City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 9, 1996

Doug McDonald
Intermountain Aerial Surveys
2078 W. 2300 South
Salt Lake City, Utah 84119

RE: DRAINAGE PLAN FOR MCI FIBEROPTIC REPEATER SITE (K14-D62)
ENGINEER'S STAMP DATED 12/6/95.

Dear Mr. McDonald:

Based on the information provided on your April 3, 1996 submittal, the above referenced site is approved for Foundation and Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Please be advised that Engineer Certification per the D.P.M. checklist will be required prior to Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: MCI FIBEROPTIC REPEATER SITE ZONE ATLAS/DRNG. FILE #: K-14-Z /1062

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: 100 Gold Avenue S.E.

CITY ADDRESS: CORNER OF GOLD AV. & UNION SQUARE AV. (SOUTH CORNER)

ENGINEERING FIRM: Intermountain Aerial CONTACT: Thomas W Harvey

ADDRESS: 2078 W 2300 South S.L.C Utah PHONE: 801 972 5932

OWNER: ~~Atchison~~ Topeka & Santa ~~Fe~~ CONTACT: Tony Hernandez

ADDRESS: _____ PHONE: 505 767 6876

ARCHITECT: Doug MC Donald Eng. CONTACT: Doug MC Donald

ADDRESS: 2078 W 2300 South S.L.C Ut. PHONE: 801 972 5932

SURVEYOR: Doug MC Donald Eng CONTACT: Doug MC Donald

ADDRESS: 2078 W 2300 South SLC. Ut. PHONE: _____

CONTRACTOR: MC Laughlin Construction CONTACT: Duane Dunham

ADDRESS: 1350 E. Arapaho Suite 209 Richardson TX 75081 PHONE: 214 480 0882

TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- X DRAINAGE PLAN
- X CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- ____ EROSION CONTROL PLAN
- X ENGINEER'S CERTIFICATION
- ____ OTHER _____

PRE-DESIGN MEETING:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APPROVAL
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- X FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- ____ SUBDIVISION CERTIFICATION
- ____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 3/27/96

BY: Keith Darwin (KEITH DARWIN)

4/1/96

RECEIVED
APR - 3 19
HYDROLOGY D

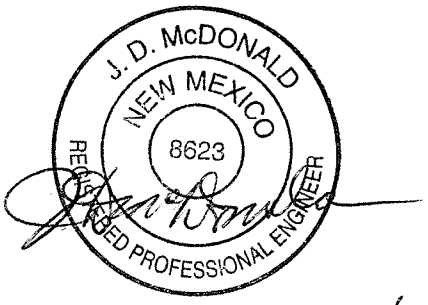
MCI REPEATER STATION SITE

ALBUQUERQUE, NEW MEXICO

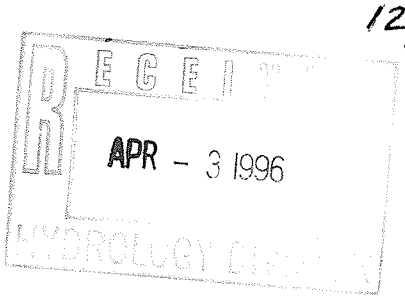
STORM WATER RUN OFF ANALYSIS

INTERMOUNTAIN AERIAL SURVEY
2078 WEST 2300 SOUTH
WEST VALLEY CITY, UTAH 84119

J. D. Mc DONALD, P.E.



12/6/95



INTRODUCTION

The report is the hydrologic analysis of a proposed MCI repeater station site in Albuquerque New Mexico. The site is located, by a permit from the railroad, on the right-of-way of the Atchison Topeka and Santa Fe Rail Road Company near the Albuquerque station. The improvement includes a storage building, two equipment buildings, a standby electrical power generator building and LPG gas storage tanks.

The selected site is east of the majority of the existing railroad yard tracks. The slope is very gentle to the south with no indication of previous heavy collection of storm run-off. There is no rivulet or erosion that indicate a large water flow. Storm water appears to collect in localized shallow depressions where it either percolates into the ground or is evaporated.

The FEMA Flood Plain maps show that the site is in Zone C which is not prone to flooding. The surface drainage to the north from a parking lot flows north. The land adjacent to the site to the east appears to collect by sheet flow to the vicinity of the site. There does not appear to be any constructed storm drain lines or channels to collect and dispose of the storm waters that flow to the area.

PROPOSED SITE IMPROVEMENTS

The construction proposed for the site is 1. grading to provide an even surface with a transverse slope of 1%. The slope will be from east to west. The existing and finished elevations of the site are shown on the site plan. Concrete slabs will be installed for the structures that will be installed. The equipment buildings are preconstructed, equipped and wired before shipment to the site. The storage building will be a rigid frame metal building. Stand by power is provided as a backup to assure that the system is always available. The generator is operated on LPG with two storage tanks on the site to provide an adequate fuel supply. Access to the site is from the parking lot to the north on a paved access road. The site will have a paved road and parking area from the fence line to the apron of the storage building. The remainder of the site will be a gravel surface around the structures. The site will be enclosed with a 8 foot chain link security fence. The buildings and paved area will be impermeable which will increase the run-off from the site. Flow from the site will be along the west side and to the south where it will pond in the natural low areas that exist.

STORM VOLUME AND RUN OFF

Section 222.2, Hydrology of the Development Process Manual Volume 2, Design Criteria for the City of Albuquerque, New Mexico was used for the basic information required to calculate the storm volume and run-off from the site. The Site is in Precipitation Zone 2. The 100 year 60 minute storm water depth 2.01 inches was used for the calculations for the site. Land condition C with an infiltration of 0.83 and the actual impervious areas were considered due to the small size of the site. No initial abstraction was allowed. A hydrograph was not constructed as the time of concentration is very short. Run-off path of 185 feet.

The run-off volume for the site area before improvements was calculated to be 2001 cubic feet for the 100 year 6 hour storm. With the improvements in place the volume increases to 2594 cubic feet for the same storm. The additional 593 cubic feet will raise the ponding depth of the run-off 0.03 feet which is not a felt to be a significant amount.

The run-off from the site is assumed to collect in the same area that the storm water collects and appears to percolate into the ground or evaporate. Percolation is expected to eliminate the storm water in approximately two (2) hours after the end of the storm. There is no channeling system on the site to provide channelled flow from the site. No significant impact on the surrounding areas due to storm run-off from the improvements is expected.

MCI ALBUQUERQUE
STORM RUN OFF
ANALYSIS

INTERMOUNTIA AERIAL
SURVEY
2078 WEST 2300 SO
WEST VALLEY CITY, UT 84119

J. D. McDONALD P.E.
3-18-96

SITE — 110 x 185'

TOTAL AREA 20350 SQ FT

GRODE & GRAVEL 16,814 SQ FT

BUILDING

30 x 50	1,750
22 x 30	736
10 x 14	184
11 x 30	406
STORAGE TANKS	120
Paved Area	6556
	9,752

SITE LOCATION:

EAST SIDE OF ATCHISON TOPEKA & SANTA FE RAILROAD YARD AT GOLD AVENUE
FLOOD PLAIN ZONE "C"
PECIPITATION ZONE 2

100 YEAR STORM DEPTH

P_{60}	P_{300}	P_{1440}	P_{2days}	P_{10days}
2.01	2.35	2.75	3.30	3.95

LAND GROUP C
INITIAL ABSTRACTION 0.35"

INFILTRATION 0.83"/hr.

SITE LENGTH = 185' MAX-
SHEET FLOW
TIME OF CONCENTRATION 12 MIN

No improvements —
STORM VOLUME 100 yr 60 MIN

$V = 20,350 \times 2.01/12 = 3,409\ ft^3$

SITE INFILTRATION:
$(20350)(.83)(1.)/12 = 1408\ ft^3$

SITE RUN OFF VOLUME

2,001 ft³ Q = .56 cfs

PONDS to SOUTH-

ESTIMATED INCREASE IN PONDING DEPTH OVER 110 × 200' AREA

$d = \frac{2001}{110 \times 200} = 0.09'$

Run-off from developed area-

SITE AREA	20350
IMPERVIOUS	9753
PERVIOUS	10,598

Volume from pervious

$V = 10{,}598 \times 2.01/12 = 1{,}775$

Seepage $(10{,}598)(.83)/12 \times 1 = \langle 733 \rangle$

Run-of impervious.

$(9{,}753)(2.01)/12\,(.95) = 1552$

2,594

INCREASE IN RUN-OFF DUE TO DEVELOPMENT 593 ft³

depth after development

$\frac{2594}{110 \times 200} = 0.12$

increase 0.03'

REVISIONS			
LTR	, DESCRIPTION	DATE	APPROVED

CITY MONUMENT
NO. 6-KI4(R)

SPCS SET HANDHOLES AT SPCS STA. 18+60 & 18+90.
CORE BORE CONCRETE WALL AND STUB OUT 5' 4" BSP.

SECTION 20
T. 10 N., R. 3 E., N.M.P.M.
ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

LEGEND

- EXISTING RAILROAD
- 897 RAILROAD MILE POST
- 4215 ODD CONTOURS
- 4216 EVEN CONTOURS
- PROPERTY LINE
- P POWER LINE (OVERHEAD)
- C R. R. COMMUNICATION LINE
- EXISTING POLE
- CENTER LINE
- R/W R. R. RIGHT OF WAY LINE
- MCI PROPOSED MCI CABLE
- NEW GRAVEL SURFACE

TRACT CORNER
FOUND PK & WASHER
PS 4078

GOLD AVENUE

CITY MONUMENT

ZONING
PERMITTED USE
CITY OF ALBUQUERQUE

NOTE:
FENCED AREA = 12160.0 S.F. (0.279 AC.)
SITE AREA = 20350.0 S.F. (0.467 AC.)

NOTES:
1. UNMANNED REMOTE FIBER OPTIC REPEATER FACILITY.
2. PARKING AREA TO BE USED ONLY DURING OCCASIONAL MAINTENANCE VISITS.
3. SEE SHEET 2 FOR ELEVATIONS OF EXISTING GRADE, FINAL GRADE AND TOP OF CONCRETE (T.O.C.) PADS.
4. RESEED DISTURBED AREAS WITH NATIVE GRASS.
5. RAILROAD SHALL CAP AMD MARK LOCATION OF STUBBED OUT CONDUIT.
6. DEPTH OF TRACK BORE PER RAILROAD SPECIFICATIONS.

ENGINEER-SURVEYOR-ARCHITECT, FIRM NAME: INTERMOUNTAIN AERIAL SURVEYS	STAMP P.E./SURVEYOR
ADDRESS-STREET, CITY, STATE, ZIP: 2078 WEST 2300 SOUTH, SALT LAKE CITY, UT. 84119	FYI / RECEIVED APR - 3 1996 HYDROLOGY DIVISION
CONTACT-NAME: THOMAS HARVEY	TELEPHONE NO.: (801) 972-5932
DATE: MARCH 22, 1996	DRAWN BY: GARY JONES

APPROVALS-SIGNATURE & DATE	
DRAWN	
CHECKED	
ENGINEER NAME	
ENG DEPT/LOC	1164/041
ENG APPROVAL	
DOC ENGINEER	

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE PROPERTY OF MCI TELECOMMUNICATIONS CORPORATION, ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS BASIS FOR MANUFACTURE OR SALE OF APPARATUS WITHOUT WRITTEN PERMISSION.

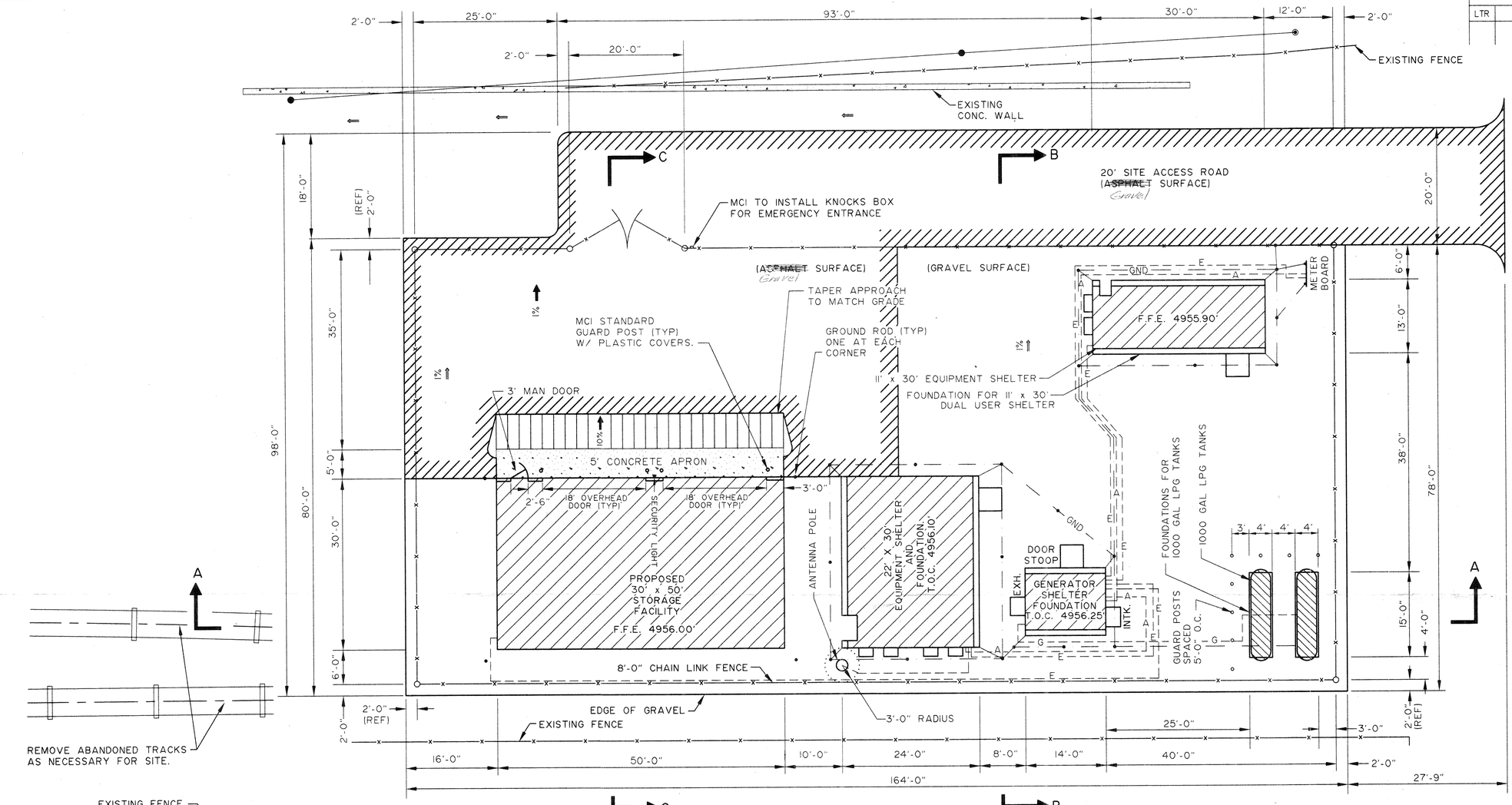
MCI
MCI TELECOMMUNICATIONS CORPORATION
400 INTERNATIONAL PARKWAY
RICHARDSON, TEXAS, 75081

DEPT ID 1164 LOC ID 041

OVERALL SITE PLAN
(GRADING PLAN)
ALBUQUERQUE, NEW MEXICO

SIZE	DWG. No.		
D	AQUENM-1900-0001		
SCALE NOTED	S95202	SHEET 1 OF 2	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



SITE PLAN

10 5 0 5 10 20

SCALE: 1" = 10'

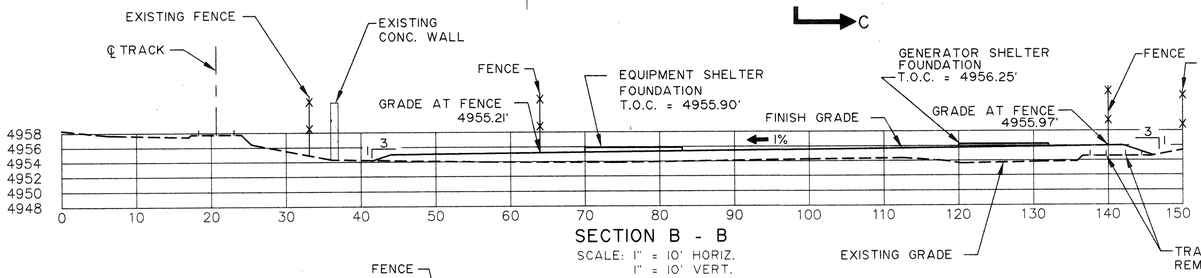
T.N.

M.N.

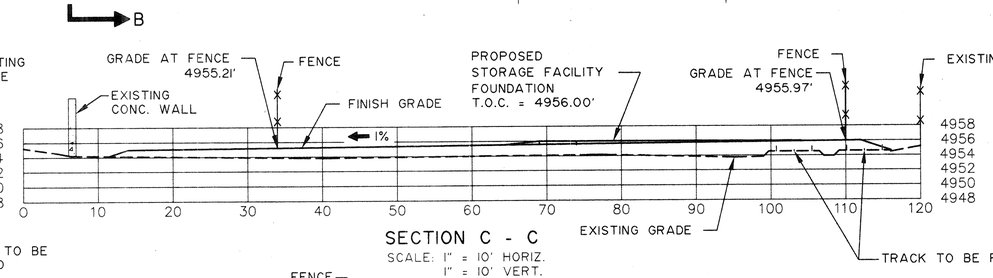
12-1/2°

LEGEND

A - UNDERGROUND ALARM CABLE CONDUIT
C - UNDERGROUND COAXIAL CABLE CONDUIT
E - UNDERGROUND ELECTRICAL CONDUIT
G - UNDERGROUND LPG FUEL LINE
F - UNDERGROUND FIBER OPTIC CONDUIT
T.O.C. = TOP OF CONCRETE
• - GROUNDING ROD



SECTION B - B
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



SECTION C - C
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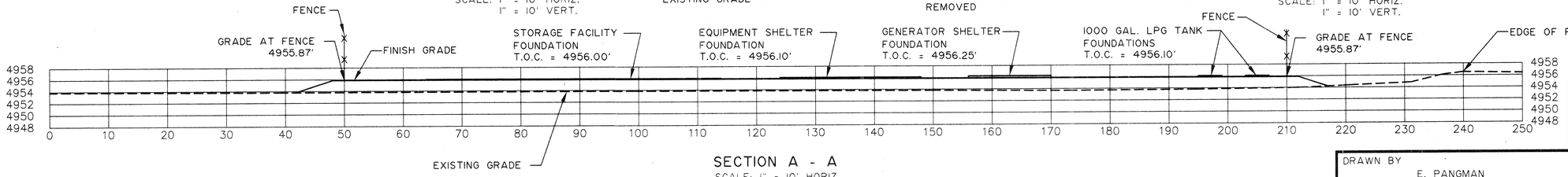
1" = 10' VERT.



SECTION A - A
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.

FOR INFORMATION

TITLE
ENLARGED PLAN VIEW
ALBUQUERQUE, NEW MEXICO

DRAWN BY	SIZE	DWG. NO.
E. PANGMAN	D	AQUENM-1900-0001
DATE: MARCH 22, 1996	SCALE: NOTED	S95202 | SHEET 2 OF 2