

FILE COPY



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 9, 1990

Jeff Mortensen, P.E.  
Jeff Mortensen & Associates, Inc.  
811 Dallas, NE  
Albuquerque, New Mexico 87110

RE: FINISH FLOOR CERTIFICATION FOR LOUISIANA PLACE  
(J-19/D47) FINISH FLOOR CERTIFICATION STATEMENT DATED NOVEMBER 3,  
1989

Dear Mr. Mortensen:

First of all, let me apologize for the delay in reviewing your submittal.

Based on the information provided on your submittal of November 3, 1989,  
finish floor certification is acceptable for the referenced site.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

*Bernie J. Montoya*  
Bernie J. Montoya, C.E.  
Engineering Assistant

BJM/bsj  
(WP+578)

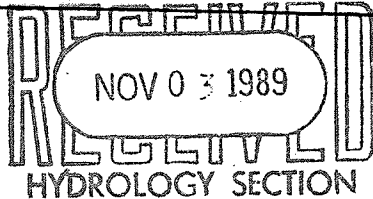
PROJECT TITLE: LOUISIANA Place - PHASE 2 ZONE ATLAS/DRNG. FILE #: J19/047  
LEGAL DESCRIPTION: TRACT B-1, MESA DEL NORTE ADDN  
CITY ADDRESS: 1700 LOUISIANA NE

ENGINEERING FIRM: JEFF MORTENSEN & ASSOCIATES INC CONTACT: JEFF MORTENSEN  
ADDRESS: 811 DALLAS NE 87110 PHONE: 265-5611  
OWNER: ASHCRAFT COMPANIES CONTACT: TERRY ASHCRAFT  
ADDRESS: 1120 PENNSYLVANIA NE PHONE: 265-7728  
ARCHITECT: FANNING BARD LARSEN CONTACT: ART TATUM  
ADDRESS: 4600 A MONTGOMERY NE PHONE: 883-5200  
SURVEYOR: JMA CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CONTRACTOR: ASHCRAFT COMPANIES CONTACT: TERRY ASHCRAFT  
ADDRESS: \_\_\_\_\_ PHONE: 265-7728

## PRE-DESIGN MEETING:

☐ YES  
☒ NO

☐ COPY OF CONFERENCE RECAP  
SHEET PROVIDED



DRB NO. 88-151  
EPC NO. 7-88-9  
PROJ. NO. J19/047

## TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT  
☐ DRAINAGE PLAN  
☐ CONCEPTUAL GRADING & DRAINAGE PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☒ ENGINEER'S CERTIFICATION

## CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL  
☐ PRELIMINARY PLAT APPROVAL  
☐ SITE DEVELOPMENT PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ BUILDING PERMIT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☒ CERTIFICATE OF OCCUPANCY APPROVAL  
☐ ROUGH GRADING PERMIT APPROVAL  
☐ GRADING/PAVING PERMIT APPROVAL  
☐ OTHER \_\_\_\_\_ (SPECIFY)

DATE SUBMITTED: JEFF MORTENSEN  
BY: 11-03-89

CITY OF ALBUQUERQUE  
Legal Department  
(505)768-4500

INTEROFFICE CORRESPONDENCE

Date: May 25, 1995

TO: Bernie Montoya  
Hydrology

FROM : Mark Hirsch, Assistant City Attorney *Mark Hirsch*

SUBJECT: Trapp v. Ashcraft Real Estate & City

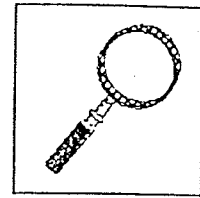
Attached please find a letter of a consultant who was hired by the Plaintiff in the above entitled case. I would appreciate your review of the letter and advising me as to your comments on it. Please include in your comments whether or not you are in control of the use of the metal plate above the culvert which is located in the sidewalk, and if not, who do you believe I should speak to about Mr. Lewis' letter.

MH/jts  
enclosure  
ma25merg.mem

MAY 30 1995

HYDROLOGY DIVISION

**WALTER LEWIS, SAFETY COUNSELOR**  
**1733 BRYN MAWR AVENUE NE**  
**Albuquerque, New Mexico 87110**  
**(505) 255-3474**



April 5, 1994

John G. Travers, Esq.  
Toulouse & Associates, P.A.  
2403 San Mateo Blvd. NE, Suite 9-West  
Albuquerque, New Mexico 87110

Re: Investigation of 1700 Louisiana Avenue NE

Dear Mr. Travers:

This report concerns the slip and fall accident that occurred November 8, 1993, at approximately 8:30 a.m., when Mr. Greg Trapp slipped and fell on the metal plate covered with ice; just South of the office building at 1700 Louisiana Avenue NE. This metal plate installed in the sidewalk was a hazardous condition that caused an unnecessary risk to Mr. Trapp and other pedestrians.

My investigation of this area shows that the owners of the property East of this sidewalk allowed the run-off from their sprinklers to run onto and subsequently freeze on the metal plate.

- 1) The metal plate was without the proper anti-slip surface that would be required for this type of grate. Minimum standards indicate a minimum anti-slip co-efficient of 65.

John G. Travers, Esq.

April 5, 1994

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- 2) The weather report of November 7, 1993, predicted a low for the morning of November 8, 1993 of 25°. Irrigation should not have been done under those conditions.

My investigation also shows that the curb and gutter in this area does not provide for proper drainage of any water in the street. At this location there is a low spot that does not allow for proper drainage and any water standing in the gutter is splashed on the walk by passing vehicles. There is no storm drain on Louisiana from Lomas to the freeway allowing water to accumulate causing a hazardous condition.

The culvert installed under this sidewalk provides drainage for the parking lot of the apartment complex. This plate should never have been installed as a part of the sidewalk as its surface would freeze much faster than the adjoining sidewalk due to collection of cold air under its surface. This culvert and metal walkway act in a similar fashion to bridges which ice over quicker than adjacent streets.

My conclusions are based on the following City ordinances and standards:

- 1) City of Albuquerque, Sidewalk Ordinance, (including amendments through January, 1982), and Section 8-16-18, Sidewalk Repair and Maintenance:

All sidewalks shall be kept clean from rocks and other obstructions, including ice and snow, and in a state of good repair by the owner, occupants, or agents in charge of the adjoining property. A sidewalk in good repair shall be free of cracks, floats, obstructions, depressions and/or any and all defects and shall have a uniform longitudinal and transverse gradient.

John G. Travers, Esq.

April 5, 1994

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2) Article VI, Section 8-6-2:

Paragraph C: Provisions for Safe and Efficient  
Driveways and Street Drainage

Paragraph E: Normally sidewalks shall be constructed  
of concrete, but other paving materials  
are acceptable when meeting reasonable  
standards provided for herein for material  
performance, construction methods and  
public safety.

3) Slip and Fall Handbook, Stephen I. Rosen, JD, Ph.D., Chapter 15, Sidewalk  
vault-cover.

One of the greatest dangers of walking down a sidewalk in our larger cities is the chance of slipping or falling through a sidewalk vault cover or CULVERT COVER. Because these accidents have not been documented as frequently as sidewalk trip and falls or foreign-object falls, many cities have not addressed this safety problem.

In late 1982 the City of Los Angeles issued a new policy stating that such covers have to meet the national and local standard of a minimum static coefficient of friction of .50 when dry or wet. Los Angeles did this in consultation with Underwriters Laboratories and the Occupational Safety and Health Administration (OSHA) department in the State of California. This new rule is far reaching; it also underlines the fact that the State of California recognized the .50 slip-resistance standard.

John G. Travers, Esq.

April 5, 1994

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There are various types of vault covers, depending upon the sort of work that is being done (e.g., work on utility lines; delivery of goods into retail store basements; cable television installation; work on ventilation systems from underground facilities). Vault cover accidents can have several causes. A common problem is the biomechanical inability of human location to adjust to interruptions of normal gait due to UNEXPECTED CHANGES IN THE COEFFICIENT OF FRICTION OF SURFACES (i.e., traction problems). Falls are also caused by water, dirt, and snow, and/or ice on these metal surfaces. The vault cover may still be wet or icy when the sidewalk is clear. Often the metal cover is slippery. Many diamond or check patterned metal surfaces, the anti-slip values are not high enough. These metal surfaces are treated with embedded aluminum oxide granules.

A concrete sidewalk in good surface condition has a static anti-slip coefficient of friction of .65 or greater. Thus the minimum standard is just that.

Both sidewalks and metal covers should be tested regularly by the jurisdiction building or engineering department to confirm that they have non-slip surfaces and similar anti-slip coefficients of friction.

If you have any questions regarding this report, please feel free to call me.

Sincerely yours,

*Walter B. Lewis*

Walter B. Lewis

WBL:jko

# LOVELACE HEALTH SYSTEMS

November 17, 1994

John G. Travers

Attorney at Law

13 San Mateo, NE Suite 9 West  
Albuquerque, NM 87110

Gregory Trapp

11/8/93

CLAIM #:

Dear Mr. Travers

The Lovelace Health Plan (LHP) contract  
accepts your notice of subrogation.

is a Third Party Subrogation Clause. Therefore, please  
sent of:

\$ 15,457.22 on the account of

Gregory Trapp

Previously Billed \$ 14,754.47

Amount Paid \$ 0.00

New Charges \$ 702.75

Total to Date \$ 15,457.22

Please be advised that additional charges

may be incurred and submitted to you at a later date.

You should not settle, compromise or  
without LHP's approval you do the  
related to the accident.

be a claim for injury against another liable insurance carrier  
LHP member is obligated to repay LHP for all expenses

Please remit payment to:

Request medical records from:

Lovelace Health Plan  
P.O. Box 27  
Albuquerque, NM 87125-7  
Attn: Subrogation Specialist

LOVELACE HEALTH SYSTEMS  
Medical Records Department  
P.O. Box 26102  
Albuquerque, NM 87125-6102

Thank You.

Sincerely,

Deborah L. La

Subrogation Specialist  
262-7367 372

cc:



**CITY OF ALBUQUERQUE**  
**PUBLIC WORKS DEPARTMENT**

June 1, 1995

INTER-OFFICE CORRESPONDENCE

HYDROLOGY DIVISION

TO: Mark Hirsch, Assistant City Attorney  
FROM: Bernie J. Montoya, PWD/Hydrology *BM*  
SUBJECT: TRAPP V. ASHCRAFT REAL ESTATE & CITY

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Attached please find a copy of the City of Albuquerque's Specification Number D.W.G. 2236 for the sidewalk culvert with steel plate top. The drawing does not indicate any type of slip factor.

The problem in the street gutter and sidewalk culvert as stated on Mr. Lewis's letter should be directed to Mr. Dean Wall from Street Maintenance. Mr. Wall's inspectors have jurisdiction within this area.



**NOT** Grip Grate is produced by stream deposition of special alloys.

**EL**—the result is a martensitic on of a random hatch matrix, file 62 on Rockwell "C") and a surface at exceeds 4,500 P.S.I.

**MINIMUM**—the resultant alloy surface 1IN. YIELD of 46,000 P.S.I.—far in of A-36 structural steel. The **NOT** surface has a bond strength of 150 P.S.I.

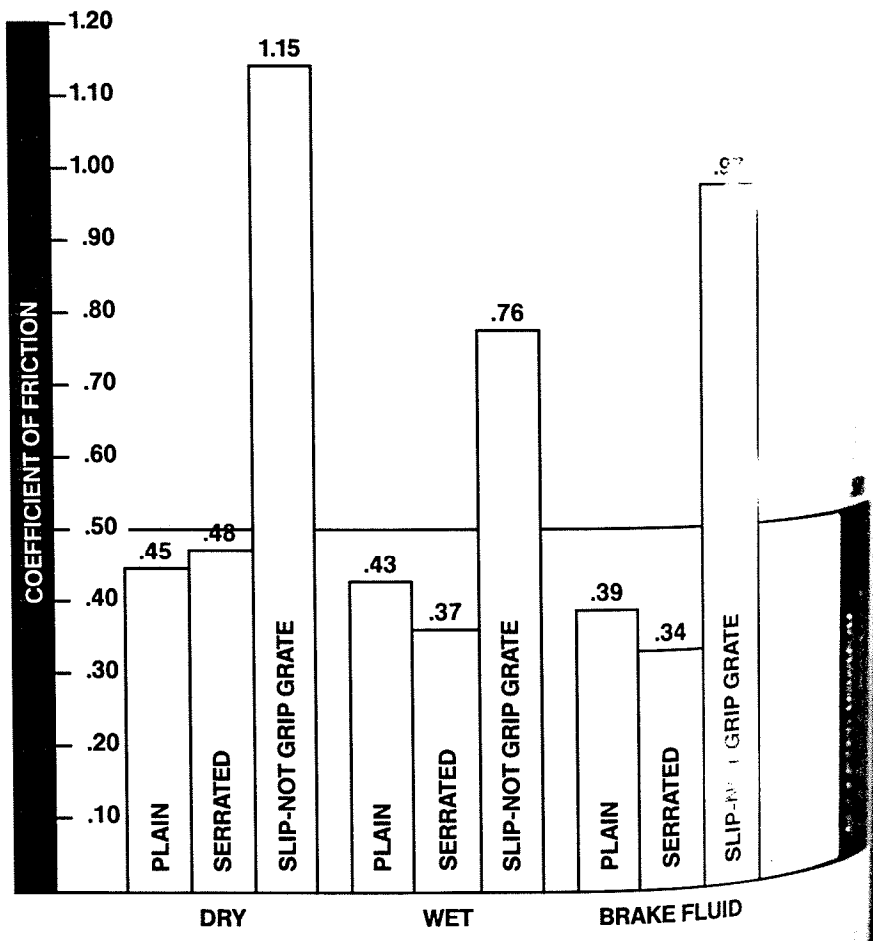
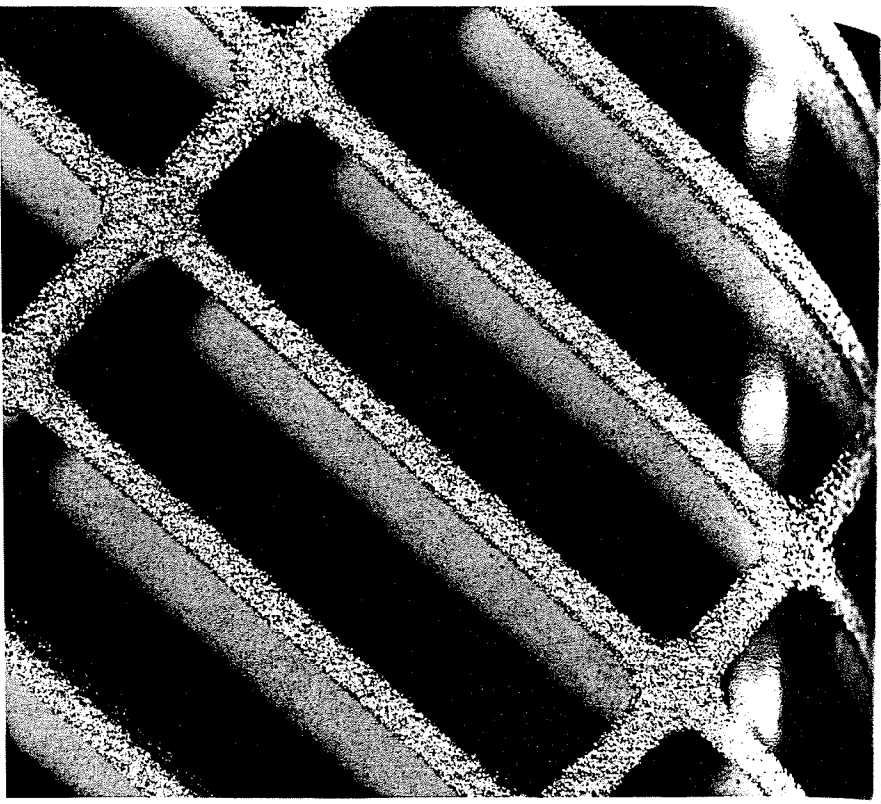
remely high bond strengths d by the patented application sys- es **SLIP-NOT** Grip Grate—in both d aluminum—its vastly superior ace over the coated on grit prod- h their very poor bond strengths.

**PROVE**  
**ern, 5/1/89)**  
**ted grating**  
**te of money!**

This test was run using a rubber shoe sole material generally used try. Another test run on shoe for a California customer by a local dry showed the Coefficient of to be: dry leather—1.00; wet —1.00.

- rs
- zanines
- s
- hine Platforms
- ips
- eways
- valks
- overs
- ch Covers
- Decks
- ip Platforms
- Platforms
- ge Decking

**ICES:**  
aintain a complete fabricating shop.  
your prints for quotes on unusual  
s or requirements.



**STEEL: SLIP-NOT** Grip Grate **FACE HARDNESS** of up to 62 on Rockwell "C" Scale. This approach of a file and gives **SLIP-NOT** surface of any slip resistant by any manufacturer. The **STRENGTH** exceeds 4,500 P.S.I. is absolutely critical to longevity! It allows the surface to be reducing the "slip resistance" life. Low bond strength in "trained on" or "epoxied on" the grit particles to be torn off the slip resistance and contained area.

**SLIP-NOT** Grip Grate exceeds "requirements or OSHA, U.L., and State and City criteria known."

**TO SPECIFY:—Steel SLIP-NOT** grating shall have a slip resistant **SLIP-NOT** surface, as manufactured by VOLNAR Co., applied. The material shall have a surface hardness 62 on the Rockwell "C" Scale. The surface material shall have a bond strength of at least 4,000 P.S.I.

**ALUMINUM: SLIP-NOT** Grip Grate special alloy surface with a MIN. YIELD of 46,000 P.S.I. This is far tougher than A36 Structural Steel. The patented application process produces a BOND STRENGTH of 150 P.S.I. Where a grit is simply coated on ordinary aluminum, yield strength is less than 400 P.S.I.—advised bond strength is 11,000 P.S.I. Such a product, and painted products too, just do not have the strength to hold the grit in position or maintain the integrity of the surface-to-substrate.

In every application, Aluminum **SLIP-NOT** Grip Grate is a vastly superior product with no limits against rolling loads!

**TO SPECIFY: Aluminum SLIP-NOT** Grip Grate shall have a slip resistant **SLIP-NOT** surface, as manufactured by VOLNAR Co., applied. The material shall have a yield strength of at least 46,000 P.S.I. The surfacing material shall have a bond strength to the substrate of at least 4,000 P.S.I.

**NOTES:**  
1. **STAINLESS** on **STAINLESS**—for those applications where light wear must be accommodated.  
2. **PLATING** on **STEEL SLIP-NOT** Grip Grate of steel is demanded in a corrosive environment.

but inclusion of aluminum oxide grit. It is therefore both more economical and less durable. Its initial slip resistance is more complete details on Mebac, write for our free 12-page catalog.

# What is Mebac?

In the patented Mebac process, aluminum oxide grit is insulated and welded to a metal base. The metal and fine grit composite provides surer footing and greater safety under wet, oily, and other slippery conditions. A Mebac surface withstands contact with oil, gasoline, other chemicals, even alcohol. And the surface has no odor or toxic fumes when subjected to high temperatures. The Mebac slip-resistant surface can be specified on either a steel or aluminum base, with various final finishes available. Steel based Mebac products are finished with a standard shop coat of paint applied to the underside surface. A galvanized finish can be applied by IKG over the Mebac surface. IKG should be consulted when galvanizing is required by others, for special instructions. Mebac surf-ladder rungs are furnished pre-galvanized.

# EZ Weld

This is simply a less expensive, less durable, but very effective skid resistant surface made in steel-on-steel only using the same process as Mebac, except for the encapsulation of aluminum oxide grit, which is eliminated. However, the resulting surface is very hard and durable, with a rough texture that provides initial skid resistance comparable to Mebac. For applications that do not require the long term durability of the Mebac surface, EZ Weld can be an economical alternative. Moreover, in installations requiring a substantial amount of field welding, EZ Weld is clearly the choice.

# Typical Applications

Platforms                      Aircraft Ground Equipment  
Utility Vault Covers  
Where you need a durable, long lasting slip resistant surface.

# Mebac & EZ Weld Technical Data

**Bond Strength (Mebac)**  
Adhering to Surface—656-710<sup>3</sup>/in<sup>2</sup>  
Adhering to Coating to Surface—321,333<sup>3</sup>/in<sup>2</sup>  
Steel Coating to Surface—375,595<sup>3</sup>/in<sup>2</sup>

**Buildup (Mebac)**                      (EZ Weld)  
EZ Weld — .01 pounds per square foot  
Mebac — .48 pounds per square foot

**Distance**  
346A, 4.7.4)

	Specified	Actual
Flame Combustion Time (Min.)	4.25 Max.	0
Char. (in.)	6.00 Max.	0

**Resistance To Wear for Type G1 Using Taber Abrasive Test Per ASTM D 4060 (H-22 Calibrade Wheels and 1000 GM Load at 500 Cycles).**  
Steel Surface Loss—0.222 in.<sup>3</sup>                      Steel Surface Loss—0.014 in.<sup>3</sup>

# Installation and Maintenance

Because of its encapsulated aluminum oxide grit, Mebac is somewhat more difficult to fabricate after surface application than EZ Weld, although it is not impossible. Our complete Mebac catalog (free upon request) contains a full page of fabrication tips. However, the ideal approach to an installation using Mebac surfaces is to send us your material specifications, just prior to installation. Working with EZ Weld is no different from fabrication of standard steel plate.

# Welding Mebac

As a general rule, it is recommended that Mebac surf-ladder materials be welded from the unsurfaced side. Weld-

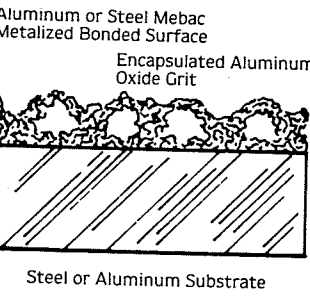
# The Mebac Process

- The standard Mebac surface is manufactured via the following step process:
- 1) The base material is shot-blasted and thoroughly cleaned.
  - 2) The surface is then coated with a high purity molten steel (or aluminum).
  - 3) Aluminum oxide grit is then evenly dispersed over the entire surface.
  - 4) The surface is then overlaid with a high purity molten steel (or aluminum). The end result is a tough, durable, UL Listed Slip Resistant surface.

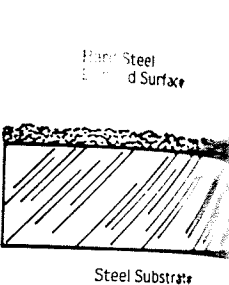
# The EZ Weld Process

- 1) The base material is shot-blasted and thoroughly cleaned.
- 2) The surface is overlaid with four coats of high purity molten steel with a hardness of G2 on the Rockwell C scale.

Cross Section of Mebac Slip-Resistant Surface



Cross Section of EZ Weld



ing from the surfaced side is possible, but requires extra care.

# Fabrication of Mebac

Mebac can be shear or flame cut if it is done from the side opposite the Mebac surface. When radius cuts are required, torch cutting is used. Installation holes can be flame cut or drilled from the unsurfaced side. We recommend 1" rather than 3/4" lift holes, as they can be torch cut rather than drilled.

# Maintenance

All Mebac surfaces wash clean with high pressure water or steam and can be scrubbed clean with a hard bristle brush. Additional technical assistance is available directly from the factory upon request. Contact us today.

SLIP RESISTANCE-STATIC COEFFICIENT OF FRICTION

Surface Type	Dry Tangent		Wet Tangent		Light Machine Surface
	°		°		
Plain Uncoated Steel	38°	0.78	37°	0.75	32°
Standard Mebac Steel	47°	1.07	54°	1.38	53°
Stainless Steel					
Type Mebac	50°	1.19	49°	1.1	53°
Aluminum Mebac	58°	1.60	41°	0.87	43°

UL LISTED Steel classified as slip resistant by Underwriters Laboratories (FDA APPROVED and USDA APPROVED (Aluminum Mebac)

# Mebac on Your Fabricated Parts

The most satisfactory surfacing is achieved when it is applied after fabrication, whether plate or grating. It is, whenever feasible, metal flooring being fabricated in the plant for surfacing after fabrication. Attachments are made of metal and they yield a higher quality, lower cost product after surfacing compared to the uneven cut abrasive metal scrap that has been abrasively finished. For cases where fabrication prior to surfacing is desirable, ask for our information sheet "Fabrication Tips."

# Mebac Slip-Resistant Floor

Mebac surfaces are well suited for slip resistant traction for vehicular and pedestrian applications including off-shore ramps, work stations, mezzanine floors. Mebac Floor Plate may be specified depending on specific application. It is available in a wide range of thicknesses and widths up to four feet. Mebac Floor Plate can be supplied in lengths up to 40 feet.

# EZ Weld Slip-Resistant

EZ Weld is an outgrowth of IKG's process which encapsulates aluminum oxide grit in a molten steel matrix. EZ Weld is produced by essentially the same process as Mebac, but without the inclusion of the aluminum oxide grit. The resulting surface has a high Rockwell hardness of the steel applied.

# Mebac On Grating

Now Mebac can be applied to both steel and aluminum grating. Mebac can be applied to either by the standard process, "splatter" will be desirable in an appearance that might be required in industrial end uses. The well suited for Mebac surfacing because of the fact that Mebac on grating is intended for use in areas where slip resistance is not recommended.



The following items concerning the Ashcraft Office Development Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located on the southeast corner of the intersection of Louisiana Boulevard N.E. and Constitution Avenue N.E. Much of the surrounding area is currently developed, thereby making this an urban site. This site is adjacent to designated street flooding in Louisiana Boulevard N.E. because of this, the finished floor elevations of the proposed buildings have been established at least two feet above the corresponding flowline elevations in Louisiana Boulevard N.E. At present, the majority of the site flows from east to west onto Louisiana Boulevard N.E. with a small portion of runoff flowing south to north onto Constitution Avenue N.E. No offsite flows enter the site along the east property line since the existing lot is graded in a manner which will route runoff away from the project site. No offsite flows enter the site along the south, west and north property lines because the existing streets route runoff away from the project site.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of two office buildings along with adjacent paving and landscaping. Flows generated by Basin 1 will be routed from east to west onto Louisiana Boulevard N.E. From that point, runoff will flow north along the east edge of Louisiana Boulevard N.E. to an existing storm drain system located at the southeast quadrant of the intersection of Louisiana Boulevard N.E. and Interstate 40 that connects to the Interstate 40 Drainage Channel which is the outfall for this site. Flows generated by Basin 2 will be routed from south to north onto Constitution Avenue N.E. Constitution Avenue N.E. drains west to Louisiana Boulevard N.E. where it turns and flows north to the aforementioned storm drain system located at the intersection of Louisiana Boulevard N.E. and Interstate 40. Based upon the fact that this site is an infill site and that this site is located at the bottom of the watershed, the free discharge of runoff from this site is appropriate.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will increase the discharge by approximately 8.6 cfs. This plan is in conformance with the previously approved Conceptual Grading and Drainage Plan for this site (J19/D47).

#### CALCULATIONS

##### Ground Cover Information

From SCS Bernalillo County Soil Survey,  
Plate 31: Tggs - Tijeras gravelly fine sandy loam  
Hydrologic Soil Group: B  
Existing Pervious CN = 70 (DPM Plate 22.2 C-2)  
Future Pervious CN = 70 (DPM Plate 22.2 C-2)  
Developed Pervious CN = 61 (DPM Plate 22.2 C-2)

##### Time of Concentration/Time to Peak

$T_c = 0.0078 L^{0.77}/s^{0.385}$  (Kirpich Equation)

$T_p = T_c = 10$  min.

##### Point Rainfall

$P_6 = 2.34$  in. (DPM Plate 22.2 D-1)

##### Rational Method

Discharge:  $Q = CIA$

where C varies  
 $i = P_6 (6.84) T_c^{-0.51} = 4.95$  in/hr  
 $P_6 = 2.34$  in (DPM Plate 22.2 D-1)  
 $T_c = 10$  min (minimum)  
 $A =$  area, acres

##### SCS Method

Volume:  $V = 3630(DRO) A$

Where DRO = Direct runoff in inches  
 $A =$  area, acres

##### Existing Condition

$A_{total} = 197,278$  sf = 4.53 Ac  
 $C = 0.40$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = (0.40)(4.95)(4.53) = 9.0$  cfs  
Composite CN = 70 (DPM Plate 22.2 C-3)  
DRO = 0.40 in (DPM Plate 22.2 C-4)  
 $V_{100} = 3630 (DRO) A = 6,580$  cf

##### Developed Condition

$A_{total} = 147,255$  sf = 3.38 Ac  
Roof area = 17,900 sf (0.12)  
Paved area = 29,605 sf (0.68)  
Landscaped area = 29,750 sf (0.20)  
 $C = 0.50$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = (0.50)(4.95)(3.38) = 13.4$  cfs  
 $Q_{100} = FpQ_{100}$   
 $Fp = 0.65$   
 $Q_{100} = 8.8$  cfs  
 $\% \text{ Impervious} = 80 \%$   
Composite CN = 91 (DPM Plate 22.2 C-3)  
DRO = 1.5 in (DPM Plate 22.2 C-4)  
 $V_{100} = 3630 (DRO) A = 18,400$  cf

##### Sidewalk Culvert Capacity

$Q = C L N^{3/2} = 3.4$  cfs  
Where  $C = 3.09$   
 $L = 2' - 0"$   
 $N = 0.67$   
 $Q_{100}/Q = 2.6$   
Therefore, use 3 - 2'0" sidewalk culverts

Basin 2  
 $A_{total} = 50,020$  sf = 1.15 Ac  
Roof area = 17,900 sf (0.36)  
Paved area = 17,660 sf (0.35)  
Landscaped area = 14,460 sf (0.29)  
 $C = 0.73$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = (0.73)(4.95)(1.15) = 4.2$  cfs  
 $\% \text{ Impervious} = 71 \%$   
Composite CN = 87.5 (DPM Plate 22.2 C-3)  
DRO = 0.9 in (DPM Plate 22.2 C-4)  
 $V_{100} = 3630 (DRO) A = 3,760$  cf

Comparison  
 $Q_{100} = (13.4 + 4.2) - 9.0 = 8.6$  cfs (increase)  
 $V_{100} = (18,400 + 3,760) - 6,580 = 15,580$  cf (increase)

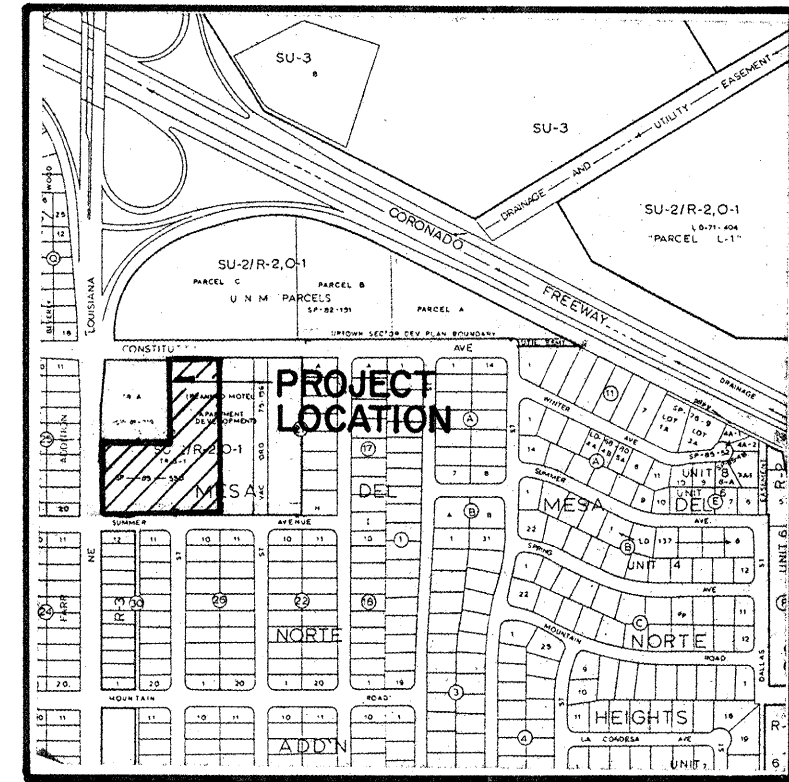
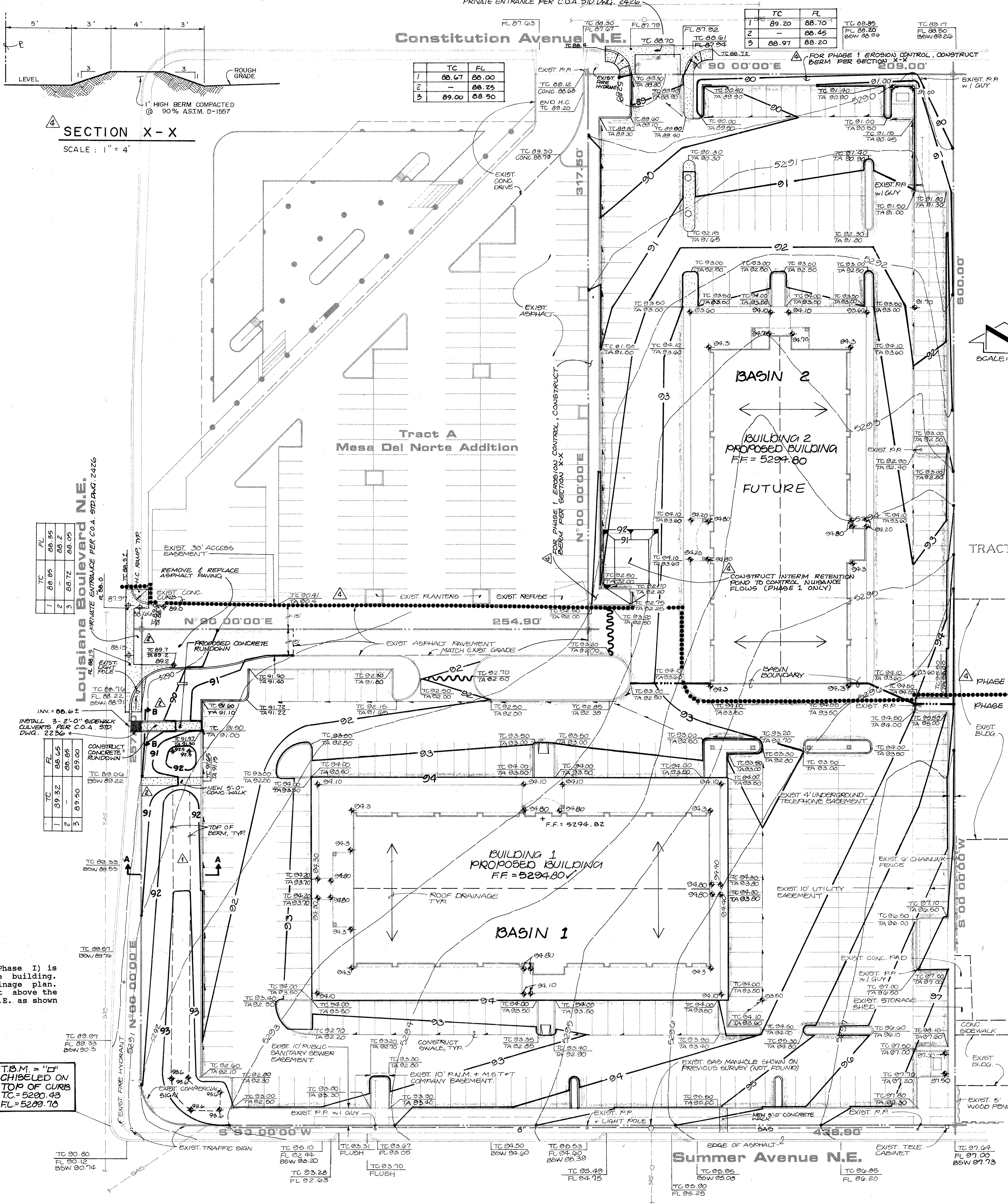
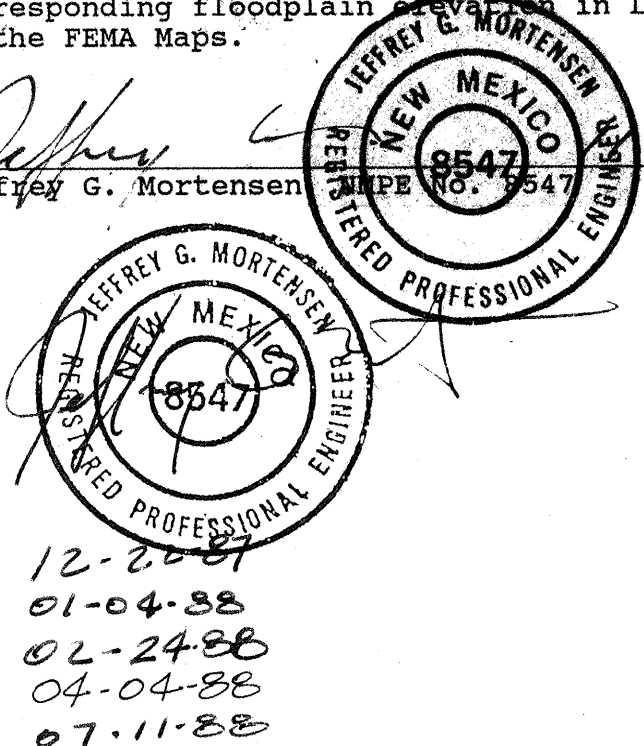
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 785-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. BASED ON REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THERETO. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY THE FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITY LINES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONSTRUCTING UTILITY LINES, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
7. BACKFILL COMPACTION SHALL BE ACCORDING TO AERIAL.
8. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

#### FINISHED FLOOR CERTIFICATION

The as-built finished floor elevation of Building 1 (Phase 1) is 5294.82 feet (MSL) as measured at the north entrance to the building. This is in compliance with the approved grading and drainage plan. This finished floor elevation is greater than one foot above the corresponding floodplain elevation in Louisiana Boulevard N.E. as shown by the FEMA Maps.

Jeffrey G. Mortensen  
Date 12-2-89



VICINITY MAP  
SCALE: 1" = 800'

#### LEGAL DESCRIPTION

TRACT B-1 OF MESA DEL NORTE ADDITION

#### PROJECT BENCHMARK

THE STATION MARK IS A STANDARD 40 LB BARS TABLE STAMPED 17-18 SET FLUSH WITH THE GROUND 1.5 FT. BEHIND THE BACK OF CURB, TO REACH THE STATION FROM THE INTERSECTION OF LOUISIANA AND CONSTITUTION AVENUE GO NORTH ON LOUISIANA TO THE STATION AND THE STATION ON THE RIGHT. ELEVATION: 5287.07 ft. (M.S.L.D.)

T.B.M. A 1" CHISELED ON TOP OF CURB ELEVATION: 5280.43 ft. (M.S.L.D.)

#### LEGEND

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- TOP OF CURB
- FLOWLINE
- BASIN BOUNDARY
- PROPOSED WATERBLOCK
- PROPOSED PHASE LINE

#### SECTION A-A

SCALE: 1" = 10' HORIZONTAL  
1" = 5' VERTICAL

#### SECTION B-B

SCALE: 1" = 3'

12-87	L.R.U.	CONSTRUCT BERM ALONG WESTERLY PROPERTY LINE AND SECTIONS
2-88	J.G.M.	EPC SITE PLAN REVISIONS
3-88	J.G.M.	UP-DATE FOR FINAL PLAN
7-88	J.G.M.	ADD PHASING; SECTION X-X

#### Office Development

Tract B-1, Mesa Del Norte Addition

# Louisiana Place

Southeast Corner  
Louisiana and Constitution NE  
Albuquerque, NM  
NOV 03 1989

## Grading and Drainage Plan

Owner: Ashcraft Real Estate & Development Corp.  
1120 Pennsylvania St. NE  
Albuquerque, New Mexico 87110

Architect: Fanning • Bard • Larsen  
ARCHITECTS • AIA  
4500-A Montgomery Boulevard NE Suite 205  
Albuquerque, New Mexico 87109 505-883-5200