/1100-26
*Impact computed on townhouses only
**Year-round school

RESPONSE: No Comment

CITY PARKS & RECREATION 4/16/96 REPLY 4/25/96
Shawn Cooper 244-3869

Parks and Open Space Fees-Phase I - 36 units @ $225=$8,100

RESPONSE: No Comment

CITY UTILITY ENGINEER 4/11/96 REPLY 4/25/96
TRENT PRALL 244-1590

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1. Petitioner needs to identify which portions of the sewer will be publicly maintained and which will be privately maintained by the Homeowner's Association.

RESPONSE: The sewer in the public right of way will be city maintained. All sewer within the development will be maintained by a Homeowner's Association.

2. Alignment of the sewer shown appears to be adequate, more comments upon final submittal.
3. The City of Grand Junction Utility Division has no other objections

to this proposal.

U.S. WEST — 4/16/96 REPLY 425/96
MAX WARD — 244-4721

U.S. West will need to see utility easement on plat. Please contact field engineer Max Ward.
RESPONSE: No comment

TO DATE, COMMENTS NOT RECEIVED FROM:

City Property Agent
City Attorney
Mesa County Planning
Grand Valley Irrigation
TCI Cablevision

PP-96-77 Hacienda page 5
Community Development Review Comments
4/12/96 Kathy Portner Reply 4/25/96
244-1446

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1. Redesign the east end of the development to increase the amount of open space. As we discussed, that can be achieved by shortening the street segments to the esat.

RESPONSE: See revised preliminary plan.

2. All internal streets must loop or have adequate turn-around area.

RESPONSE: See revised preliminary plan.

3. Redistribute parking pods as much as possible to increase open space areas, reduce long expanses of parking and make pods conveniently located for all units.

RESPONSE: See revised preliminary plan.

4. The perimeter wall of the development should be masonry on all sides, including the west and south side to minimize the noise impact of adjacent commercial uses.

RESPONSE: We agree that masonry walls are needed on the east, north and west side of the property for screening and noise protection. We feel that because of the distance of approximately 100 feet from the building units to the south property line and the proposed green area that a masonry fence in unnecessary. We propose a chain link fence with visual screening from the proposed business use to the south. All of the area inside of the fence will be heavily landscaped.

5. Walk through gates should be provided from the development to the adjacent commercial development to the west.

RESPONSE: See revised preliminary plan.

6. The design of the commercial building might include a breezeway, or other break in the building to accomodate walk-through traffic and add architectual interest.

RESPONSE: See revised preliminary plan.

7. Covenants for the entire development should contain strict design guidelines for construction design and materials for all structure, including residential, storage units and the commercial building.

RESPONSE: We agree to this at final plan.

8. The storage units would have to be restricted for use by the residents of the development.

RESPONSE: We agree to this at final plan.

9. The highest density units, at the west end of the project, have very little direct access to open space. Are there any redesign options to better distribute the density and open space?

RESPONSE: See revised preliminary plan.

10. The plan should contain the conceptual idea for the linear drainage/open space at the south end of the property.

RESPONSE: See revised preliminary plan.

11. What screening is proposed for the storage units? Are there any provisions for RV storage?

RESPONSE: We do not feel that the residents will have as much need for RV parking as storage units. We propose that the storage units be enclosed with chain link fence with visual screening.

12. The access to the commercial strip would be better located centered on the development with a blvd. type entrance.

RESPONSE: See revised preliminary plan.

13. Proposed square footage and uses of the commercial area must be identified. The size of the commercial building might be limited by the parking and landscaping requirements.

RESPONSE: See revised preliminary plan. Meets requirements.

14. Based on other similar projects you're familiar with, justify the amount of open space that is being provided. What is the targeted market for the units.

RESPONSE: The project that the single family units are designed after have the same front yard space, while not having access to the large passive green space to the south.

15. Show the proposed design of the internal streets and describe the maintenance mechanism proposed.

RESPONSE: A homeowner's association will be set up to take care of all maintenance to utilities, streets, and open space.

NICHOLS ASSOCIATES, INC.
751 Horizon Court, Suite 102, Grand Junction, CO 81506
Phone 970-245-7101 • FAX 970-245-3251

CIVIL ENGINEERING • SURVEYING • PHOTOGRAMMETRY

April the Twenty-Fourth
19 96

HACIENDA
Proj: 3260

Response to: Grand Junction Drainage District
John L Ballagh

Comment 1 - The closest Grand Junction Drainage District facility is the Carpenter Drain which lies north of this site. Surface water from the development does not get into the Carpenter Drain.

Response - Petitioner's engineer concurs.

Comment 2 - The plans show an existing 18" storm sewer but only for a short distance south of the SW corner of the development. It might be very reasonable to have the engineer quantify the base flow(s) in that 18" storm sewer, identify all the contributing areas, evaluate the capacity of the 18" storm sewer, identify the route of the 18" storm sewer all the way to whichever natural watercourse (i.e. Colorado River). The responsible agency for the 18" line should be identified.

Response - The 18" line discussed in this comment flows into a 15" line at F Road which in turns dumps into an 81" by 59" CSP which carries Independent Ranchman's ditch as well as storm flows from other upstream areas. Given these conditions, it is somewhat of a moot point to do additional flow analysis. Further, it is proposed that storm water flows from the site will be maintained at historic levels. These issues have been discussed with the city of Grand Junction engineering department.

STAFF REVIEW

FILE: #96-77

DATE: May 1, 1996

STAFF: Kathy Portner

REQUEST: Preliminary Plan--Hacienda

LOCATION: F 1/4 and 24 1/2 Road

APPLICANT: J.B.I. Associates

EXISTING LAND USE: Undeveloped and 1 single family home

PROPOSED LAND USE: Retail/Apartments/Townhomes

SURROUNDING LAND USE:

NORTH:	Agriculture/Undeveloped
SOUTH:	Commercial
EAST:	Single Family Residential/Undeveloped
WEST:	Commercial

EXISTING ZONING: Planned Business(PB) and Planned Residential(PR)

PROPOSED ZONING: Same

SURROUNDING ZONING:

NORTH:	RSF-R (Residential Single Family, Rural)
SOUTH:	PB (Planned Business)
EAST:	PB and PR (Planned Residential)
WEST:	H.O. (Highway Oriented)

RELATIONSHIP TO COMPREHENSIVE PLAN:

No Comprehensive Plan exists for this area. The draft Growth Plan shows this property as commercial for the 24 1/2 Road frontage and medium to high density residential (8-11.9 units per acre) for the remainder.

STAFF ANALYSIS:

In 1984 a plan was approved for the PR zoned part of the property along F 1/4 Road, east of 24 1/2 Road for housing at 17 units per acre. The plan included apartments and townhomes. In 1985 the plan was reverted, but the zoning remained Planned Residential, 17 units per acre. This proposal also includes the 4.54 acre property along 24 1/2 Road which was zoned Planned Business in 1995 at the time of annexation. The list of approved uses for the PB zoning included all B-3 uses with the exception of outdoor sales.

The proposal is for 45,368 s.f. of business/commercial on the 4.54 acre property along 24 1/2 Road, which is zoned PB. The remainder of 25.54 acres is planned for 275 apartment units in 12 buildings, 155 townhome units and 168 storage units for the residents. The overall density proposed is 16.8 units per acre. The project would include improvements to 25 1/2 Road and F 1/4 Road for access to the property. All internal roads are proposed to be 24' wide private drives accessing parking lots for the apartments and parking pods and driveways for the townhomes. The project is proposed in 7 phases, with the first 3 phases being the townhomes and phases 4,5 and 6 being the apartments and the commercial center being the final phase.

Townhome Units

The 155 townhomes units are proposed on 12.3 acres. The townhome garages would be accessed by a 24' driveway to the rear of the buildings. Each unit would have a two-car garage. The front of the units would face a common courtyard, varying in width from 45' to 50'. 127 additional parking spaces are provided in parking pods throughout the development, or .8 spaces per unit. The spaces provided far exceed the Code requirements for multifamily development, which is 1.5 spaces per unit plus 1 space per every 5 spaces for a total of 279 spaces. A total of 437 spaces are provided.

A 10,000 s.f. area in the center of the townhome development is proposed for active recreation. It includes a club house, pool/hot tub, half basketball court and a play area. In addition to that area 60.5% of the area is in open space, which includes the common courtyards and the drainage area along the south boundary. The intent of the drainage area is to provide a natural setting for a proposed walkway. Sidewalks are proposed throughout the development connecting the units. All the common areas will be landscaped by the developer.

One of the concerns with the proposal is the lack of usable open space. Using the Census figures of 2.164 persons per dwelling unit in the City, there could be a total of 335 residents in the townhome area. A standard being considered by the City for multi-family development is a minimum of 175 s.f. of usable open space per dwelling unit. For this area that would be 27,125 s.f. Up to 50% of the required area can be waived if active recreation amenities are provided, such as pools, tennis courts or playgrounds. The area provided for the club house, pool, play area and basketball court would count for the 50% credit, so a total of 13,562 s.f. of usable open space would have to be provided. Usable opens space area excludes parking areas, required landscape areas, land with floodway, water bodies, and land with greater than 15% slope. While 60% of the townhome area is open space, that open space is the common courtyards between units and the drainageway.

Some general design consideration include:

1. moving the parking pod in the far south-east corner to the west of the last driveway to eliminate a short section of drive area and increase the green area;

2. eliminating the drive area directly north of the club house area and replacing it with green space and relocating those parking spaces to the east of the club house;

3. assuring there are adequate turn-arounds at the end of all drive areas (specifically the driveways between the units in Phase I).

Apartments

275 apartment units are proposed on 10.9 acres. The units are within 12 buildings, with each building having 15, 20 or 30 units. The required parking for the apartments is 496 spaces and 453 spaces are provided in the apartment area. An additional 39 spaces are located along the north boundary access road that are not needed for the townhome development, but they are not conveniently located for the apartments. Some additional parking spaces might be lost in meeting the parking lot landscaping requirement of interior islands.

A 22,800 s.f. area is proposed in the center of the apartment area to include an activity area, pool, basketball/volleyball court and children's play area. In addition to that area, 64% of the remaining site is in open space, including areas around the buildings and the drainageway. Using the formula stated above, 48,125 s.f. of usable open space should be provided. The area provided for the pool and basketball/volleyball courts could be used for a 50% reduction in that requirement, resulting in 24,062 s.f. being required. The 7,500 s.f. children's play area would also reduce that requirement to 16,562 s.f. The large areas provided between the buildings, 50' between most units and 30' minimum could make up the difference of the requirement for usable open space. Staff recommends that the center buildings be shifted north or south to provide a larger open space area for each complex.

Some general design considerations include:

1. the walkways between units should continue between the eastern-most units to provide a good connection between the apartment development and the townhomes;

Storage Units

Storage units for the use of the residents are proposed south of the apartment area. Access to the units would be from the access roads in the development. There would not be access to Patterson Road. The design of the storage units must maintain adequate vehicular maneuvering space between and around units.

Commercial Area

The proposed commercial area along 24 1/2 Road includes 4.3 acres that is zoned Planned Business (PB). A total of 45,368 s.f. of floor space in proposed for office/retail-type uses.

The plan is showing two breezeways to breakup the long building facade and to offer easier pedestrian access to the businesses from the residential development to the east. Walk-through gates to the residential area will also be provided. Staff recommended one central entrance off of 24 1/2 Road and that it be a boulevard with sidewalks provided. The parking along the entrance could not back directly into the access lane. The square footage of commercial area shown will likely be reduced in the final plan to provide adequate landscaping in the parking area.

Other Issues

The applicant is proposing a perimeter masonry wall along the east, north and west side of the residential property for screening and noise buffering. A wall is not proposed along the south property line because of the distance from the buildings to the property line and the separation by the drainage. A chain link fence with "visual screening" is proposed along that property line and around the storage units. Staff recommends that the masonry wall be continued along the south property line and include the perimeter of the storage units. The storage units should not be visible from either Patterson Road or 24 1/2 Road.

The covenants for the entire development will include strict design guidelines for the residential and commercial buildings to provide for uniformity.

An area between the wall and F 1/2 Road should be provided for landscaping.

STAFF RECOMMENDATION:

Staff feels this is a good project in this location, but recommends denial of the preliminary plan because of the inadequacy of usable open space in the townhome area and the lack of sufficient parking convenient to the apartment area. The project could be redesigned at the west end of the townhome area to accommodate additional open space and provide parking adjacent to the apartments. A reduction of units might be necessary.

RECOMMENDED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #PP-96-77, I move we approve the Preliminary Plan for The Hacienda with the following conditions:

Hacienda
Proj: 3260

Maurice L Schumann
May 10 1996

AREA SUMMARY

APARTMENTS:

Units			275	
OPEN SPACE			sf	Acres
Required	sf per unit = 175		48125	1.10
Reductions				
Recreation Amenities		50.0%	24063	0.55
Children's Play Area			7500	0.17
Total Required Usable Open Space			16563	0.38
Provided			34758	0.80
Surplus			18196	0.42
Total Open Space			193278	4.44
Residential Building Footprint Area			91392	2.10
Recreational Footprint Area			20880	0.48

TOWNHOMES

Units			155	
OPEN SPACE			sf	Acres
Required	sf per unit = 175		27125	0.62
Reductions				
Recreation Amenities		50.0%	13563	0.31
Total Required Usable Open Space			13563	0.31
Provided			18792	0.43
Surplus			5230	0.12
Total Open Space			106704	2.45
Residential Building Footprint Area			136400	3.13
Recreational Footprint Area			2444	0.06

STAFF REVIEW

FILE: PP-96-77

DATE: May 29, 1996

STAFF: Kathy Portner

REQUEST: Preliminary Plan--Hacienda

LOCATION: F 1/4 and 24 1/2 Road

APPLICANT: J.B.I. Associates

EXISTING LAND USE: Undeveloped and 1 single family home

PROPOSED LAND USE: Retail/Apartments/Townhomes

SURROUNDING LAND USE:

NORTH:	Agriculture/Undeveloped
SOUTH:	Commercial
EAST:	Single Family Residential/Undeveloped
WEST:	Commercial

EXISTING ZONING: Planned Business(PB) and Planned Residential(PR)

PROPOSED ZONING: Same

SURROUNDING ZONING:

NORTH:	RSF-R (Residential Single Family, Rural)
SOUTH:	PB (Planned Business)
EAST:	PB and PR (Planned Residential)
WEST:	H.O. (Highway Oriented)

RELATIONSHIP TO COMPREHENSIVE PLAN:

No Comprehensive Plan exists for this area. The draft Growth Plan shows this property as commercial for the 24 1/2 Road frontage and medium to high density residential (8-11.9 units per acre) for the remainder.

STAFF ANALYSIS:

In 1984 a plan was approved for the PR zoned part of the property along F 1/4 Road, east of 24 1/2 Road for housing at 17 units per acre. The plan included apartments and townhomes. In 1985 the plan was reverted, but the zoning remained Planned Residential, 17 units per acre. This proposal also includes the 4.54 acre property along 24 1/2 Road which was zoned Planned Business in 1995 at the time of annexation. The list of approved uses for the PB zoning included all B-3 uses with the exception of outdoor sales.

The proposal is for 45,368 s.f. of business/commercial on the 4.54 acre property along 24 1/2 Road, which is zoned PB. The remainder of 25.54 acres is planned for 275 apartment units in 12 buildings, 155 townhome units and 168 storage units for the residents. The overall density proposed is 16.8 units per acre. The project would include improvements to 25 1/2 Road and F 1/4 Road for access to the property. All internal roads are proposed to be 24' wide private drives accessing parking lots for the apartments and parking pods and driveways for the townhomes. The project is proposed in 7 phases, with the first 3 phases being the townhomes and phases 4,5 and 6 being the apartments and the commercial center being the final phase.

Townhome Units

The 155 townhomes units are proposed on 12.3 acres. The townhome garages would be accessed by a 24' driveway to the rear of the buildings. Each unit would have a two-car garage. The front of the units would face a common courtyard, varying in width from 45' to 50'. 119 additional parking spaces are provided in parking pods throughout the development, or .8 spaces per unit. The spaces provided far exceed the Code requirements for multifamily development, which is 1.5 spaces per unit plus 1 space per every 5 spaces for a total of 279 spaces. A total of 429 spaces are provided.

A 10,000 s.f. area in the center of the townhome development is proposed for active recreation. It includes a club house, pool/hot tub, half basketball court and a play area. In addition to that area approximately 60.5% of the area is in open space, which includes the common courtyards and the drainage area along the south boundary. The intent of the drainage area is to provide a natural setting for a proposed walkway. Sidewalks are proposed throughout the development connecting the units. All the common areas will be landscaped by the developer.

One of the concerns staff has had with the proposal is whether there is adequate usable open space. Using the Census figures of 2.164 persons per dwelling unit in the City, there could be a total of 335 residents in the townhome area. A standard being considered by the City for multi-family development is a minimum of 175 s.f. of usable open space per dwelling unit. For this area that would be 27,125 s.f. Up to 50% of the required area can be waived if active recreation amenities are provided, such as pools, tennis courts or playgrounds.

The area provided for the club house, pool, play area and basketball court would count for the 50% credit, so a total of 13,562 s.f. of usable open space would have to be provided. Usable opens space area excludes parking areas, required landscape areas, land with floodway, water

bodies, and land with greater than 15% slope. While approximately 60% of the townhome area is open space, the majority of the open space is the common courtyards between units and the drainageway. However, the applicant has redesigned to provide two large areas of open space, a 9,000 s.f. area north of the active recreation area and a 5,000 s.f. area at the east end. Those areas proposed would meet the minimum standard being considered.

The design of the proposed private internal streets meet the engineering and fire access requirements. Final design would have to assure adequate turn-around areas at the end of all drives.

Apartments

275 apartment units are proposed on 10.9 acres. The units are within 12 buildings, with each building having 15, 20 or 30 units. The required parking for the apartments is 496 spaces and 491 spaces are provided in the apartment area. An additional 39 spaces are located along the north boundary access road that are not needed for the townhome development, but they are not conveniently located for the apartments. Some additional parking spaces might be lost in meeting the parking lot landscaping requirement of interior islands.

A 22,800 s.f. area is proposed in the center of the apartment area to include an activity area, pool, basketball/volleyball court and children's play area. In addition to that area, 64% of the remaining site is in open space, including areas around the buildings and the drainageway. Using the formula stated above, 48,125 s.f. of usable open space should be provided. The area provided for the pool and basketball/volleyball courts could be used for a 50% reduction in that requirement, resulting in 24,062 s.f. being required. The 7,500 s.f. children's play area would also reduce that requirement to 16,562 s.f. Staff recommends the final design include a separation or good buffering between the play are and basketball court.

The large areas provided between the buildings, 50' between most units and 30' minimum could make up the difference of the requirement for usable open space. At staff's recommendation the center buildings have been shifted north or south to provide a larger open space area for each complex.

Storage Units

Storage units for the use of the residents are proposed south of the apartment area. Access to the units would be from the access roads in the development. There would not be access to Patterson Road. The design of the storage units must maintain adequate vehicular maneuvering space between and around units.

Commercial Area

The proposed commercial area along 24 1/2 Road includes 4.3 acres that is zoned Planned Business (PB). A total of 45,368 s.f. of floor space in proposed for office/retail-type uses. The plan is showing two breezeways to breakup the long building facade and to offer easier pedestrian access to the businesses from the residential development to the east. Walk-through

gates to the residential area will also be provided. Staff recommends that the pathway along the drainage continue to 24 1/2 Road to replace the walk through gate shown.

Staff recommended one central entrance off of 24 1/2 Road and that it be a boulevard with sidewalks provided. The parking along the entrance could not back directly into the access lane. The square footage of commercial area shown will likely be reduced in the final plan to provide adequate landscaping in the parking area.

Other Issues

The applicant is proposing a perimeter masonry wall along the east, north and west side of the residential property for screening and noise buffering. A wall is not proposed along the south property line because of the distance from the buildings to the property line and the separation by the drainage. A chain link fence with "visual screening" is proposed along that property line and around the storage units. Staff recommends that the masonry wall be continued along the south property line and include the perimeter of the storage units. The storage units should not be visible from either Patterson Road or 24 1/2 Road.

The covenants for the entire development will include strict design guidelines for the residential and commercial buildings to provide for uniformity.

An area between the wall and F 1/2 Road should be provided for landscaping.

STAFF RECOMMENDATION:

Staff recommends approval of the Preliminary Plan with the following conditions:

1. Final design of each phase must include adequate parking and landscaping for that phase.

2. Final design must include specific landscaping plans for all the common areas.

3. Improvements to F 1/4 Road and 24 1/2 Road will be as required by City Engineering.

4. The storage units will be for the sole use of the residents, with access only through the development. The units will be screened from view on the east, west and south and shall not be visible from Patterson Road or 24 1/2 Road.

5. The square footage of the proposed business uses will be dependent on adequate parking being provided in the final design with all required landscaping.

6. The proposed masonry fence shall include the entire perimeter of the residential development, as well as the storage units.

7. The covenants for the entire development shall include strict design guidelines for the residential and commercial buildings to provide for uniformity.

8. An area between the wall and F 1/2 Road improvements shall be provided for landscaping to be approved with the final design.

RECOMMENDED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #PP-96-77, I move we approve the Preliminary Plan for The Hacienda with the staff recommendation and that we recommend the street standards be varied to allow for internal private streets.

6/4/96 - PC Approval as per staff recommendation.
6-0

STAFF REVIEW

FILE: PP-96-77

DATE: June 5, 1996

STAFF: Kathy Portner

REQUEST: Preliminary Plan--Hacienda

LOCATION: F 1/4 and 24 1/2 Road

APPLICANT: J.B.I. Associates

EXECUTIVE SUMMARY:

Appeal of the Planning Commission approval of Preliminary Plan for townhomes, apartments, mini-storage and retail shopping on approximately 30 acres zoned PB (Planned Business) and PR-17 (Planned Residential with a density not to exceed 17 units per acre. The applicant is also requesting a variance to City street standards to allow internal private streets.

EXISTING LAND USE: Undeveloped and 1 single family home

PROPOSED LAND USE: Retail/Apartments/Townhomes

SURROUNDING LAND USE:

NORTH:	Agriculture/Undeveloped
SOUTH:	Commercial
EAST:	Single Family Residential/Undeveloped
WEST:	Commercial

EXISTING ZONING: Planned Business(PB) and Planned Residential(PR)

PROPOSED ZONING: Same

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RELATIONSHIP TO COMPREHENSIVE PLAN:

No Comprehensive Plan exists for this area. The draft Growth Plan shows this property as commercial for the 24 1/2 Road frontage and medium to high density residential (8-11.9 units per acre) for the remainder.

STAFF ANALYSIS:

In 1984 a plan was approved for the PR zoned part of the property along F 1/4 Road, east of 24 1/2 Road for housing at 17 units per acre. The plan included apartments and townhomes. In 1985 the plan was reverted, but the zoning remained Planned Residential, 17 units per acre. This proposal also includes the 4.54 acre property along 24 1/2 Road which was zoned Planned Business in 1995 at the time of annexation. The list of approved uses for the PB zoning included all B-3 uses with the exception of outdoor sales.

The proposal is for 45,368 s.f. of business/commercial on the 4.54 acre property along 24 1/2 Road, which is zoned PB. The remainder of 25.54 acres is planned for 275 apartment units in 12 buildings, 155 townhome units and 168 storage units for the residents. The overall density proposed is 16.8 units per acre. The project would include improvements to 25 1/2 Road and F 1/4 Road for access to the property. All internal roads are proposed to be 24' wide private drives accessing parking lots for the apartments and parking pods and driveways for the townhomes. The project is proposed in 7 phases, with the first 3 phases being the townhomes and phases 4,5 and 6 being the apartments and the commercial center being the final phase.

Townhome Units

The 155 townhomes units are proposed on 12.3 acres. The townhome garages would be accessed by a 24' driveway to the rear of the buildings. Each unit would have a two-car garage. The front of the units would face a common courtyard, varying in width from 45' to 50'. 119 additional parking spaces are provided in parking pods throughout the development, or .8 spaces per unit. The spaces provided far exceed the Code requirements for multifamily development, which is 1.5 spaces per unit plus 1 space per every 5 spaces for a total of 279 spaces. A total of 429 spaces are provided.

A 10,000 s.f. area in the center of the townhome development is proposed for active recreation. It includes a club house, pool/hot tub, half basketball court and a play area. In addition to that area approximately 60.5% of the area is in open space, which includes the common courtyards and the drainage area along the south boundary. The intent of the drainage area is to provide a natural setting for a proposed walkway. Sidewalks are proposed throughout the development connecting the units. All the common areas will be landscaped by the developer.

One of the concerns staff has had with the proposal is whether there is adequate usable open space. Using the Census figures of 2.164 persons per dwelling unit in the City, there could

be a total of 335 residents in the townhome area. A standard being considered by the City for multi-family development is a minimum of 175 s.f. of usable open space per dwelling unit. For this area that would be 27,125 s.f. Up to 50% of the required area can be waived if active recreation amenities are provided, such as pools, tennis courts or playgrounds.

The area provided for the club house, pool, play area and basketball court would count for the 50% credit, so a total of 13,562 s.f. of usable open space would have to be provided. Usable opens space area excludes parking areas, required landscape areas, land with floodway, water bodies, and land with greater than 15% slope. While approximately 60% of the townhome area is open space, the majority of the open space is the common courtyards between units and the drainageway. However, the applicant has redesigned to provide two large areas of open space, a 9,000 s.f. area north of the active recreation area and a 5,000 s.f. area at the east end. Those areas proposed would meet the minimum standard being considered.

The design of the proposed private internal streets meet the engineering and fire access requirements. Final design would have to assure adequate turn-around areas at the end of all drives.

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space between and around units.

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Other Issues

The applicant is proposing a perimeter masonry wall along the east, north and west side of the residential property for screening and noise buffering. A wall is not proposed along the south property line because of the distance from the buildings to the property line and the separation by the drainage. A chain link fence with "visual screening" is proposed along that property line and around the storage units. Staff recommends that the masonry wall be continued along the south property line and include the perimeter of the storage units. The storage units should not be visible from either Patterson Road or 24 1/2 Road.

The covenants for the entire development will include strict design guidelines for the residential and commercial buildings to provide for uniformity.

An area between the wall and F 1/2 Road should be provided for landscaping.

STAFF RECOMMENDATION:

Staff recommends approval of the Preliminary Plan with the following conditions:

1. Final design of each phase must include adequate parking and landscaping for that phase.

2. Final design must include specific landscaping plans for all the common areas.

3. Improvements to F 1/4 Road and 24 1/2 Road will be as required by City Engineering.

4. The storage units will be for the sole use of the residents, with access only through the development. The units will be screened from view on the east, west and south and shall not be visible from Patterson Road or 24 1/2 Road.

5. The square footage of the proposed business uses will be dependent on adequate parking being provided in the final design with all required landscaping.

6. The proposed masonry fence shall include the entire perimeter of the residential development, as well as the storage units.

7. The covenants for the entire development shall include strict design guidelines for the residential and commercial buildings to provide for uniformity.

8. An area between the wall and F 1/4 Road improvements shall be provided for landscaping to be approved with the final design.

9. The internal private streets shall be identified as private tracts dedicated to the homeowners as well as full width multi-purpose easements. The homeowners association shall establish an annual maintenance fund for the private streets. The formula and financial mechanisms of this fund shall be submitted by the petitioner for review and approval by the Public Works Department prior to the release of the Development Improvements Agreement.

PLANNING COMMISSION ACTION:

At their June 4, 1996 hearing, Planning Commission approved the Preliminary Plan and recommended approval of the variance to City street standards to allow internal private streets.

The Planning Commission approval has been appealed.

Hacienda
Proj: 3260

Maurice L Schumann
May 10 1996

AREA SUMMARY

APARTMENTS:

Units			275	
OPEN SPACE			sf	Acres
Required	sf per unit = 175		48125	1.10
Reductions				
Recreation Amenities		50.0%	24063	0.55
Children's Play Area			7500	0.17
Total Required Usable Open Space			16563	0.38
Provided			34758	0.80
Surplus			18196	0.42
Total Open Space			193278	4.44
Residential Building Footprint Area			91392	2.10
Recreational Footprint Area			20880	0.48

TOWNHOMES

Units			155	
OPEN SPACE			sf	Acres
Required	sf per unit = 175		27125	0.62
Reductions				
Recreation Amenities		50.0%	13563	0.31
Total Required Usable Open Space			13563	0.31
Provided			18792	0.43
Surplus			5230	0.12
Total Open Space			106704	2.45
Residential Building Footprint Area			136400	3.13
Recreational Footprint Area			2444	0.06

HACIENDA

This proposed subdivision will be located on the North side of F 1/4 Road and 24 1/2 Road. The west 4 1/2 acres is presently zoned Planned Business. The remaining acreage is presently zoned PR 17.

We are proposing retail shopping on the Business Property with one entrance on 24 1/2 Road and one entrance on F 1/4 Road. F 1/4 Road at 24 1/2 Road will be constructed to join the present F 1/4 Road that now exists. The remaining property will be developed as Town Homes and Garden Type Apartments, with Mini Storage for the residents only.

There are three factors that led to the general design of this property. The shape of the property, which is rectangular with a width of 500' plus. The change of elevation, which is approximately 1% from North to South and from East to West. The third is the drainage of surface and irrigation tail waters from the North and East.

We propose to take these waters, as well as the waters from the developed area, and create a park like green area, with a stream like effect, on the South side of the property. We will use a heavy tree buffer between our property and the business property to the South. We expect to use this area as water dentention with the use of check ponds, stone and grass areas to create a quiet area for the residence. The streets directly to the the North will be asphalt with a 4' roadbase shoulder. This street should have minimum traffic. The street system has been designed so that the residents will be able to drive to and from their homes without using the Southernmost street. We have tried to eliminate pedestrian and car traffic in the same areas. This was one of the reasons to create mall and and walking areas wherever possible. We will have a walking path, of asphalt wherever possible completely around the residential area. There are two recreational and activity areas proposed with walking access that has little conflict with car traffic. The completed residential area will be fenced with a masonary fence 5' plus in height, facing F 1/4 Road. Directly behind the wall and between the walking path will be landscaped with large trees that will grow to spread past the wall to shade F 1/4 Road.

All the construction will be of masonary and stucco finish. The final look will be Southwest in design.

There will be a Homeowner or Condominium Association organized to maintain all common areas.

Wherever possible, all entrances will face either East or West to eliminate icy conditions in winter.

This project will provide top quality housing within close walking distance to the Mall. This area will be a medium density area as it has always been planned. All utilities are available. By installing Mini storage for the residents use we will not have to install sanitary sewer on that part of the project.

This project will be phased in over a period of years, and should be a major asset to the area.

The construction of interstructure are considerable only because of the size of the project.

There is a 12" water line in 25 Road and an extension of a 12" line in front of the property with the development of the Fisher Project. We will run an 8" and possibly a 12" line along F 1/4 Road to connect the two 12" lines. This is a part of the overall fire protection. We will install 2 master meter and backflow preventors.

Sewer will be connected to an 8" sewer main along the south side of the property and tied into an 8" sewer in 24.5 Road.

Storm drainage will be controlled on site and detained along the south side of the property and released at the historic rate at the southwest corner of the property.

Gas, telephone, electric and TV are presently in both 24.5 and 25 Road. These will be extended through F 1/4 Road to the project.

All utilities will have to be installed to the property with completion of Phase One. The storm system will be phased with the construction of each phase. The completion of F 1/4 Road will take place with Phase Two. The fencing will be done as each phase is completed.


F 1/4 ROAD
24 1/2 ROAD
PATTERSON ROAD

2517 I Rd
Grand Jct, Co 81505
June 5, 96

RECEIVED GRAND JUNCTION
PLANNING DEPARTMENT
JUN 0 [illegible]

To Whom It May Concern,

We wish to appeal PP-96-77, The Hacienda apartments and townhomes.

We feel the density is too ~~great~~ high, the impact too great to the Appleton School.

We also feel it is not a suitable area, being next to planned ~~business~~ property to the South and commercial property to the west.

Thanks

Pam [illegible] 241-5732
Christine Duffey 241-0832

DRAFT

Private streets, internal to a development, may be allowed by the Planning Commission as part of an approval of a Planned Development. The following shall be used as a guideline for allowing private streets:

1. It must be in the context of a Planned Development.

2. The development must include common ownership of the land surrounding the homes.

3. The internal street network shall meet the minimum requirements for parking, drainage, street construction, geometric design and pedestrian circulation.

4. Satisfactory trash pick-up areas shall be provided.

5. The final plat shall identify the streets as private tracts dedicated to the homeowners, as well as full-width, multi-purpose easements.

6. The homeowners association shall be formed by the developer. An annual maintenance fund for the private streets shall be established. The formula and financial mechanisms of this fund shall be submitted by the petitioner for review and approval by the Public Works Department prior to the release of the Development Improvements Agreement.

7. Internal streets shall be a minimum of 20' wide, unobstructed travel ways.

8. Public streets shall be provided around the development so that traffic can circulate around the development, without having to use the internal private streets.

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(970) 244-1430 FAX (970) 244-1599

June 24, 1996

Bill Ihrig
J.B.I. Associates
2324 N. Seville Circle
Grand Junction, CO 81506

RE: PP-96-77, Hacienda

Dear Bill:

This is to confirm the approvals for the Hacienda (City Development File #PP-96-77) proposed for a retail center, 155 townhomes, 275 apartment units, storage units for the residents and open space. The project received approval for the Preliminary Plan by Planning Commission on June 4, 1996. The approval was appealed to the City Council by an adjacent property owner. The City Council upheld the Planning Commission approval with the following conditions:

1. Final design of each phase must include adequate parking and landscaping for that phase.

2. Final design must include specific landscaping plans for all the common areas.

3. Improvements to F 1/4 Road and 24 1/2 Road will be as required by City Engineering.

4. The storage units will be for the sole use of the residents, with access only through the development. The units will be screened from view on the east, west and south and shall not be visible from Patterson Road or 24 1/2 Road.

5. The square footage of the proposed business uses will be dependent on adequate parking being provided in the final design with all required landscaping.

6. The proposed masonry fence shall include the entire perimeter of the residential development, as well as the storage units.

7. The covenants for the entire development shall include strict design guidelines for the residential and commercial buildings to provide for uniformity.

8. An area between the wall and F 1/4 Road improvements shall be provided for landscaping to be approved with the final design.

9. The internal private streets shall be identified as private tracts dedicated to the homeowners as well as full width multi-purpose easements. The homeowners association shall establish an annual maintenance fund for the private streets. The formula and financial mechanisms of this fund shall be submitted by the petitioner for review and approval by the Public Works Department prior to the release of the Development Improvements Agreement.

Phase I of Hacienda must be submitted for review and approval within one year of the approval of the Preliminary Plan, which was on June 19, 1996, or the preliminary approval will lapse. Timing of subsequent phases/filings must be reviewed and approved by the Planning Commission in conjunction with their review of phase I. I have enclosed a submittal packet for Phase I. If you or your consultant have any questions please call me at 244-1446. Thank you.

Sincerely,

Katherine M. Portner

Katherine M. Portner
Planning Supervisor

HACIENDA

Preliminary Plan Boundary Description

PP-96-77

This is the description of a land parcel located in the southeast quarter of Section 4, Township 1 South, Range 1 West, Ute Meridian, Mesa County, Colorado. It is described by metes-and-bounds as follows:

Beginning at a point which is N89°47'19"E 30.00 feet from the south sixteenth corner of Section 4 (MCSM 1283) then along the fourteen following courses:

1. N89°47'19"E 1293.96 feet along the north line of the southwest quarter of the southeast quarter of Section 4, to the southeast sixteenth corner;
2. N89°47'19"E 266.26 feet along the north line of the northwest quarter of the southeast quarter of the southeast quarter of Section 4;
3. S00°01'25"E 197.50 feet;
4. N89°47'19"E 140.00 feet;
5. N00°01'25"W 197.50 feet;
6. N89°47'19"E 249.47 feet feet along the north line of the northwest quarter of the southeast quarter of the southeast quarter of Section 4;
7. S00°05'38"E 658.43 feet along the east line of the northwest quarter of the southeast quarter of the southeast quarter of Section 4;
8. S89°48'17"W 658.79 feet along the south line of the northwest quarter of the southeast quarter of the southeast quarter of Section 4;
9. S89°48'17"W 496.20 feet along the south line of the northeast quarter of the southwest quarter of the southeast quarter of Section 4;
10. S00°03'18"W 330.55 feet along the east line of the west half of the west half of the southeast quarter of the southwest quarter of the southeast quarter of Section 4;
11. S89°48'22"W 165.17 feet along a line parallel to the south line of the southeast quarter of the southwest quarter of the southeast quarter of Section 4;
12. N00°00'56"E 330.55 feet along the west line of the southeast quarter of the southwest quarter of the southeast quarter of Section 4;
13. S89°48'17"W 630.16 feet along the south line of the northwest quarter of the southwest quarter of the southeast quarter of Section 4;
14. N00°01'06"W 657.89 feet along a line 30 feet west of and parallel to the west line of the northwest quarter of the southwest quarter of southeast quarter of Section 4, to the beginning.

The area of the parcel, as described, is 30.09 acres.

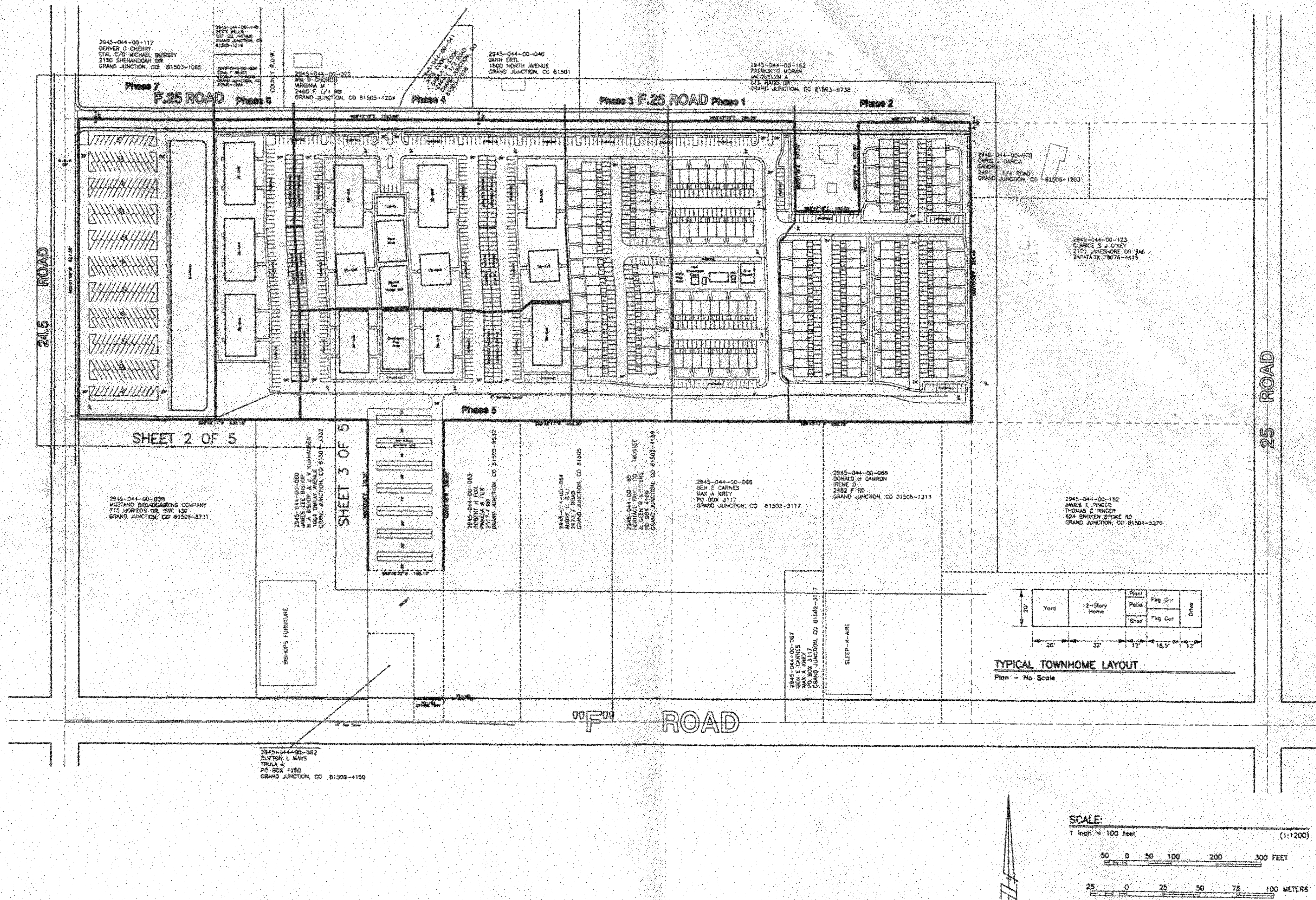
The basis for bearings is N00°01'06"W 1317.26 feet from the south quarter corner to the south sixteenth corner of Section 4. The south quarter corner is Mesa County Survey Monument 5-2, and the south sixteenth corner, 1283.

PRELIMINARY PLAN
Vicinity and Overview Map

HACIENDA

Located in Southeast quarter of Sec 4, T1S, R1W, Ute M
Grand Junction, Mesa County, Colorado

PP-96-77



F.25 ROAD
Phase 7
Phase 6
Phase 4
Phase 3
Phase 1
Phase 2
Phase 5
24.5 ROAD
25 ROAD
"F" ROAD
SHEET 2 OF 5
SHEET 3 OF 5
COUNTY R.O.W.
2945-044-00-117
DENVER G CHERRY
ETAL C/O MICHAEL BUSSEY
2150 SHENANDOAH DR
GRAND JUNCTION, CO 81503-1065
2945-044-00-072
WM D CHURCH
VIRGINIA M
2460 F 1/4 RD
GRAND JUNCTION, CO 81505-1204
2945-044-00-040
JANN ERTL
1600 NORTH AVENUE
GRAND JUNCTION, CO 81501
2945-044-00-162
PATRICK G MORAN
JACQUELYN A
515 RADO DR
GRAND JUNCTION, CO 81503-9738
2945-044-00-123
CLARICE S J O'KEY
2102 LAKESHORE DR #A6
ZAPATA,TX 78076-4416
2945-044-00-056
MUSTANG BROADCASTING COMPANY
715 HORIZON DR, STE 430
GRAND JUNCTION, CO 81506-8731
2945-044-00-060
JAMES LEE BISHOP
N A BISHOP & J V KUXHAUSEN
1004 OURAY AVENUE
GRAND JUNCTION, CO 81501-3332
2945-044-00-083
ROBERT H FOX
PAMELA A FOX
2517 I RD
GRAND JUNCTION, CO 81505-9532
2945-044-00-064
AUDRE L BELL
2472 F ROAD
GRAND JUNCTION, CO 81505
2945-044-00-066
BEN E CARNES
MAX A KREY
PO BOX 3117
GRAND JUNCTION, CO 81502-3117
2945-044-00-068
DONALD H DAMRON
IRENE D
2482 F RD
GRAND JUNCTION, CO 81505-1213
2945-044-00-152
JAMES E PINGER
THOMAS C PINGER
624 BROKEN SPOKE RD
GRAND JUNCTION, CO 81504-5270
2945-044-00-067
BEN E CARNES
MAX A KREY
PO BOX 3117
GRAND JUNCTION, CO 81502-3117
SLEEP-N-AIRE
BISHOPS FURNITURE
2945-044-00-062
CLIFTON L MAYS
TRULA A
PO BOX 4150
GRAND JUNCTION, CO 81502-4150
Yard
2-Story Home
Plant
Patio
Shed
Pkg Gar
Drive
20'
32'
12'
18.5'
TYPICAL TOWNHOME LAYOUT
Plan - No Scale
SCALE:
1 inch = 100 feet
(1:1200)
50 0 50 100 200 300 FEET
25 0 25 50 75 100 METERS

DESIGNED BY	DRAWN BY	SURVEY DATE

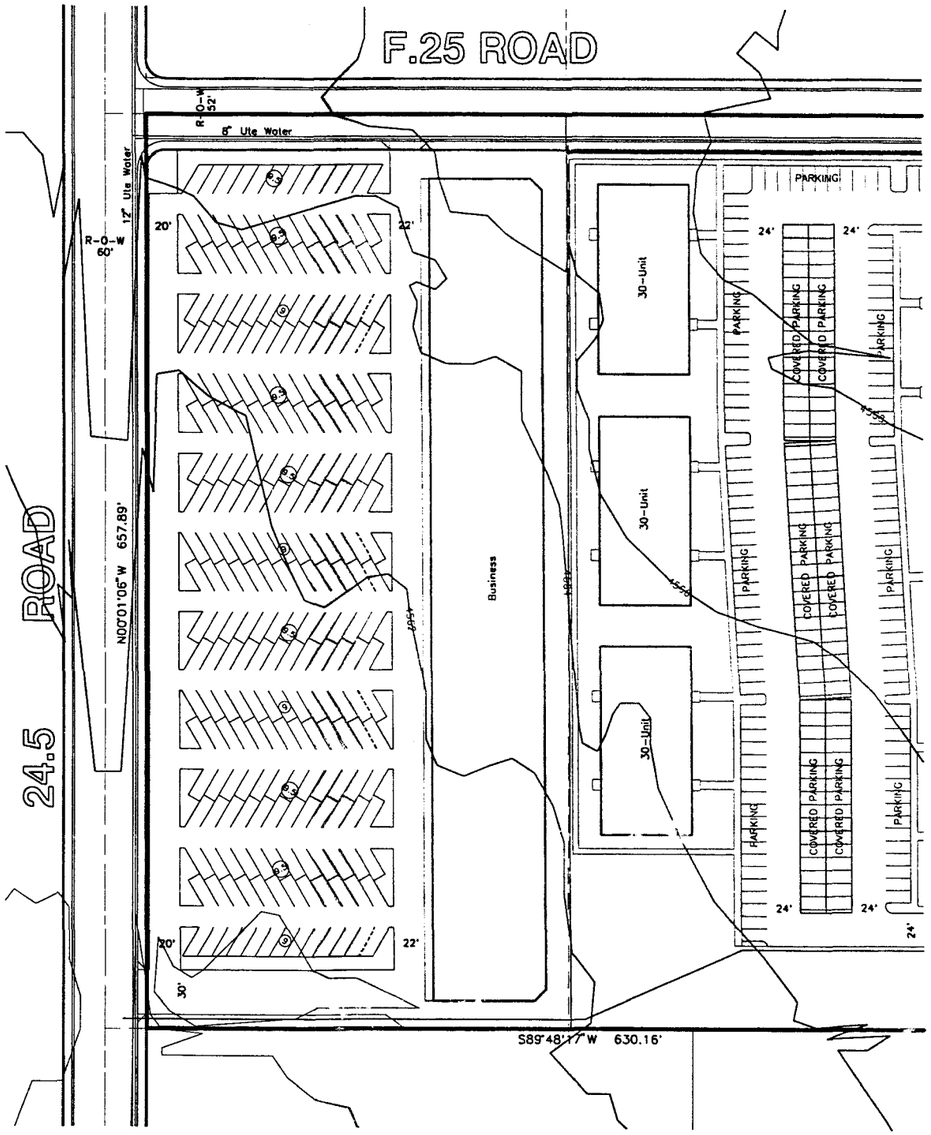
REVISIONS

NO.	DATE	REMARKS	BY

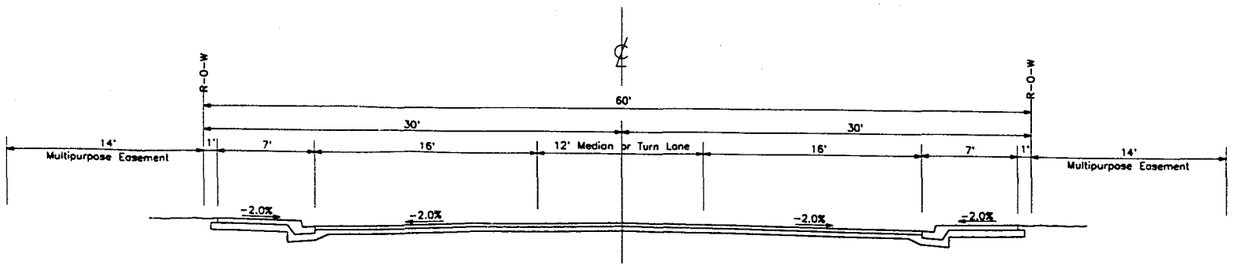
PRELIMINARY PLAN
HACIENDA

NICHOLS ASSOCIATES, INC.
CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

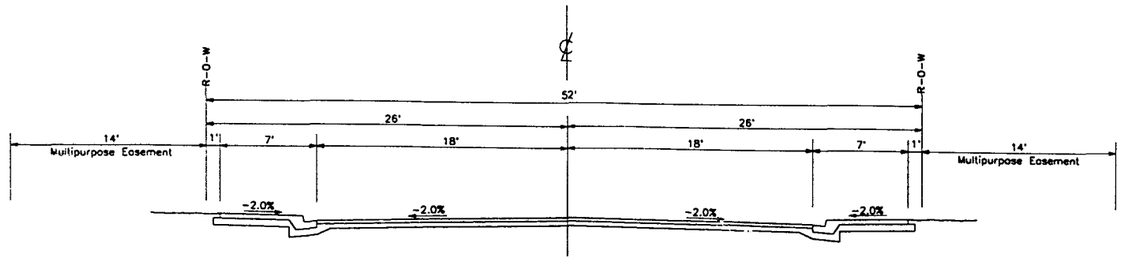
DATE DRAWN: Apr 1 1996
SCALE: 1 in = 100 feet
PROJECT NUMBER: 3260
SHEET NUMBER: 1 OF 5



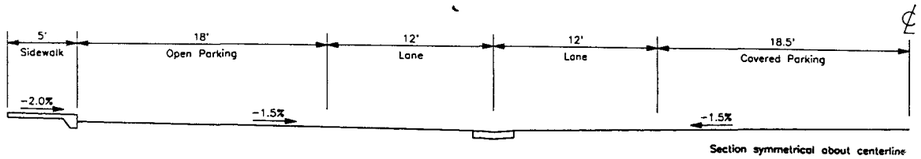
See Sheet 3 of 5



24.5 ROAD – TYPICAL CROSS SECTION: COLLECTOR STREET
No Scale

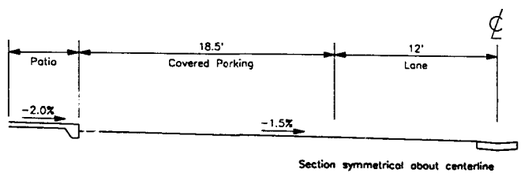


F.25 ROAD – TYPICAL CROSS SECTION: URBAN RESIDENTIAL COLLECTOR
No Scale



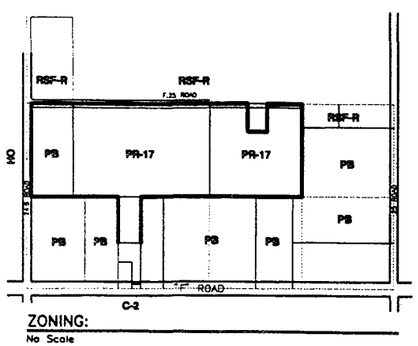
Section symmetrical about centerline

TYPICAL SECTION – APARTMENT DRIVES:
No Scale



Section symmetrical about centerline

TYPICAL SECTION – TOWNHOME DRIVES:
No Scale



ZONING:
No Scale

SCALE:
1 inch = 50 feet (1:500)

25 0 25 50 100 150 FEET

10 0 10 20 30 40 50 METERS

NOTES:

1. Irrigation is shown on drainage sheets.
2. There are no existing utilities on site.
3. All land is private except for parts shown for 24.5 and F.25 Roads which will be dedicated.
4. Water and sewer exist along 24.5 Road south of project site and are to be extended prior to development and subsequent Fischer development on west side of 24.5 Road.
5. Gas, electric, and telephone are located in 24.5 Road.

SITE UTILITY VENDORS:

Water – Ute Water Conservancy District
Sewer – City of Grand Junction
Electricity – Public Service Company of Colorado
Gas – Public Service Company of Colorado
Telephone – US West Communications
Cable TV – TCI Cablevision of Western Colorado
Irrigation – Grand Valley Irrigation Company

GENERAL LAND USE:

AREA	Ac	%	RESIDENTIAL UNITS		%
Business	4.54	15	Apartments	275	64
Residential	25.54	85	Townhomes	155	36
Total	30.09	100	Total	430	100

DENSITY
Allowable: 17
Actual: 430/25.54 = 16.8

BUSINESS
Building Area: 47287 sf
Parking
Required: 47287/200 = 236
Normal 233
Handicap 7
Total 240

STORAGE
Units: 168

DESIGNED BY | DRAWN BY | SURVEY DATE

REVISIONS

NO.	DATE	REMARKS	BY

PRELIMINARY PLAN
HACIENDA

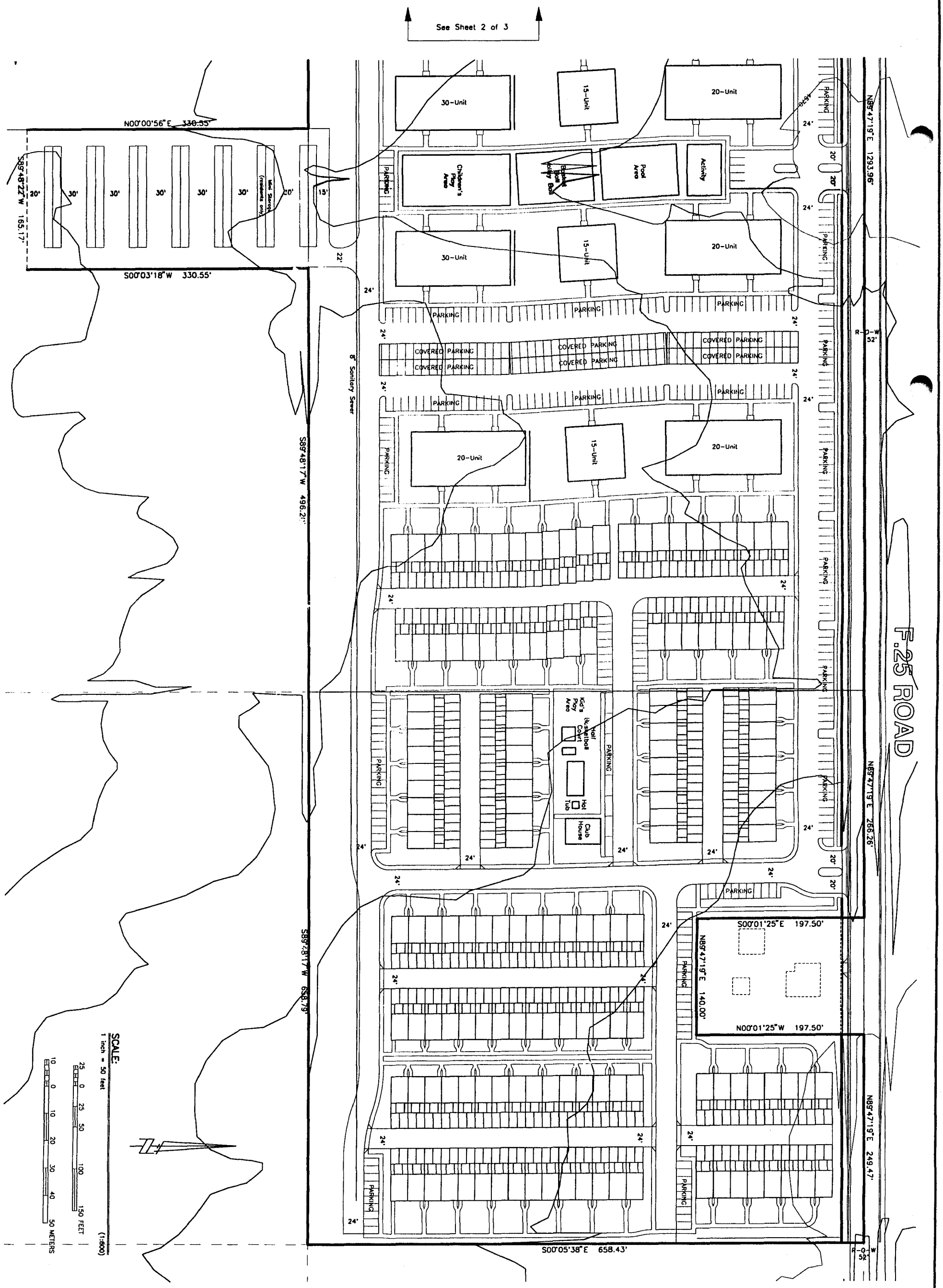
NICHOLS ASSOCIATES, INC.
CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

DATE DRAWN
Apr 1 1996

SCALE
1 in = 50 feet

PROJECT NUMBER
3260

SHEET NUMBER
2 OF 5



PRELIMINARY PLAN
HACIENDA

NICHOLS ASSOCIATES, INC.

CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

REVISIONS			
NO.	DATE	REMARKS	BY

DESIGNED BY

DRAWN BY

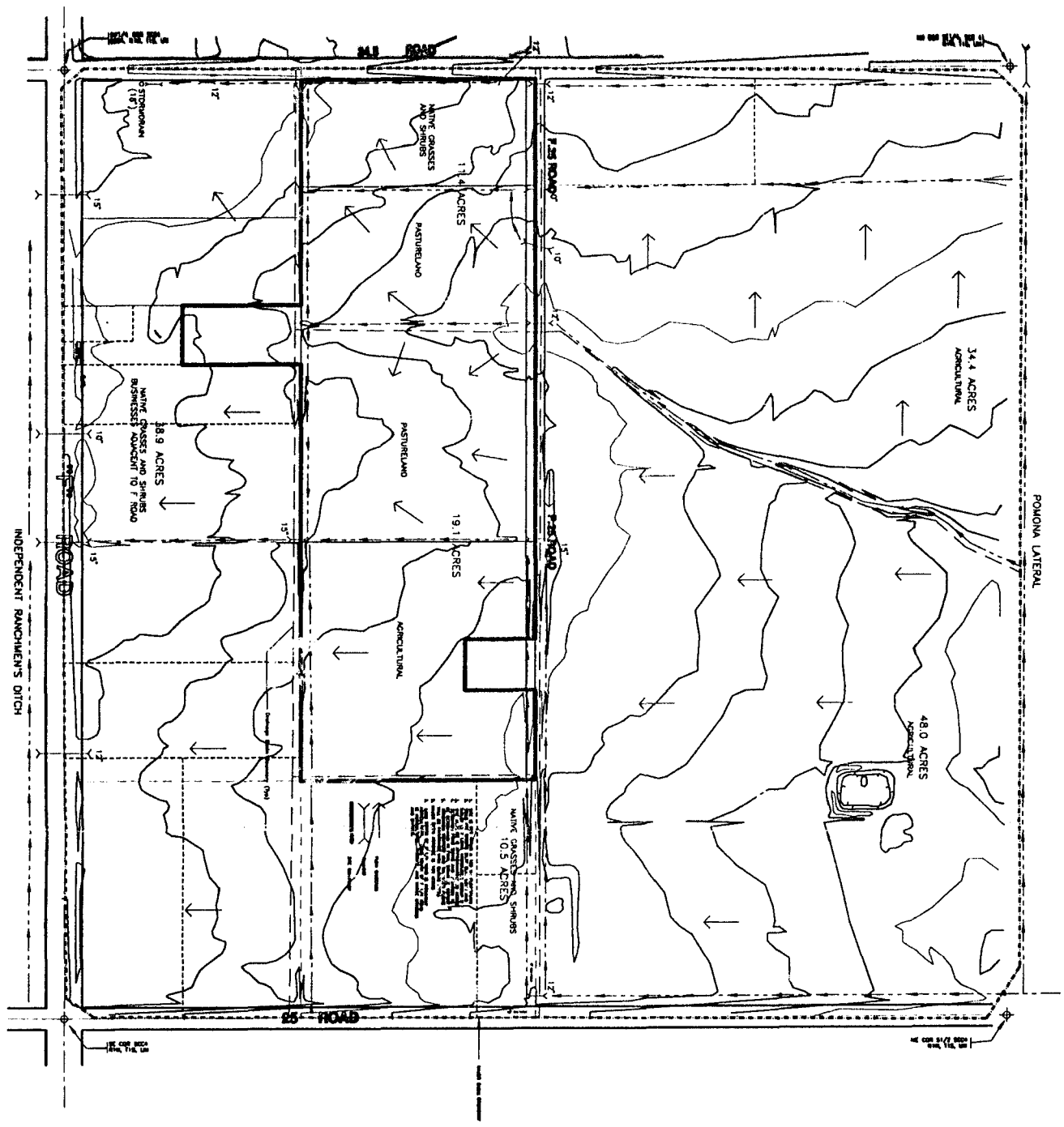
SURVEY DATE

SHEET NUMBER 3 OF 5

PROJECT NUMBER 3260

SCALE 1 in = 50 feet

DATE DRAWN Apr 1 1998



SCALE:

1 inch = 200 feet (1:2400)

50 0 250 500 750 1000 FEET

50 0 50 100 150 200 METERS

HACIENDA – PRELIMINARY PLAN
PRELIMINARY MAJOR BASIN DRAINAGE MAP

NICHOLS ASSOCIATES, INC.

CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING

751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

REVISIONS

NO.	DATE	REMARKS	BY

DESIGNED BY

DRAWN BY MF

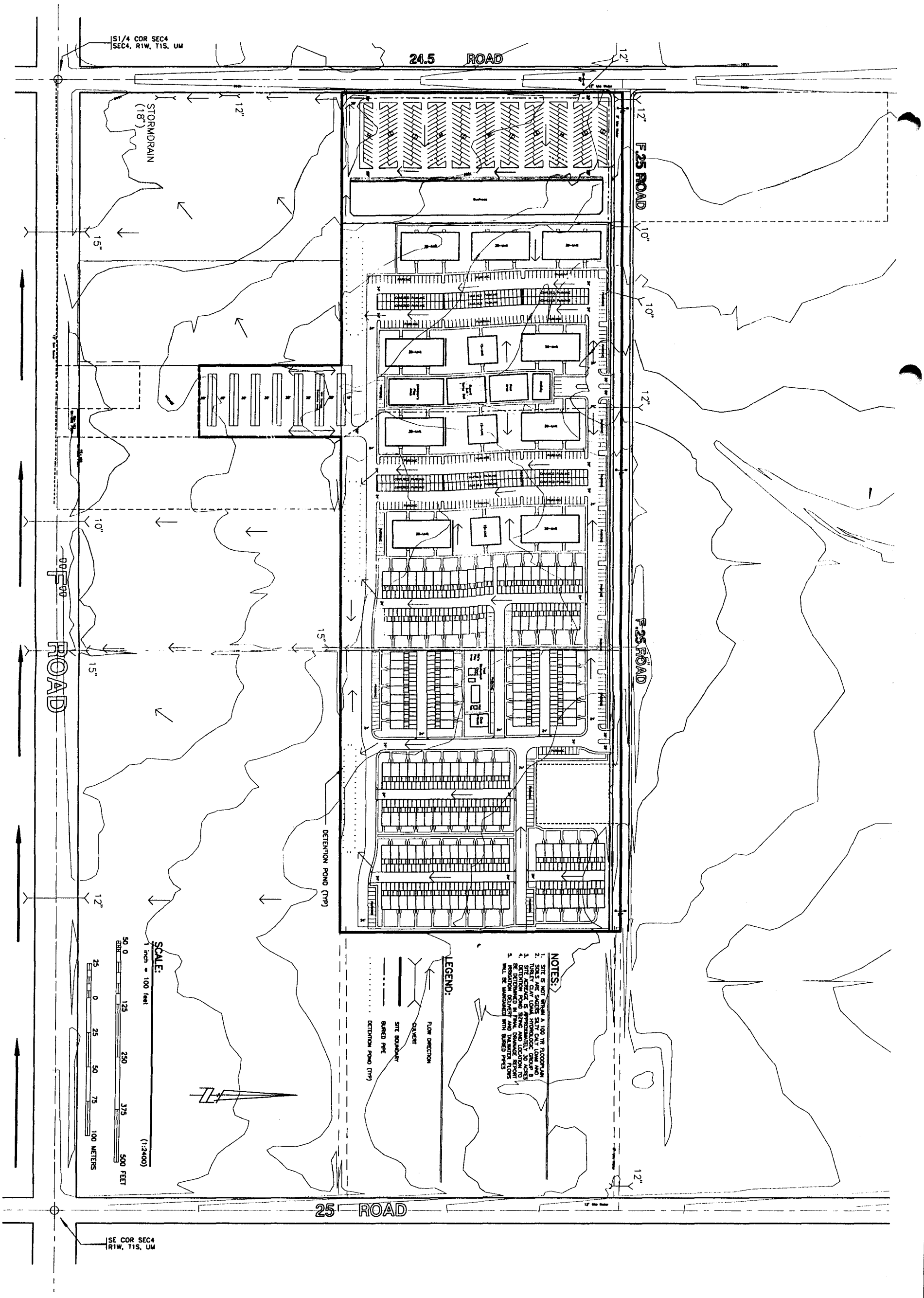
SURVEY DATE

SHEET NUMBER 4 OF 5

PROJECT NUMBER 3260

SCALE 1 inch = 200 feet

DATE DRAWN APRIL 1, 1996



HACIENDA – PRELIMINARY PLAN
PRELIMINARY SITE DRAINAGE MAP

NICHOLS ASSOCIATES, INC.

CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

REVISIONS			
NO.	DATE	REMARKS	BY

DESIGNED BY

DRAWN BY MF

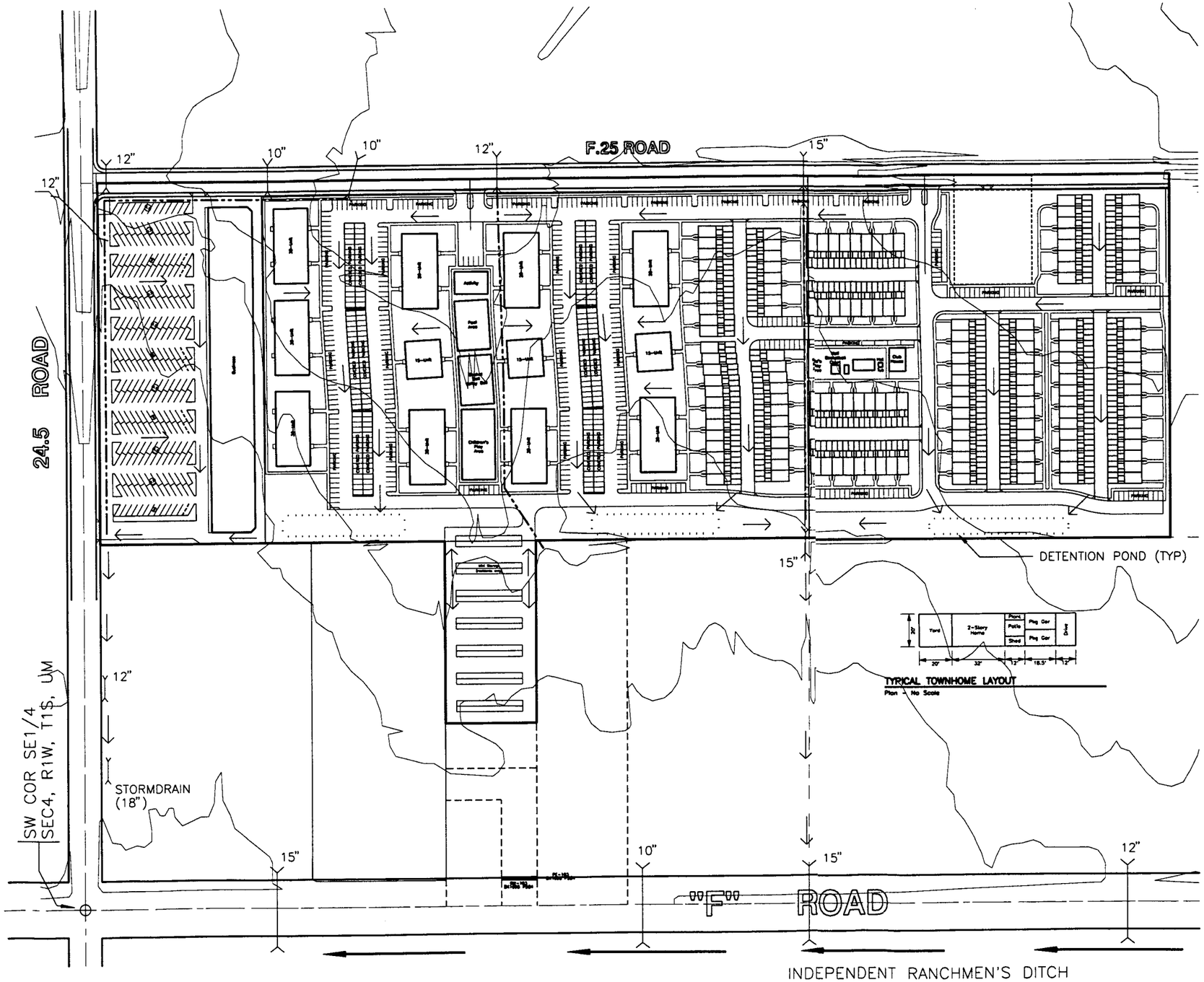
SURVEY DATE

SHEET NUMBER 5 OF 5

PROJECT NUMBER 3260

SCALE 1" = 100 FEET

DATE DRAWN MARCH 29, 1996



NOTES

1. SITE IS NOT WITHIN A 100 YR FLOODPLAIN
2. SOILS ARE SAGERS SILTY CLAY LOAM AND TURLEY CLAY LOAM, HYDROLOGIC GROUP B
3. SITE ACREAGE IS APPROXIMATELY 30 ACRES
4. DETENTION POND SIZING AND LOCATION TO BE DETERMINED IN FINAL DRAINAGE REPORT
5. IRRIGATION DELIVERY AND TAILWATER FLOWS WILL BE MAINTAINED WITH BURIED PIPES

LEGEND

- FLOW DIRECTION
- CULVERT
- SITE BOUNDARY
- BURIED PIPE
- DETENTION POND (TYP)

SCALE:
1 inch = 200 feet (1:2400)

25 0 125 250

25 0 25 50

DESIGNED BY

DRAWN BY MF

SURVEY DATE

REVISIONS

NO.	DATE	REMARKS	BY

HACIENDA DEVELOPMENT
PRELIMINARY SITE DRAINAGE MAP

NICHOLS ASSOCIATES, INC.
CIVIL ENGINEERING • PHOTOGRAMMETRY • SURVEYING
751 Horizon Court • Grand Junction, Colorado 81506 • Phone: 970-245-7101

DATE DRAWN
3-25-96

SCALE
1" = 200'

PROJECT NUMBER
3260

SHEET NUMBER
2 OF 2