

TRANSPORTATION IMPROVEMENT PROGRAM
FOR THE
GRAND JUNCTION URBANIZED AREA
OCTOBER 1, 1986 TO SEPTEMBER 30, 1991

PREPARED BY THE
GRAND JUNCTION METROPOLITAN PLANNING ORGANIZATION

IN COOPERATION WITH THE
COLORADO DEPARTMENT OF HIGHWAYS

AND THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

September, 1986

re: File # 1-86

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Figure 1
TRANSPORTATION PLANNING TERMINOLOGY

Air Quality Control Commission.....	AQCC
Colorado Department of Highways.....	CDOH
Continuing, Comprehensive and Cooperative Transportation Planning Process.....	"3C" Process
U.S. Department of Transportation.....	DOT
Federal-Aid Highway Program Manual.....	FHPM
Federal Aid System.....	FAS
Federal-Aid Urban System.....	FAUS
Federal Highway Administration.....	FHWA
Highway Planning and Research Funds.....	HPR
Metropolitan Planning Organization.....	MPO
FHWA planning funds made available through CDOH to the MPO for "3C" process.....	PL Funds
Technical study funds for UMTA made available to the MPO for "3C" process.....	Section 8 Funds
State Implementation Plan.....	SIP
Title VI of the U.S., Civil Right Act of 1964, as amended.....	Title VI
Transit Development Program.....	TDP
Transportation Improvement Program.....	TIP
Transportation Policy Advisory Committee.....	TPAC
Transportation Technical Advisory Committee.....	TTAC
Unified Planning Work Program.....	UPWP
Urban Mass Transportation Administration.....	UMTA
Urban Transportation Planning Process.....	UTPP
Vehicle Miles Traveled.....	VMT

**FIGURE 3
METROPOLITAN PLANNING ORGANIZATION
LOCAL REVIEW PROCESS**

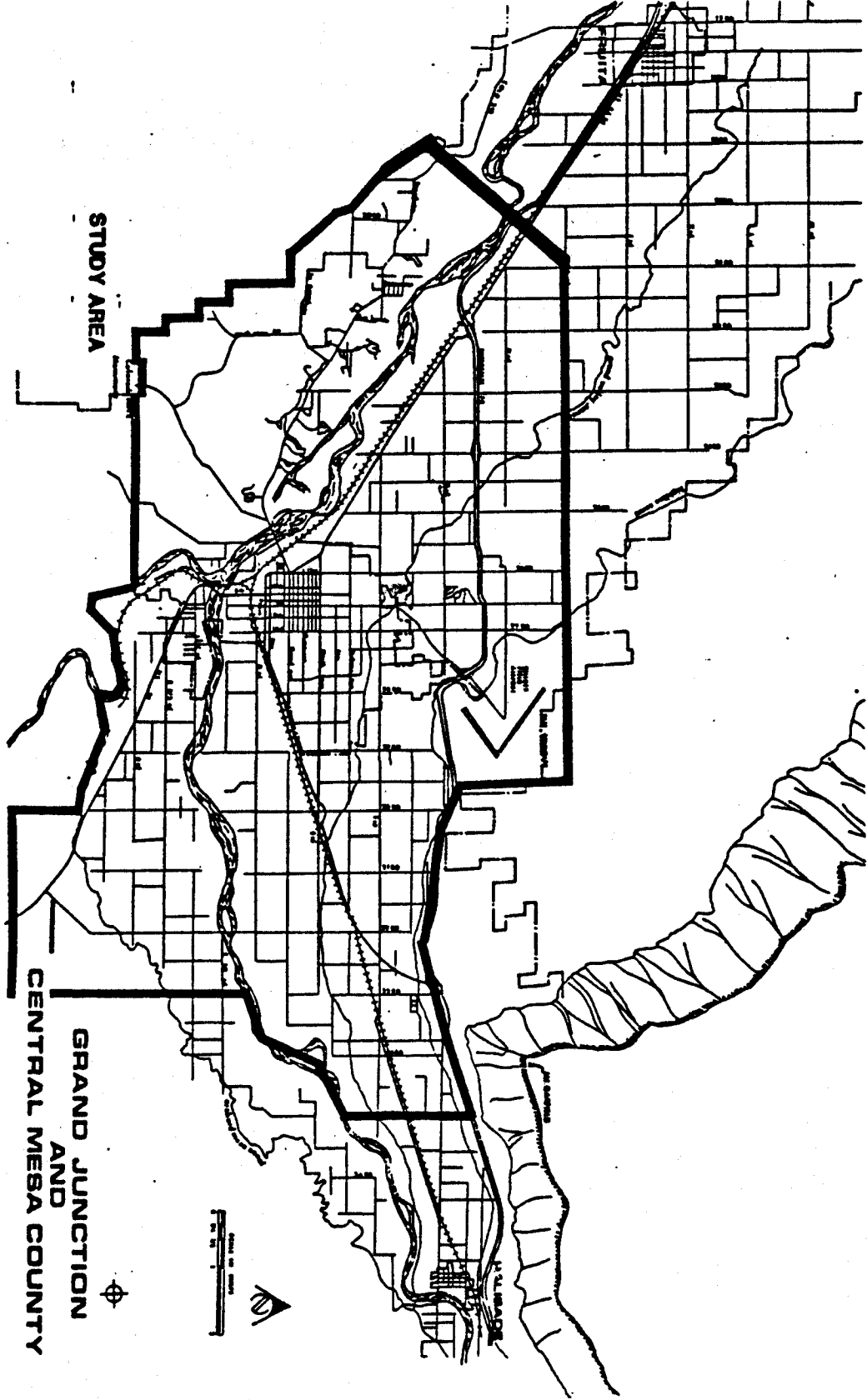
DECISION MAKING BODIES	
Mesa County Commissioners	Grand Junction City Council

TRANSPORTATION POLICY ADVISORY COMMITTEE (TPAC)
Grand Junction City Council Designee
Mesa County Commissioners Designee
State Highway Commission Designee
Colorado Air Quality Control Commission Designee
Federal Highway Administration Designee

MESA COUNTY HUMAN RESOURCE DEPT.	MPO Administration
----------------------------------	-----------------------

TRANSPORTATION TECHNICAL ADVISORY COMMITTEE (TTAC)
Colorado Department of Highways District 3
Colorado Department of Highways Division of Transport. Plng.
Grand Junction City Planning
Mesa County Planning
Grand Junction Public Works
Mesa County Engineering
Mesa County Human Resource
Colorado Department of Health Air Pollution Control Div.
Federal Highway Administration
Urban Mass Transportation Admin.

GRAND JUNCTION CITY PLANNING COMMISSION
MESA COUNTY PLANNING COMMISSION



STUDY AREA

GRAND JUNCTION
AND
CENTRAL MESA COUNTY



INTRODUCTION

The Transportation Improvement Program is a five-year capital improvement program for the urbanized area of Grand Junction and Mesa County. (See Map) The purpose of this program is to carry out continuing, comprehensive and cooperative transportation planning by:

- coordinating projects in the urbanized area initiated by individual agencies such as the City of Grand Junction Public Works Department, Mesa County Engineering Department, the Mesa County Human Resource Department or the Colorado Department of Highways.
- defining the costs of these projects and the available financial resources.
- prioritizing the projects to make the best use of available resources.

The Transportation Improvement Program not only serves the needs of the people of the area for an efficient transportation system, but satisfies regulations jointly issued by the Federal Highway Administration and the Urban Mass Transportation Administration on the content and purpose of the program. An approved program is necessary to maintain the federal funding for highways and streets on the urban system.

CONTENTS

The program shall contain all federally funded transportation projects in the urbanized area initiated by Mesa County, Grand Junction or by the Department of Highways. It is necessary to include operating and/or capital grants from the Urban Mass Transportation Administration to local agencies (public or private) in the urbanized area. By an agreement between Mesa County, Grand Junction and the State of Colorado, certain projects funded under Federal Aid Interstate (FAI) or Federal Aid Primary (FAP) which do not increase street capacity are excluded from the TIP. Such projects may include overlays, reconstruction or hazard elimination work. Projects which affect capacity, such as an increase in the number of lanes or a new interchange, must still be included in the TIP.

Only projects on the Federal Aid Urban System (FAUS) are eligible for Federal aid. The Federal Aid Urban System is defined by the urban area boundary illustrated in Figure 1 and is made up of those arterial and collector streets which are not urban extensions of primary highways such as US 50. Principal arterials such as SH 146 (32 Road) in the urbanized area are not eligible for Federal secondary aid but are eligible for Urban System aid when shown on the approved FAUS map.

Federal Aid Urban System funds are not allocated on the basis of number of street miles in the system. The addition or subtraction of arterial or collector mileage does not affect the amount of money available.

In 1985 the City and the County went to a two year cycle in the sharing of Urban System funds. This allows the money to be used more effectively on larger projects.

For informational purposes, projects locally funded and of regional significance may be included so that improvements to the total transportation system can be considered.

FORMAT

The format for the Transportation Improvement Program is specified by Federal and State requirements. Projects are broken out by:

1. Funding Source - (Federal Aid Urban System, Federal Aid Primary, etc.)
2. Priority - The projects are listed by priority in the first year of the program. The first year is the only year in which commitments are made. This year is frequently called the annual element.

Each project must identify the location, description, responsible agency, general purpose, whether the project has received or will receive Federal/State funding beyond the program period, and the breakdown of funding by year and source. This format is standardized by the Department of Highways for all urbanized areas.

Location, description, and responsible agency are self-explanatory. The general purpose relates to whether the project furthers goals of the long range plan or the Transportation System Management Element, which emphasizes solution of short-term needs by relatively low capital intensive means (i.e. signal timing to increase traffic flow). Other purposes may be safety related. An example might be "for relief of traffic congestion and implementation of adopted plan".

PROCESS

The projects in the program were proposed for inclusion by the implementing agencies. These projects will be considered by member of the Transportation Technical Advisory Committee, composed of representatives from all public agencies involved in construction or operation of transportation systems in the Grand Junction Urbanized area. The first year, the portion of the program to which financial commitments are made, is discussed with elected officials to assure that matching funds will be included in the local agency budgets.

After review of the program, the Transportation Improvement Program is forwarded to the Transportation Policy Advisory Committee, composed of representatives from the Grand Junction City Council, the Mesa County Commissioners, the State Highway Commission and the State Air Quality Control Commission. The Transportation Policy Advisory Committee may refer the program back to the Transportation Technical Advisory Committee or endorse the program and place it before the Mesa County Commissioners and the Grand Junction City Council for their approval. The Council and the County Commission will approve the program or refer it back to the Transportation Policy Advisory Committee for consideration.

The program is sent to the State Highway Commissioners for their approval, after which it is forwarded to the Federal Highway Administration for concurrence and comments.

Amendments to the Transportation Improvement Program involve major changes in the costs of projects or the addition or deletion of projects. These are approved in the same manner as the program. Flexibility is required to allow for construction cost changes or unforeseen difficulties.

An "Urban Transportation Planning Process Certification" is part of the Transportation Improvement Program: this document is a brief certification between the Highway Department and the MPO that work is, or is not, being completed in a satisfactory manner.

TABLE 1
TOTAL COSTS AND REVENUE

PROGRAM TYPE	FISCAL YEAR	FEDERAL AVAILABLE	FEDERAL PROGRAMMED	STATE/LOCAL PARTICIPATION	TOTAL PROGRAMMED
FHWA					
Federal Aid Urban System					
	1987	\$ 851,869*	\$ 851,869	\$ 255,561	\$1,107,430
"	1988	247,672	247,672	74,302	321,974
"	1989	247,672	247,672	74,302	321,974
"	1990	247,672	247,672	74,302	321,974
"	1991	247,672	247,672	74,302	321,974
Subtotal		\$1,842,557	\$1,842,557	\$ 552,769	\$2,395,326

* Includes carryover 1986 (\$258,801) belonging to GJ and pre-1983 carryover of \$345,395.

UMTA

SECT.9	1987	\$1,636,750*	\$ 175,310	\$ 142,580	\$ 317,890
"	1988	350,000	245,637	170,037	415,674
"	1989	-	208,968	171,732	380,700
"	1990	-	212,917	184,669	397,586
"	1991	-	248,368	206,678	455,056
9 Subtotal		\$1,986,750**	\$1,091,210	\$ 875,696	\$1,966,906

- * All UMTA Section 9 allocations for FY84, FY85 and FY86 (Assuming allocation of \$350,000 for FY87 and FY88) (Assuming a 10% reduction in UMTA operation assistance from FY87-FY91)
- ** Does not consider potential UMTA section funds for FY89-FY91

TABLE 2
DISTRIBUTION OF FEDERAL FUNDS

YEAR	URBAN SYSTEM	FAU CARRYOVER	UMTA FUNDS
1987	Grand Junction	City/County	Mesa County
1988	Grand Junction		Mesa County
1989	Mesa County		Mesa County
1990	Mesa County		Mesa County
1991	Grand Junction		Mesa County

PROGRAM: Federal Aid Urban System

LOCATION: Various Overlays - 1987-88 MAP REFERENCE #: Map 1
 PROJECT DESCRIPTION: Overlay of Grand Junction city streets.
 Includes engineering and construction. No right-of-way acquisition involved.
 Includes carryover funding from 1986.

RESPONSIBLE GOVERNMENT: Grand Junction, City Public Works Department
 PAST FUNDING: No FUTURE FUNDING: No LONG RANGE: TSM: X

BUDGET YEAR	1987	1988	1989	1990	1991
FEDERAL:	\$420,420				\$247,672
STATE:					
LOCAL:	146,880				74,302
TOTAL:	\$567,300				\$321,974

LOCATION: Various Overlays - 1987 MAP REFERENCE #: n.a.
 PROJECT DESCRIPTION: Overlays of Mesa County roads. Includes engineering and construction. Limited right-of-way acquisition may be involved. Specific roads will be determined after the Pavement Management Study to be conducted during fall of 1986 (Task B.4 FY86 UPWP). Mesa County's next period to receive FAUS is 1989-90. The 1987 project will be accomplished with Mesa County's share of FAUS carryover funds.

RESPONSIBLE GOVERNMENT: Mesa County, County Engineering
 PAST FUNDING: No FUTURE FUNDING: No LONG RANGE: TSM: X

BUDGET YEAR	1987	1988	1989	1990	1991
FEDERAL:	\$172,697		\$247,672	\$247,672	
STATE:					
LOCAL:	51,809		74,302	74,302	
TOTAL:	\$224,506		\$321,974	\$321,974	

LOCATION: S. 9th St. (Ute Ave. - 4th Ave.) MAP REFERENCE #: Map 1
 PROJECT DESCRIPTION: Re-construction consisting of pavement and curb replacement.

RESPONSIBLE GOVERNMENT: Grand Junction, City Public Works
 PAST FUNDING: FUTURE FUNDING: LONG RANGE: TSM:

BUDGET YEAR	1987	1988	1989	1990	1991
FEDERAL:	\$404,140				
STATE:					
LOCAL:	172,622				
TOTAL:	\$572,762				

LOCATION: Mesa County

MAP REFERENCE #: n.a.

PROJECT DESCRIPTION: Operating assistance for elderly and handicapped transit services.

RESPONSIBLE GOVERNMENT: Mesa County

PAST FUNDING: Y FUTURE FUNDING:

LONG RANGE: X TSM:

BUDGET YEAR	1987	1988	1989	1990	1991
FEDERAL:	\$131,670	\$144,837	\$159,320	\$175,253	\$192,778
STATE:					
LOCAL:	131,670	144,837	159,320	175,253	192,778
	=====	=====	=====	=====	=====
TOTAL:	\$263,340	\$289,674	\$238,000	350,506	385,556

LOCATION: Mesa County

MAP REFERENCE #: n.a.

PROJECT DESCRIPTION: Vehicle acquisition as per 1987-1991 TDP.

REMARKS:	1987	1988	1989	1990	1991
Converted Van	2	0	0	2*	2*
Converted Van (w/lift)	2	0	2*	0	0
Bus	0	4	0	0	0

(All vehicle will be two-way radio equipped)

* Denotes replacement vehicle

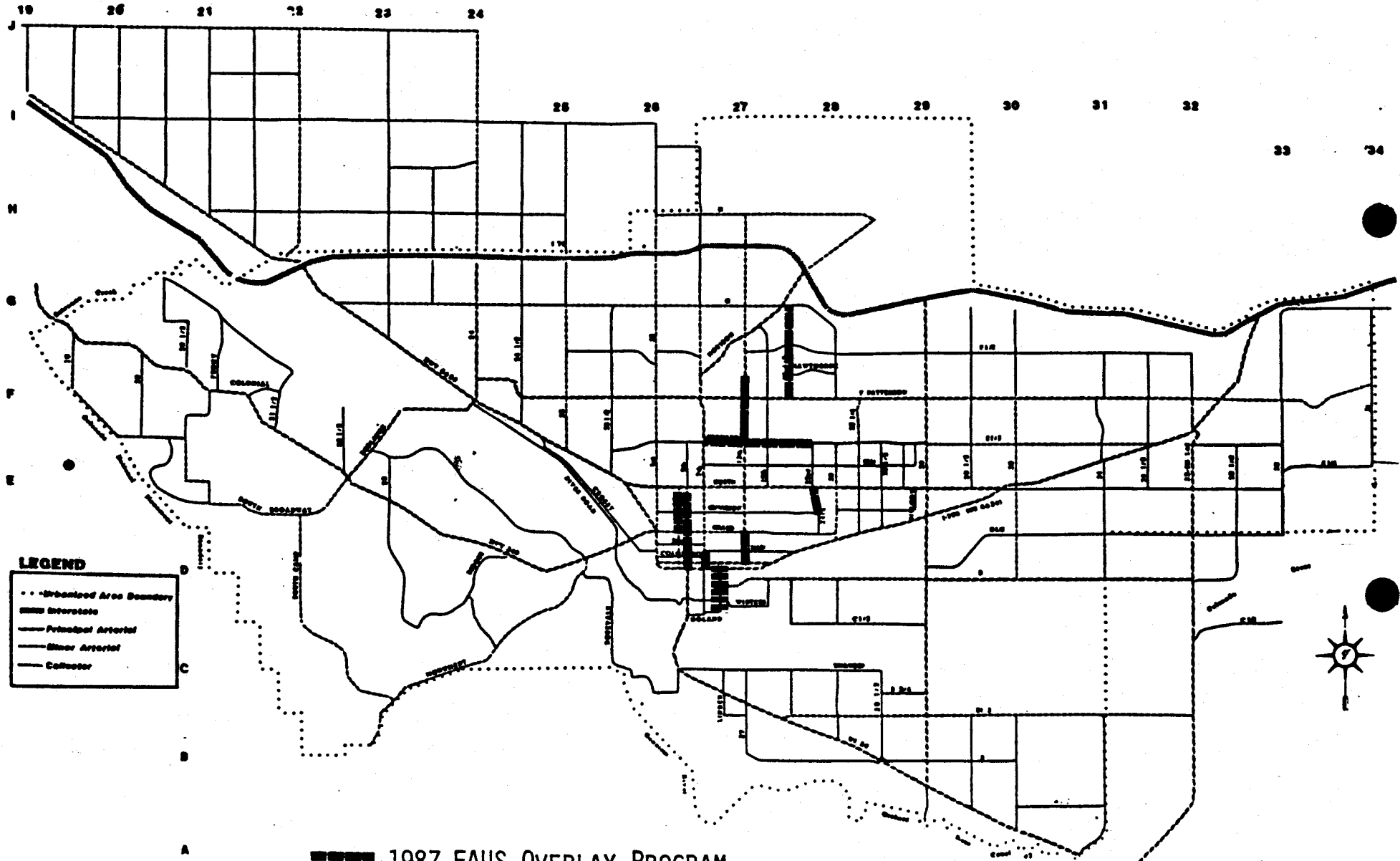
RESPONSIBLE GOVERNMENT: Mesa County

PAST FUNDING: Y FUTURE FUNDING:

LONG RANGE: X TSM:

BUDGET YEAR	1987	1988	1989	1990	1991
FEDERAL:	\$ 43,640	\$100,800	\$ 49,648	\$ 37,664	\$ 55,600
STATE:					
LOCAL:	10,910	25,200	12,412	9,416	13,900
	=====	=====	=====	=====	=====
TOTAL:	\$ 54,550	\$126,000	\$ 62,060	\$ 47,080	\$ 69,500

CITY OF GRAND JUNCTION PUBLIC WORKS



LEGEND

- Urbanized Area Boundary
- ==== Interstate
- Principal Arterial
- Minor Arterial
- Collector

1987 FAUS OVERLAY PROGRAM
 SOUTH 9TH ST. (UTE AVE. TO 4TH AVE.)
 RE-CONSTRUCTION PROJECT

Unified Planning Work Program

FY 1986

AMENDMENTS

ADD C.6 Task Name: Riverside Drive Area Transportation Study.

Objective: To promote safe efficient access for the study area should redevelopment strategies now under consideration by the City of Grand Junction be successful.

Methodology: In concert with City Public works, City Planning and the Highway Department, staff or contractor will assess the possible traffic impacts of proposed redevelopment and generate transportation alternatives.

Product: A transportation plan for the Riverside area which could include reconstruction of existing streets, new street alignments, and alternative modes such as pedestrian and bicycle systems.

Schedule: May, 1986 - August, 1986

Agency: Grand Junction City Planning

Personnel: Local 60 days

Costs: Local \$2,000.00

ADD D.3 Task Name: Capital Purchase of Transit Fleet Vehicles and Two-way Radios.

Objective: To provide transit opportunities to the developmentally disabled in the Grand Junction Urbanized Area.

Methodology: Vehicles will be procured through a competitive bid process, following UMTA guidelines. Application will be made for UMTA Section 9 funds.

Product:

1 - 7 passenger mini-van	(\$12,500)
1 - 15 passenger van	(\$18,700)
5 - two-way radios	(\$ 5,000)

Schedule: May, 1986 - November, 1986

Agency: Mesa County Human Resource Department

Personnel: Local 10 days

Cost: Local \$36,200.00 (80% UMTA, 20% Local)

Unified Planning Work Program

FY 1986

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#1-86 Grand Junction Urbanized Area Transportation Plan
Long Range Street Capacity Element

Petitioner: Metropolitan Planning Organization, Charles Trainor. As an element of the urbanized transportation plan required for an urbanized area, this document analyzes the capacity of the existing transportation system and reviews potential future demand and capacity needs under various future conditions.

GJPC 1-28-86 Tabled for further review
GJPC 4/29/86 Approved
CIC - APPROVED 1987 TIP 11/5/86

minimum bearing of 20,000 psf. These values take into account side friction and assume a penetration of 4 feet into the Mancos Formation. If the penetration is different, the following values should be maintained. These values apply only to that portion of the pier which is within the Mancos Formation.

More recommendations for drilled piers can be presented, if desired; however, construction problems associated with the soft soils and the high groundwater level does not make this system very attractive.

Due to the low density and wet characteristics of the overlying soils, a potential exists for the occurrence of a phenomenon known as negative skin friction. This will affect both drilled piers and driven piles. The actual degree of potential depends on the manner of pile or pier installation, the future ground water conditions and future vibratory or static loads in the area. We do not feel that the potential negative skin friction is likely to exceed a value on the order of 100 psf, acting on the perimeter of the pile or pier. In this area, the affected area is the drier "crust" at the top of the soil profile, generally 2 to 5 feet in thickness. The occurrence of negative skin friction, to a measurable amount, is not anticipated on this site, but is possible.

Original
Do NOT Remove
From Office

#15. 86

GRADING AND DRAINAGE

Adequate drainage must be provided in the foundation area both during and after construction to prevent the ponding of water. The ground surface around the buildings should be graded so that surface water will be carried away from the structures as rapidly as possible. The minimum gradient away from the structure should be as follows: bare and paved areas 2%. Landscaped areas require 5%. Roof drains must be carried across all areas of backfill and discharged away from the structures. If sufficient surface drainage cannot be maintained, then a properly designed peripheral drain may be required. Correct surface drainage is preferred over a peripheral drain on this site.

Dry wells should not be used on this site. Excess waters should be removed from the site using either drainage-ways or closed conduits.

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#15. 86

ROAD AND PAVEMENT RECOMMENDATIONS

The surface soils have not been tested for a specific HVEEM-CARMANY R-VALUE, as areas of pavement have not yet been identified.

Prior experience in the area indicates the R-Value will probably be less than 15, the 300 psi displacement will be relatively high and a significant expansion will be measured. More important, the in-place soils exhibit an unstable structure and density, due to vertical "piping". This "piping" will hinder construction and may be responsible for differential settlement of the finished roadway at a later date.

Two methods of defense against the future differential settlement are available without resorting to elaborate or very expensive measures. Reworking and compaction of 2 to 4 feet of the subgrade soils is probably the easiest and most straightforward method. Presoaking the soils before final placement and compaction to include the in-place foundation soils would be recommended due to the loss of soil strength upon wetting. This would accomplish some hydrocompaction of the soils during and immediately after compaction of the subgrade. The designed road section can then be placed on top of this prepared subgrade. The placement of a reinforcing geotextile between the subgrade and imported gravel section would add to the section strength and durability.

Another method of defense would be to accept the poor subgrade conditions, compact the top 1 to 1½ feet of subgrade, place a reinforcement Geotextile on the subgrade, place a sub-base gravel, place another geotextile fabric, place the base course and asphalt or concrete pavement. Such a construction method recognizes the poor subgrade conditions and realizes that differential settlement will occur, possibly to a large degree; but the road section will be left intact or only requiring minimal repair.

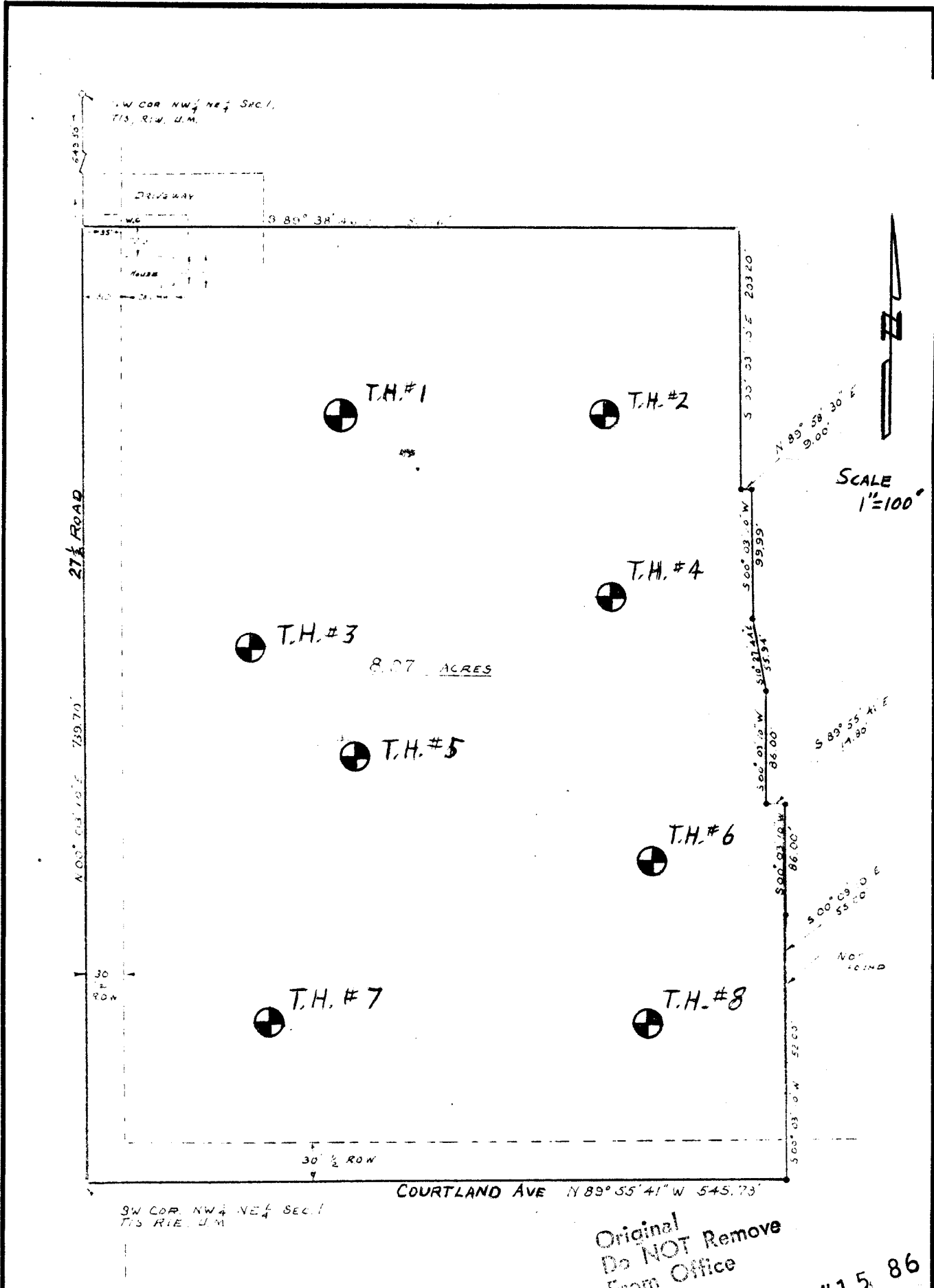
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Any use of a geotextile will be based on experience and judgment. A concrete, rigid design, based on an established failure mode and soil/geotextile properties is not possible. The actual record of geotextiles is generally good both for simplifying construction in difficult or adverse circumstances and improving the performance and life of projects. The use of geotextiles is recommended on this site because of the long-term (10-20 years) advantages.

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#15 86



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GRAND JUNCTION
COLORADO

#15, 86

CLIENT 1ST PRESBYTERIAN CHURCH

LOCATION 27 1/2 + KORTLAND AVE

TEST HOLE#

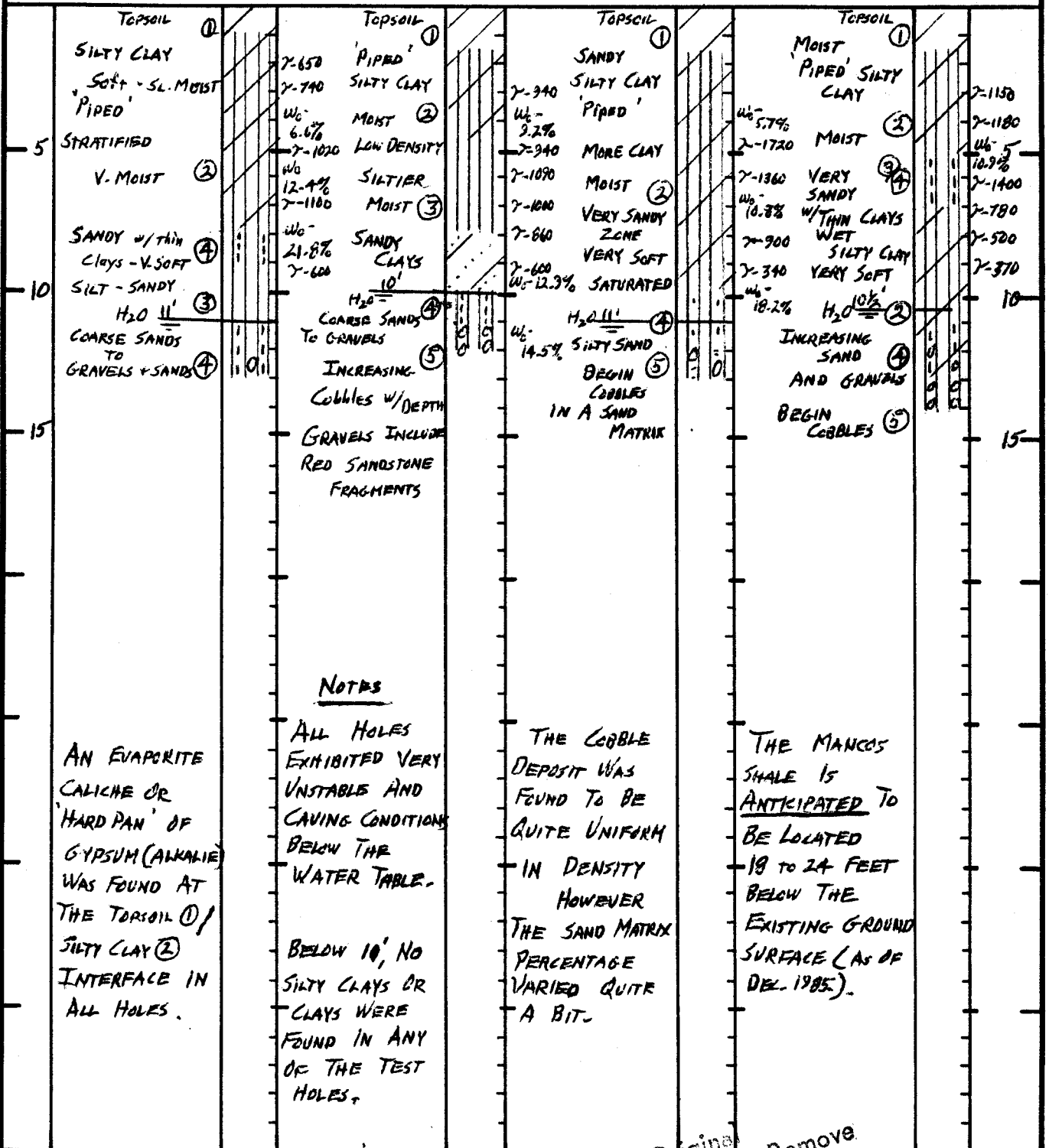
1

2

3

4

TOP ELEV.



NOTES

AN EVAPORITE CALICHE OR 'HARD PAN' OF GYPSUM (ALKALIE) WAS FOUND AT THE TOPSOIL ① / SILTY CLAY ② INTERFACE IN ALL HOLES.

ALL HOLES EXHIBITED VERY UNSTABLE AND CAVING CONDITIONS BELOW THE WATER TABLE.
BELOW 10', NO SILTY CLAYS OR CLAYS WERE FOUND IN ANY OF THE TEST HOLES.

THE COBBLE DEPOSIT WAS FOUND TO BE QUITE UNIFORM IN DENSITY HOWEVER THE SAND MATRIX PERCENTAGE VARIED QUITE A BIT.

THE MANCOS SHALE IS ANTICIPATED TO BE LOCATED 18 TO 24 FEET BELOW THE EXISTING GROUND SURFACE (AS OF DEC. 1985).

Original Do NOT Remove From Office

#15 86



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GRAND JUNCTION COLORADO

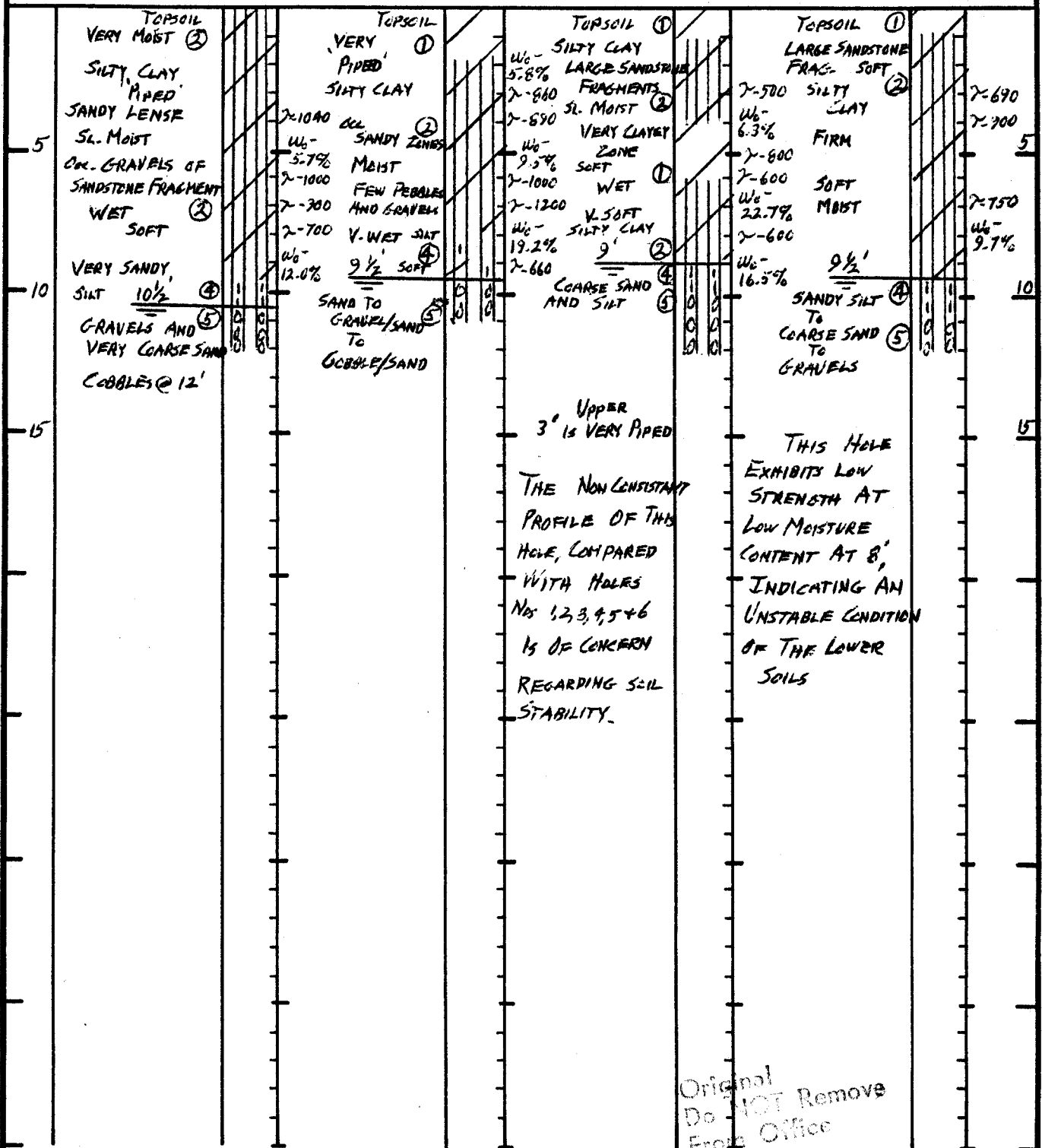
DRILLING LOGS

CLIENT 1ST PRESBYTERIAN CHURCH

LOCATION 27 1/2 + CORTLAND AVE.

TEST HOLE# 5 6 7 8

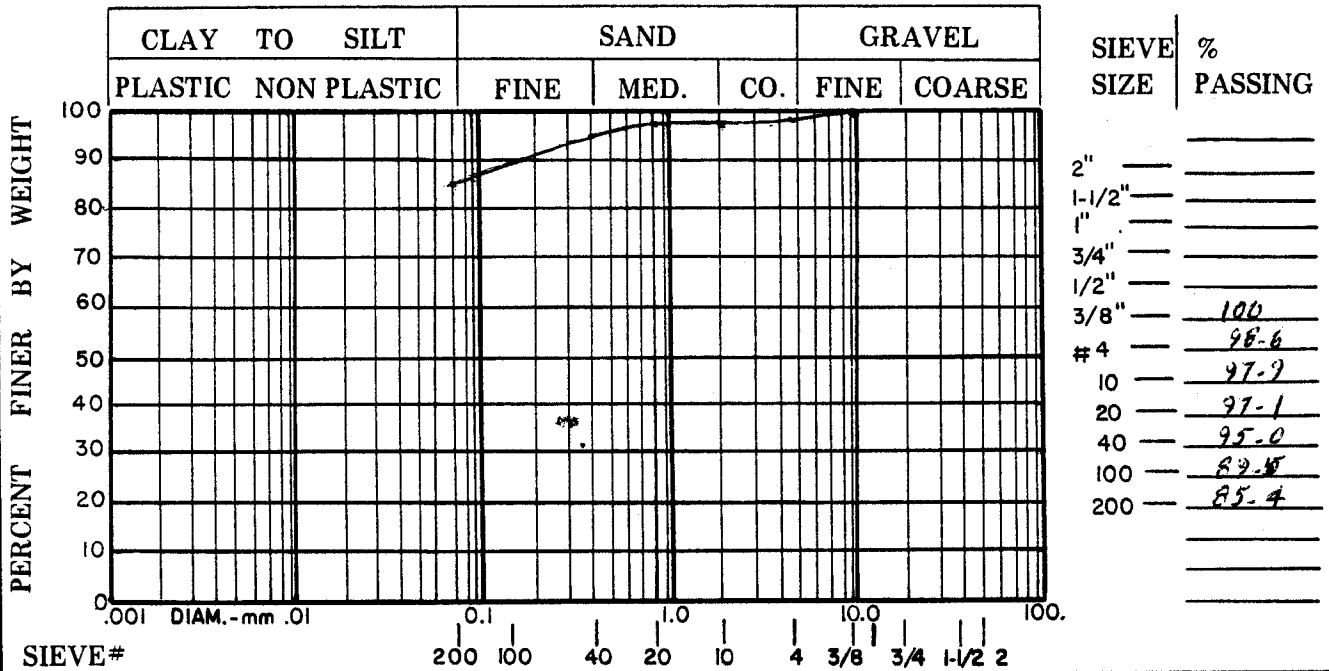
TOP ELEV.



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CLIENT 1ST PRESB. CHURCH SITE
 LOCATION 27 1/2 ROAD + CORTLAND AVE.
 SAMPLE # 1

BORING# DEPTH
 DATE 12-24-85 TEST BY EMM
 CLASSIFICATION CL



INPLACE DENSITY 93.8 pcf
 NATURAL WATER 11.4 %
 EFFECTIVE SIZE _____ mm
 Cc _____ Cu _____
 FINENESS MODULAS _____

SPECIFIC GRAVITY _____
 SULFATES _____ ppm
 PLASTIC LIMIT 15.8
 LIQUID LIMIT 27.2
 SHRINKAGE LIMIT 11
 PLASTIC INDEX 11.4

— INPLACE BEARING —
 PENETROMETER 600 psf
 UNCONFINED COMPRESSION _____ psf
 CONSOLIDATION _____% UNDER _____ psf
 SWELL _____% AGAINST _____ psf
 _____% WATER GAIN
 TEST TYPE _____

— MOISTURE DENSITY RELATIONSHIP —
 METHOD _____
 OPTIMUM MOISTURE _____ %
 MAXIMUM DRY DENSITY _____ pcf

ALLOWABLE BEARING 600 psf MAXIMUM / 200 psf MINIMUM

NOTES AVERAGE BEARING VALUE, LOW DENSITY AREAS WILL REQUIRE COMPACTION



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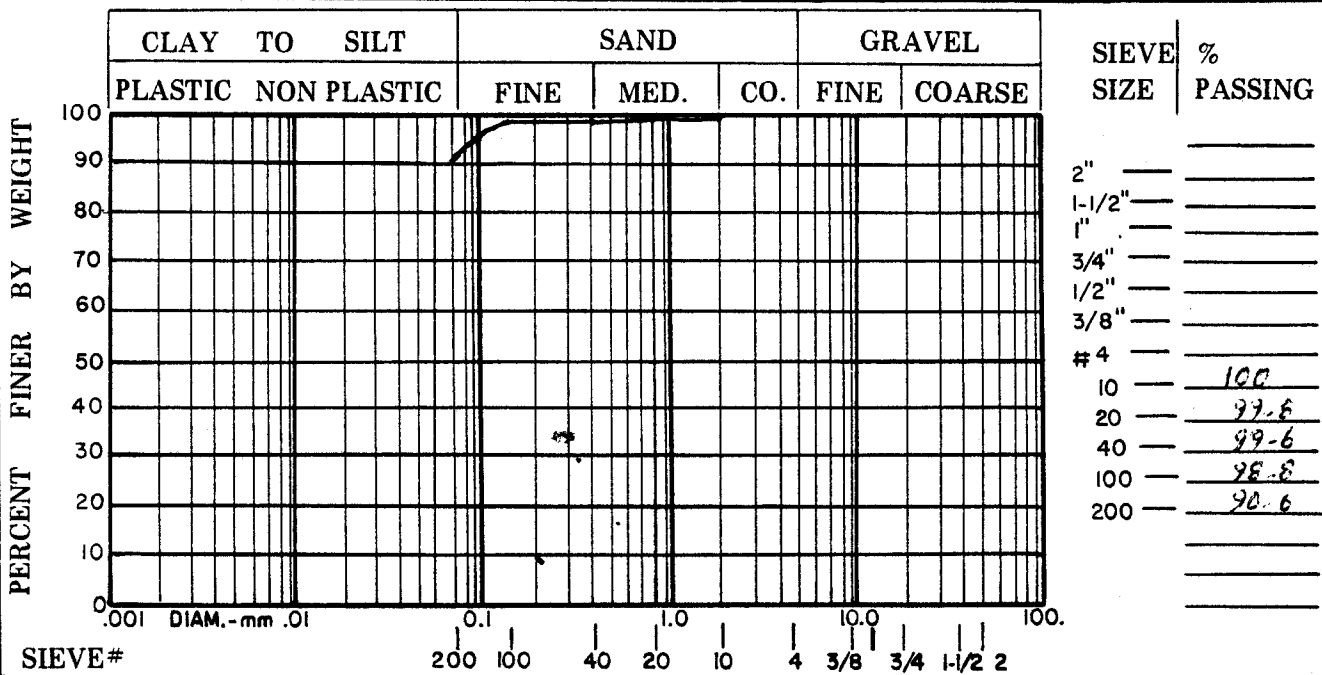
GRAND JUNCTION
 COLORADO

SOIL ANALYSIS

#15.86

CLIENT 1ST PRESB. CHURCH SITE
 LOCATION 27 1/2 RD + CORTLAND AVE.
 SAMPLE # 2

BORING# 6 DEPTH 8
 DATE 12-24-85 TEST BY EHH
 CLASSIFICATION CL-ML



INPLACE DENSITY 100-2 pcf
 NATURAL WATER 19.2 %
 EFFECTIVE SIZE _____ mm
 Cc _____ Cu _____
 FINENESS MODULAS _____

SPECIFIC GRAVITY _____
 SULFATES _____ ppm
 PLASTIC LIMIT 19.5
 LIQUID LIMIT 26.3
 SHRINKAGE LIMIT _____
 PLASTIC INDEX 6.8

— INPLACE BEARING —
 PENETROMETER 700 psf
 UNCONFINED COMPRESSION _____ psf
 CONSOLIDATION _____% UNDER _____ psf
 SWELL _____% AGAINST _____ psf
 _____% WATER GAIN
 TEST TYPE _____

— MOISTURE DENSITY RELATIONSHIP —
 METHOD _____
 OPTIMUM MOISTURE _____%
 MAXIMUM DRY DENSITY _____ psf
 Original Do Not Remove From Office

ALLOWABLE BEARING 700 psf MAXIMUM / -0- psf MINIMUM

NOTES SAMPLE BELOW 'PIPED' ZONE. AT ZONE OF SATURATION

CLIENT 1ST PRESB. CHURCH SITE

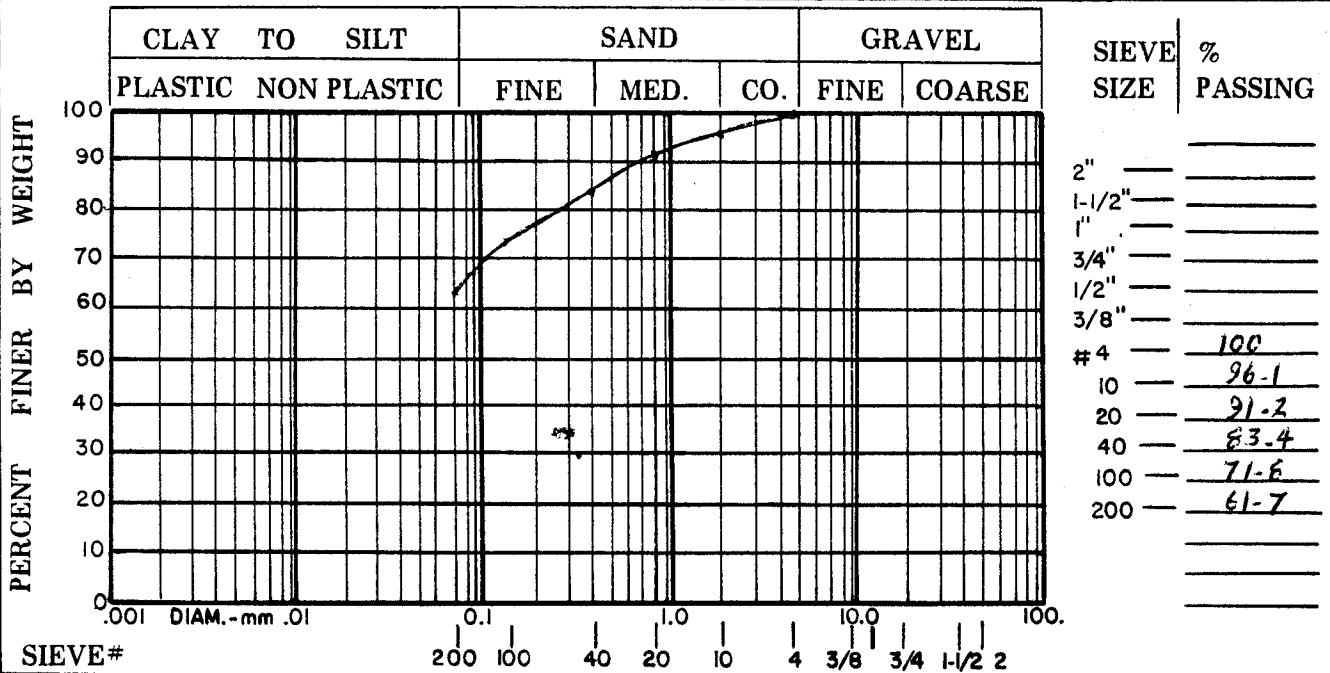
BORING# 2 DEPTH 5

LOCATION 27 1/2 RD + CORTLAND AVE

DATE 12-21-85 TEST BY EMH

SAMPLE # 3

CLASSIFICATION ML



INPLACE DENSITY _____ pcf

SPECIFIC GRAVITY _____

NATURAL WATER 9.2 %

SULFATES _____ ppm

EFFECTIVE SIZE _____ mm

PLASTIC LIMIT 21.4

Cc _____ Cu _____

LIQUID LIMIT 24.1

FINENESS MODULAS _____

SHRINKAGE LIMIT _____

PLASTIC INDEX 2.7

— INPLACE BEARING —

PENETROMETER 600 psf

UNCONFINED COMPRESSION _____ psf

CONSOLIDATION _____% UNDER _____ psf

SWELL _____ % AGAINST _____ psf

_____ % WATER GAIN

TEST TYPE _____

— MOISTURE DENSITY RELATIONSHIP —

METHOD _____

OPTIMUM MOISTURE _____ %

MAXIMUM DRY DENSITY _____ pcf

ALLOWABLE BEARING 600 psf MAXIMUM / —0— psf MINIMUM

NOTES SOIL SAMPLE IS IN 'PIPED' ZONE - BELOW VALUE OF WATER SATURATION



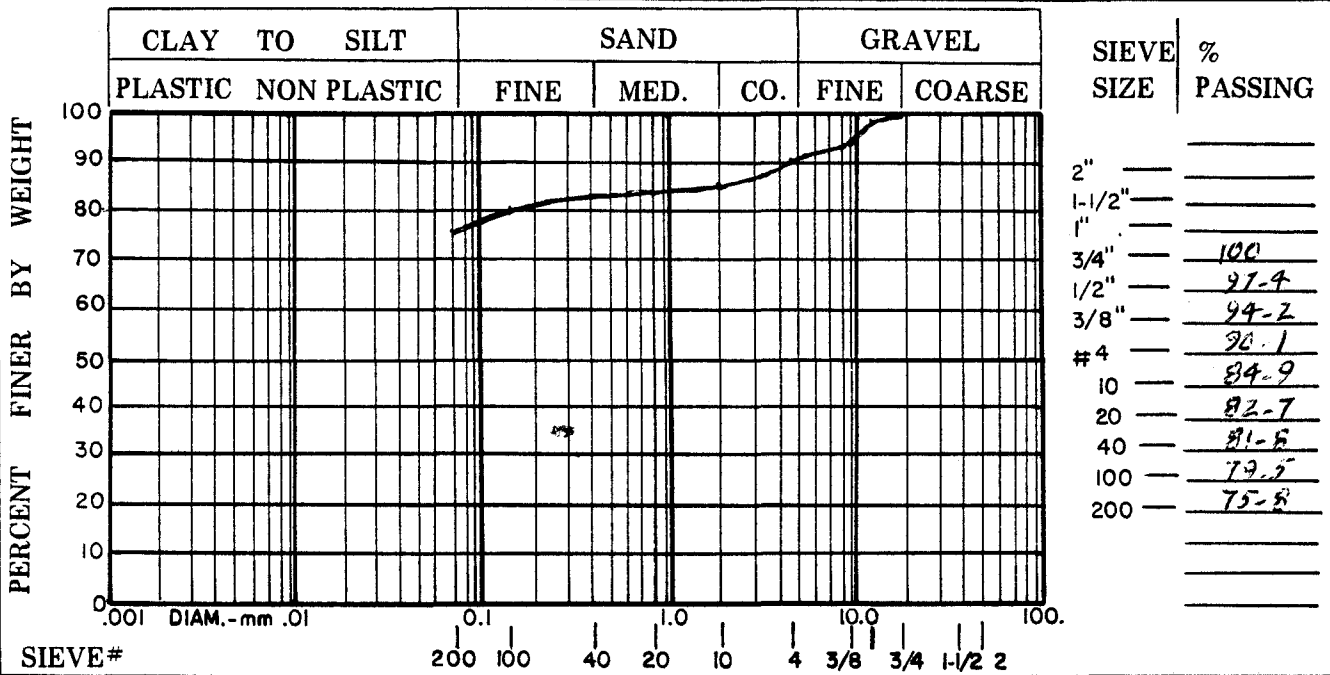
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GRAND JUNCTION
COLORADO

SOIL ANALYSIS #15.86

CLIENT 1ST PRESB. CHURCH SITE
 LOCATION 27 1/2 RD + CORTLAND AVE
 SAMPLE # 4

BORING# 2 DEPTH 10
 DATE 12-24-85 TEST BY EHH
GM/ML/SM
 CLASSIFICATION G-C/CL in part



INPLACE DENSITY _____ pcf
 NATURAL WATER 14.5 %
 EFFECTIVE SIZE _____ mm
 Cc _____ Cu _____
 FINENESS MODULAS _____ CLAY PORTION IS QUITE PLASTIC

SPECIFIC GRAVITY _____
 SULFATES _____ ppm
 PLASTIC LIMIT _____
 LIQUID LIMIT _____
 SHRINKAGE LIMIT _____
 PLASTIC INDEX _____

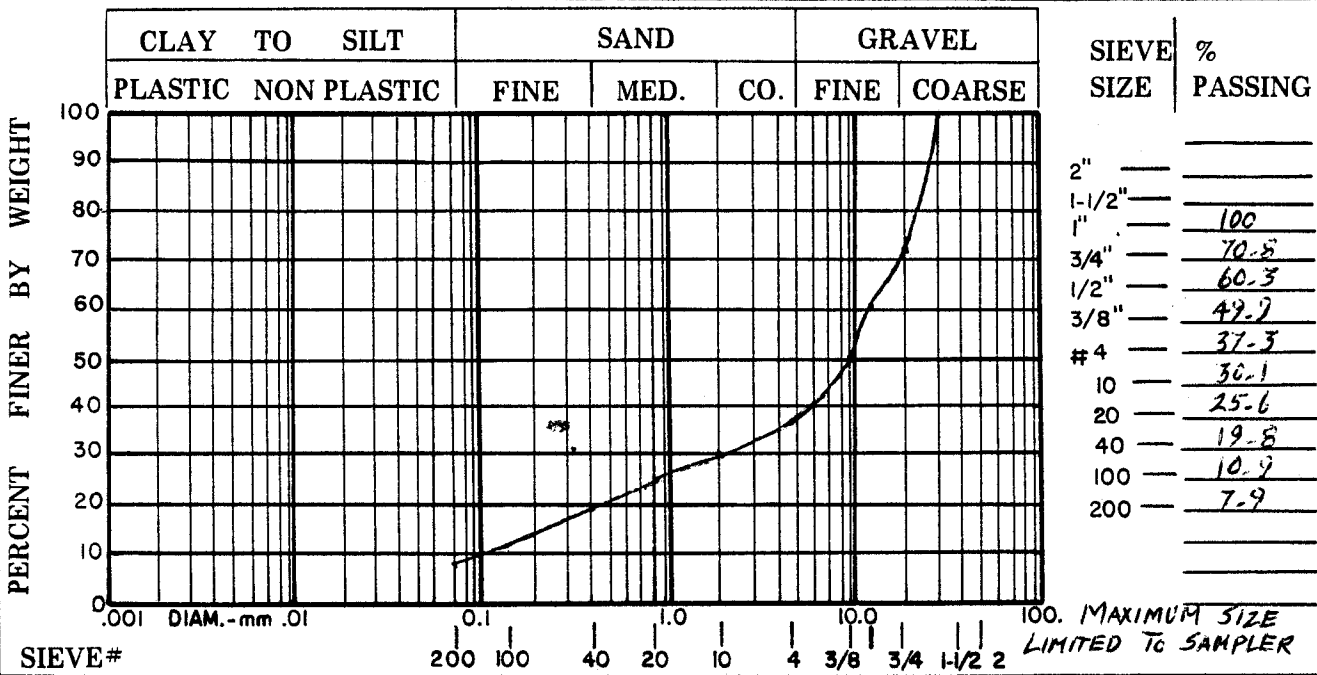
<p>— INPLACE BEARING —</p> <p>PENETROMETER _____ pcf</p> <p>UNCONFINED COMPRESSION _____ pcf</p> <p>CONSOLIDATION _____% UNDER _____ pcf</p> <p>SWELL _____ % AGAINST _____ pcf</p> <p>_____ % WATER GAIN</p> <p>TEST TYPE _____</p>	<p>— MOISTURE DENSITY RELATIONSHIP —</p> <p>METHOD _____</p> <p>OPTIMUM MOISTURE _____ %</p> <p>MAXIMUM DRY DENSITY _____ pcf</p>
--	---

ALLOWABLE BEARING NV pcf MAXIMUM / _____ pcf MINIMUM

NOTES CLAY SAMPLE IS SHOWN TO REPRESENT THE WORSE CASE, HOWEVER MOST SAMPLES CONTAINED MUCH MORE SAND + SILT

CLIENT 1ST PRESB. CHURCH SITE
 LOCATION 27 1/2 RD + CORTLAND AVE
 SAMPLE # 5

BORING# 2 DEPTH 12
 DATE 12-29-85 TEST BY EMH
 CLASSIFICATION GM/GP



INPLACE DENSITY _____ pcf
 NATURAL WATER SATURATED %
 EFFECTIVE SIZE 0.11 mm
Cc 109 Cu 3.1
 FINENESS MODULAS _____

SPECIFIC GRAVITY _____
 SULFATES _____ ppm
 PLASTIC LIMIT _____
 LIQUID LIMIT _____
 SHRINKAGE LIMIT _____
 PLASTIC INDEX N-P

— INPLACE BEARING —
 PENETROMETER _____ psf
 UNCONFINED COMPRESSION _____ psf
 CONSOLIDATION _____% UNDER _____ psf
 SWELL _____ % AGAINST _____ psf
 _____% WATER GAIN
 TEST TYPE _____

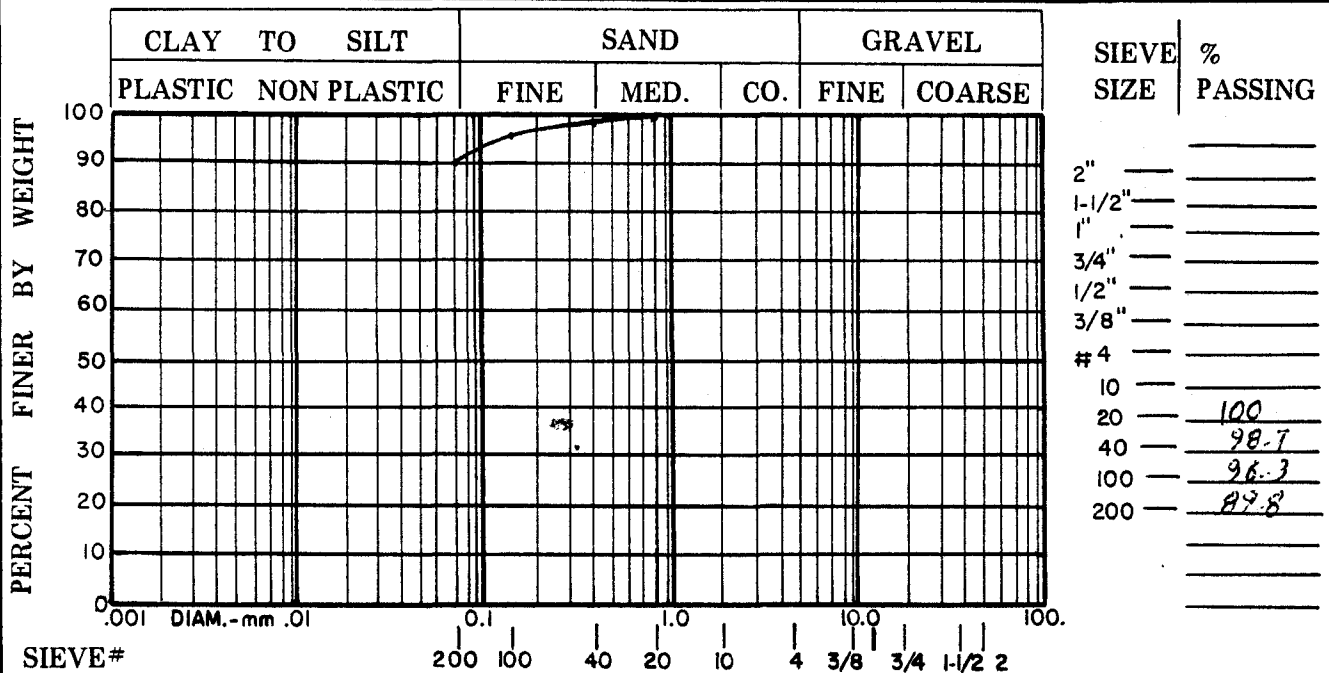
— MOISTURE DENSITY RELATIONSHIP —
 METHOD _____
 OPTIMUM MOISTURE _____ %
 MAXIMUM DRY DENSITY _____ pcf

ALLOWABLE BEARING 7000 psf MAXIMUM / 2000 psf MINIMUM

NOTES BEARING VALUES ASSUME FOOTING OR COMPACTED FILL

CLIENT 1ST PRESB. CHURCH SITE
 LOCATION 27 1/2 RD + CORTLAND AVE
 SAMPLE # 6

BORING# DEPTH
 DATE 12-24-85 TEST BY FMM
 CLASSIFICATION CL



INPLACE DENSITY _____ pcf SPECIFIC GRAVITY _____
 NATURAL WATER _____ % SULFATES _____ ppm
 EFFECTIVE SIZE _____ mm PLASTIC LIMIT _____
 Cc _____ Cu _____ LIQUID LIMIT _____
 FINENESS MODULAS _____ SHRINKAGE LIMIT _____
 PLASTIC INDEX _____

-- INPLACE BEARING -- PENETROMETER _____ psf UNCONFINED COMPRESSION _____ psf CONSOLIDATION _____% UNDER _____ psf SWELL _____ % AGAINST _____ psf _____% WATER GAIN TEST TYPE _____	-- MOISTURE DENSITY RELATIONSHIP -- METHOD _____ OPTIMUM MOISTURE _____ % MAXIMUM DRY DENSITY _____ pcf
--	--

ALLOWABLE BEARING 60,000 psf MAXIMUM / 20,000 psf MINIMUM
 NOTES VALUES ARE AREA TYPICAL FOR DRILLED PIERS W/ 2 FOOT SOCKET

REVIEW SHEET SUMMARY

FILE NO. #15-86 TITLE HEADING Conditional Use for Church in RSF-4 DUE DATE 4-15-86

ACTIVITY - PETITIONER - LOCATION - PHASE - ACRES First United Presbyterian Church, Terry Larson, North ^{EAST} corner of 27½ Road and Cortland Ave. on approximately 8.9 acres

PETITIONER ADDRESS 622 White Ave.

ENGINEER _____

<u>DATE REC.</u>	<u>AGENCY</u>	<u>COMMENTS</u>
4-04-86	City Fire Dept.	This office has no objections to the granting of a conditional use permit. The discontinuance of fuel storage will require the tank to be reclassified as abandoned. As such, it must be removed within 120 days from the Planning Departments approval on the proposed action.
4-04-86	Bldg. Dept.	No apparent problems with application. Recommend approval.
4-07-86	Mt. Bell	No objections.
4-07-86	City Police Dept.	We have no concerns. Security lighting is included in the preliminary plans.
4-09-86	Public Service	No objections.
4-15-86	City Engineer	Parking Lot - I recommend that the pedestrian walkway width of 12 feet at the planters be decreased to discourage use by vehicles. Driveway access - ok. Right of way - half right of way widths for 27½ Road and Cortland Ave. should be 33 feet (half collector street right of way). Storm Drainage: Will need to see drainage calculations and runoff from two year and 10 year storms. On site detention should provide for all runoff in excess of historic (undeveloped) rates. Runoff will end up in the Buthorn Drainage system which is already overloaded during rain storms. Sanitary Sewer: Our records show an existing sewer line crossing this property between Crown Heights and 27½ Road. The 20 foot sewer easement should be centered on the existing sewer. A bank guarantee, escrow of funds or other approved type of improvements guarantee will be required for half of future street improvements to 27½ Road and Cortland Ave.
4-15-86	Walker Field	The location of the church, as proposed, would not seem to negatively impact the operations of the crosswind runway located on the airport, with the height restrictions shown in the application. Any increase in the height of the building or associated steeples would require further review by the Airport Authority. The application does not mention any interference with airport operations via radio interference. This would be a concern if any interference results from church activities. The Airport Authority would have no objections to the construction of the church as reflected in the application and with the avigation easement.

Response Requested April 28

REVIEW SHEET SUMMARY

Page 2

FILE NO. #15-86 TITLE HEADING Conditional Use for a Church in RSF-4 DUE DATE 4-15-86

ACTIVITY - PETITIONER - LOCATION - PHASE - ACRES

PETITIONER ADDRESS

ENGINEER

<u>DATE REC.</u>	<u>AGENCY</u>	<u>COMMENTS</u>
4-17-86	Planning Dept.	<p>1) The maximum sign allowance per the Grand Junction Zoning & Development Code, Section 5-7-3B and Section 5-7-7:2A is 24 square feet for a total of 49 square feet.</p> <p>2) Russian Olive trees should not be planted. Several varieties of Ash trees are available and preferred.</p> <p>3) If this application is approved it will be subject to the following conditions:</p> <ul style="list-style-type: none">a. A final site plan must be submitted for staff review at least 10 days prior to applying for a building permit. Plan will include specific landscape details, final drainage calculations, building elevations and footprints.b. Signage will require a separate sign permit and must meet current sign codes.c. If the existing house is to remain, please provide a hold harmless agreement to the City due to the closeness of the house to the right of way.d. All related documents must be recorded prior to final approval of Conditional Use Permit (ie: avigation easement, utility easement deed, quit claim deed for additional right of way, etc.).

MOTION: "MR. CHAIRMAN, ON ITEM #15-86 CONDITIONAL USE FOR THE FIRST UNITED PRESBYTERIAN CHURCH IN AN RSF-4 ZONE, LOCATED AT 27 1/2 AND CORTLAND ROAD, I MOVE THAT WE FORWARD THIS TO CITY COUNCIL WITH RECOMMENDATION OF APPROVAL SUBJECT TO STAFF COMMENTS."



First United Presbyterian Church

RECEIVED GRAND JUNCTION
PLANNING DEPARTMENT

622 WHITE AVENUE
GRAND JUNCTION, COLORADO 81501
(303) 242-1923

APR 23 1986

GEORGE E. HERBERT, MINISTER
(303) 245-7961
THOMAS J. SMATLA, ASSISTANT MINISTER
(303) 241-7853

Grand Junction City Planning Department
599 White Ave.
Grand Junction, Colorado 81501

April 28, 1986

Gentlemen:

Enclosed are the First United Presbyterian Church's comments on the Agency Review Sheet Summary on our Conditional Use request for a church facility at the Northwest Corner of 27½ Road and Cortland Avenue on approximately 8.9 acres. To simplify things, comments are grouped by agency and only those requiring a response are addressed:

1) City Fire Department

A) Comment: Discontinuance of fuel storage and removal of the tank.

Response: The fuel tank will be declared abandoned and removed within 120 days after start of construction. We recognize that a fuel tank in close proximity to a building such as we propose is not safe. Once we start construction (estimated to be 5 years) it is agreed the tank should be removed.

2) City Engineer

A) Comment: Parking lot - reduce pedestrian walkway width less than 12 feet to discourage use by vehicles.

Response: Agree with the comment and suggest 7 or 8 feet as a better width.

B) Comment: Right of Way - half width for 27½ Rd. and Cortland Ave. should be 33 feet.

Response: In our application we used 30 feet for half width of the Right of Way. This was because a survey by Max Morris indicated 30 feet and also because the foundation of the house on the property is 32.4 feet from the centerline of 27½ Rd. A discussion with a representative from the City Engineer's office indicated that it might be possible to limit the half Right of Way to 32.0 feet at the house. Therefore, we propose that the half Right of Way width for 27½ Rd. and Cortland be changed from 30 feet to 33 feet except at the house on 27½ Rd. At the house it is requested that the half Right of Way width be restricted to 32.0 feet so long as the house remains. If the house is removed the half Right of Way width shall revert to 33 feet.

C) Comment: Storm Drainage - runoff calculations and on site runoff detention.

Response: The drainage calculations for runoff created by two and ten year storms for this facility will be provided when the final design is completed and the drawings submitted for a Building Permit. Further, we will design the facility so that runoff from the facility is no greater than for the existing unimproved tract of land. This will be accomplished by on site temporary water detention berms and routing of runoff to native vegetation areas.

D) Comment: A Sanitary Sewer crosses the property. The 20 foot sewer easement should be centered on the existing sewer.

Response: We agree that the 20 foot sewer easement should be centered on the existing sewer. We will consult with the City Engineering Department and determine the location of the existing sewer and relocate the sewer easement. The relocation will be done as quickly as possible after field proofing the exact location of the sanitary sewer.

E) Comment: A bank guarantee, escrow of funds or other approved type of improvements guarantee will be required for half of future street improvements to 27½ Rd. and Cortland Ave.

Response: Bank guarantees or escrow of funds for street improvements is appropriate for a developer who will sell the lots within a parcel and these are the best mechanisms to get assurance the developer meets the obligations. However, it is difficult for a non profit organization such as a church to dedicate the funds for long periods of time for bank guarantees or escrow of funds. Since the First United Presbyterian Church will not be subdividing the land, we will remain as the single owner and feel it is more appropriate for us to provide the necessary funds when the improvements are undertaken. As a result we feel it is more appropriate in our case to develop a mutually acceptable legal instrument whereby we would pay for street improvements when they are constructed.

3) Walker Field

A) Comment: Structure height appears to not pose a problem

Response: We will limit the structure height to 32.0 feet as stated in the application. This includes any associated steeples.

B) Comment: The application does not mention any interference with airport operation via radio interference.

Response: We do not plan to have radio or television broadcasting equipment in our facility. Any such operation would require licensing and equipment that would not cause interference with Walker Field.

4) Planning Department

A) Comment: Maximum sign allowance per Code is 24 square feet for a total of 49 square feet

Response: The planned signs as stated in the application will be reduced to the aggregate 49 square foot requirement.

B) Comment: Russian Olive trees should not be planted, Ash trees should be used instead.

Response: This is acceptable. The varieties of Ash trees selected will be included in the final plans.

C) Comment: The application if approved will be subject to the following conditions:

- (1) Final Site Plan must be submitted for staff review at least 10 days prior to applying for a Building Permit: Plan will include specific landscape details, final drainage calculations, building elevations and footprints.
- (2) Signage will require a separate sign permit and must meet current sign codes.
- (3) If the existing house is to remain please provide a hold harmless agreement to the City due to closeness of the house to the right-of-way.
- (4) All related documents must be recorded prior to final approval of Conditional Use Permit (i.e.: avigation easement, utility easement deed, quit ~~claim~~ deed for additional right-of-way, etc.

Response: The First United Presbyterian Church agrees to comply with these four conditions upon approval of the application.

I hope these responses provide satisfactory content and detail. If you have any questions, please call me.

Very Truly Yours,

Terrence L. Larson, M.E.

Terrence L. Larson

cc: Elgin Mallory
Skip Herbert

development summary



File # 15-86 Name 1st United Presby Date 5-7-86

PROJECT LOCATION: N.E. Corner of 27 $\frac{1}{2}$ and Cortland Ave.

PROJECT DESCRIPTION: Request for a Conditional Use Permit for a Church in an RSF-4 zone.

REVIEW SUMMARY (Major Concerns)

POLICIES COMPLIANCE	YES NO *		TECHNICAL REQUIREMENTS	SATISFIED NOT SATISFIED *	
Complies with adopted policies	x		Streets/Rights Of Way	x	
Complies with adopted criteria	x		Water/Sewer	x	
Meets guidelines of Comprehensive Plan	x		Irrigation/Drainage	x	
			Landscaping/Screening	x	
			Other: _____		

* See explanation below

The proposal is for a church to be built approximately 5 years from now. The Church needs approval for Conditional Use prior to execution of closing on the property. We received no opposition to the proposal.

STATUS & RECOMMENDATIONS:

Staff has no objections but requested that final plans be submitted for agency review at least 10 days prior to application for a building permit. We recommend placement on consent agenda.

Planning Commission Action

Recommendation for approval subject to staff comments.

Subject: Airport critical zone - 1st Presbyt. Church

Date: Sep 19 1990

To: johns
Cc: kathyp
Cc: lindaw

My contact with the 1st Presbyterian Church project has been with Tom Reck of Reck & Associates in person and by telephone; and with Don Watkins of Reck & Associates by telephone. Reck & Associates is the representative for the 1st Presbyterian Church and they are handling the details of the project which requires a revised final plan for their conditional use permit which was granted in 1986. Major changes to the approved plan are being proposed, therefore a public hearing before Planning Commission is in order.

On July 17, 1990, Karl and I met with Tom Reck in a pre-application conference and discussed what they would need for submittal. Since the Conditional Use had already been granted, I didn't question whether the use would be in compliance with the airport critical zone especially since a avigation easement had been signed and recorded. I learned of the airport critical zone conflict form Kathy on Tuesday, Sept. 11th, 1990. Since the 11th, I have seen Mr. Reck once when he stopped by at the counter. I did not mention anything about the confict, pending more info as to what direction the City will take. He stopped by with questions as to the Church submittal.

Dave

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Subject: Pres. Church

Date: Sep 19 1990

To: Johns
Cc: Martyc
Cc: Lindaw
Cc: Davet

On September 10, 1990 I met with the Fire Department task force to provide zoning information for the proposed relocation of one of the stations. A question came up about a site along Cortland Avenue just east of 27 1/2 Road.

I noted that the property was within the Airport's Critical Zone and that, although Section 5-11-3 did not specifically list fire stations in the Use/Compatibility Matrix, that the station should probably not be located there. In looking at the Matrix, I noticed that Churches are listed as being an incompatible use (uses are not permitted) in the Critical Zone. It was questioned as to how the First Presbyterian Church was approved for a Conditional Use at the northeast corner of 27 1/2 Road and Cortland Avenue. On September 11, 1990 I reviewed file #15-86, Conditional Use for the First Presbyterian Church. There was no mention in the file that the property was within the Airports Critical Zone. There had been a review by Walker Field resulting in an Avigation Easement being required. I discussed the problem with the Community Development Department staff and John Shaver.

On September 17, 1990 I telephoned Mike Outherland at Walker Field to discuss the project. I asked Mike if the southwest runway was still used and would it continue to be used in the future? Mike indicated that the runway was used and there were no plans to discontinue use of that runway. Mike did not recall the Critical Zone issue being discussed when the Church project was proposed (Mike was with the City Planning Department at the time). Mike said he would research whether or not the City's regulations were based on federal regulations.

To date the church representatives have not been informed of our findings.

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Subject: 1st Pres. Church

Date: Sep 19 1990

To: Danw

Cc: Johns

Cc: Martyc

Dave Thornton and I calculated the Airport Zone Height Limitations as they pertain to the First Presbyterian Church Property at 27 1/2 Road and Cortland Ave. We calculated the distance between the end of the southwest runway and the closest point on the subject property to be 3,250 feet. According to U.S. G.S. Grand Junction Quadrangle, 1962, the approximate elevation at the end of the southwest runway is 4,780 feet and the approximate elevation of the subject property is 4,740 feet. The most restrictive height limitation is calculated from section 5-11-3.C.6 Precision Instrument Runway Approach Zone. That plane slopes upward fifty feet horizontally for each foot vertically. That calculation restricts the height on the subject property to 105 feet (adding the 40 feet elevation difference). Therefore a 32' high building would not encroach into that plane.

From: !johns
Date: Tue Oct 2 9:08:37 MD 1990
Subject: Airport critical zones
To: !danw
Cc: !kathyp
Content-Length: 3218

This memo will memorialize the verbal information that I have given you on the airport critical zone question.

The FAA regulations mandate that certain areas in close proximity to airports be maintained free from obstructions, structure or other uses which may create a hazard for air travel or for land uses. The FAA requires that an approach zone, transitional zone and horizontal zone be maintained on and around airport property. There is no requirement that I can find in the CFR that a critical zone be established. The determination of a critical zone is essentially an issue of local land use control. A critical zone as best I can determine, is essentially the combination of the approach zone and the transitional zone. The transitional zone requires a slope of 7/1 and the approach zone requires a slope of 40/1. Based on Kathy's calculations of the elevations of the airport and the church property the church will not be of sufficient height to interfere with either of these two zones.

As to the incompatibility of a church within the critical zone I cannot find a Federal regulation that establishes compatible or incompatible uses. The compatibility or not of a use seems to be a matter of local concern. The FAA regulations are concerned with structure height and with the adverse effect of noise on particular uses.

The research that forms the basis of this memorandum is from the CFR, The Airport and Airway Development Act of 1970 and DOT Advisory Circular 150/5190-4. I have requested that the airport authority provide copies of the FAR and also have requested a new DOT Advisory Circular to confirm that the regs have not been amended. Mike Sutherland has also been asked to provide us with FAA form 7460-1 which is the notice of construction or alteration which may need to be filed by the church.

Section 18 of the Airport and Airway Development Act of 1970 is the controlling authority for our requiring certain land use controls in the airport influence area. Section 18a states the following, in relevant part,

As a condition precedent to approval of an airport development project the Secretary shall receive assurance in writing that the aerial approaches to the airport will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating airport hazards such action shall be taken to prevent the establishment of future airport hazards by appropriate action including the adoption of zoning laws to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations including landing and takeoff of aircraft...

At some point in the past we must have provided such assurances, it would be wise to see if we could find that document to see what we agreed to do. If a copy of the zoning regs were sent with that document to the FAA then if we amend the code a copy of the new section may have to be sent to the FAA to remain eligible for continued Federal funds. I will check on what if any continuing duty we have under the Airport and Airway Act.

If there are questions or comments please let me know.

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