

Office of Statewide Health Planning and Development

Facilities Development Division

1600 9th Street, RM 420
Sacramento, California 95814
(916) 654-3362
Fax (916) 654-2973
www.oshpd.ca.gov/fdd

November 4, 2005

Raymond Z. Uribes
LTK Associates, Inc.
745 Distel Dr.
Los Altos, CA 94022

Subject: Application for Approval of Anchorage for Fixed Hospital Equipment
GCX SEISMIC WALL CHANNEL KIT - M & VHM ARMS
OPA-0698

Dear Mr Uribes:

We have reviewed the submittal for OPA-0698. The anchorage details have been stamped approved by this Office. A copy of the stamped details is included with this letter.

Please send a finalized version of the calculations and stamped plans to us in pdf format. You can email it to me at tpike@oshpd.ca.gov.

Please note that your pre-approval is valid as long as it is listed on our website. It must be renewed when a new building code is adopted or when other conditions warrant.

Thank you for your support of the Pre-approval Program. If you have any questions please contact me at (916)654-1477. In any correspondence regarding this pre-approval please use the number OPA-0698.

Sincerely,



Anthony R. Pike
Senior Structural Engineer

cc: File



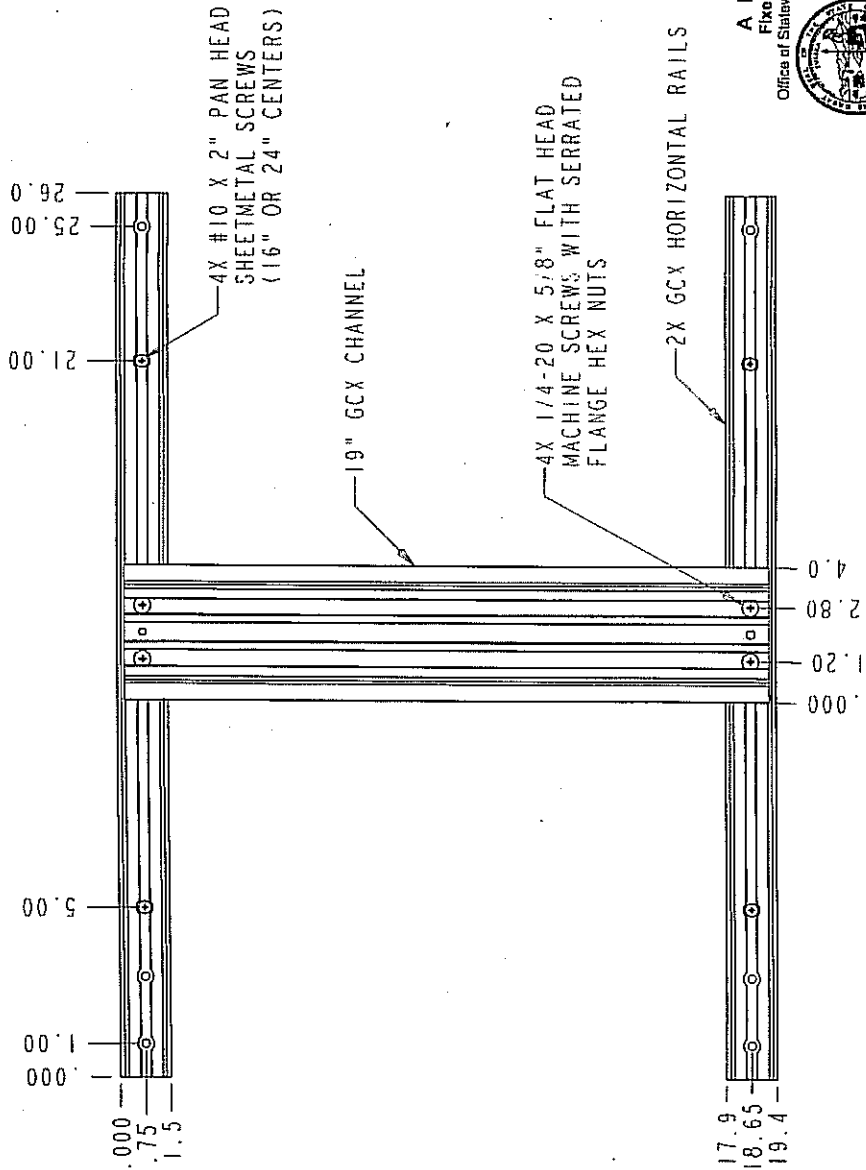
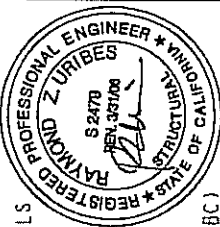
WALL CHANNEL:
19" GCX WITH HORIZ. MOUNTING RAILS

MONITOR BRACKET ARMS:
(MAXIMUM LOADING)
M SERIES = 40#
VHM SERIES = 40#

ANCHORAGE DESIGNED FOR:
2001 CALIFORNIA BUILDING CODE (CBC)
SECTION 1632A

SEISMIC ZONE: 4
IMPORTANCE FACTOR: Ip=1.5
NEAR-SOURCE FACTOR: Ns=1.5
SOIL PROFILE TYPE: Sd, Ca=0.44(Na)
EQUIP. LOCATION HGT: Hx=1.0
BUILDING HGT: Hr=1.0
RESPONSE FACTOR: Rp=3.0
COMP. AMP. FACTOR: ap=2.5

SEISMIC FORCE FACTOR:
(ALLOWABLE STRESS DESIGN)
HORIZONTAL: Fph = 2.3571 (Wp)
VERTICAL: Fpv = 1/3(Fph) = 0.7857(Wp)



How To Use This Pre-Approval
1. Maximum equipment weight shall not exceed the limits shown on these drawings.
2. Attachment of equipment and its mounting device to this Pre-Approved arm is the responsibility of others and shall be adequate to resist all loads of the equipment per OSHPD requirements.

APPROVED
Fixed Equipment Anchorage
Office of Statewide Health Planning and Development
OPA-0698
on
Friday, November 04, 2005

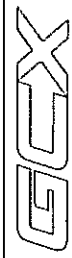


Anthony R. Pina (P16) 654-3362

NOTES:
1. PRE-DRILL 9/64 OR #28 HOLES FOR 20 GAGE SHEETMETAL STUD WALLS
2. SCREWS DRIVEN DIRECTLY INTO WOOD STUD WALLS.
3. FOR INSTALLATION OF HORIZONTAL RAILS SEE SHEET 3.

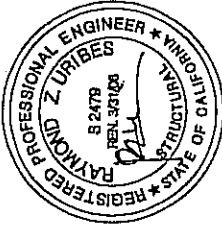
SHEET 1 OF 5

REV	ECN#	DATE	APPRV.	DESIGNER	DESIGNED BY	DATE	REV.	LEV.	PT
					R. GLASER		01.0		A
					R. GLASER				PT



DWG NO. OPA0698-D1.0
DATE: 11/3/05

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WALL CHANNEL:
37" GCX WITH HORIZ. MOUNTING RAILS

MONITOR BRACKET ARMS:
(MAXIMUM LOADING)
M SERIES = 40#
VHM SERIES = 40#

ANCHORAGE DESIGNED FOR:
2001 CALIFORNIA BUILDING CODE (CBC)
SECTION 1632A
SEISMIC ZONE: 4
IMPORTANCE FACTOR: $I_p=1.5$
NEAR-SOURCE FACTOR: $N_a=1.5$
SOIL PROFILE TYPE: $S_d, C_a=0.44(N_a)$
EQUIP. LOCATION HGT: $H_x=1.0$
BUILDING HGT: $H_r=1.0$
RESPONSE FACTOR: $R_p=3.0$
COMP. AMP. FACTOR: $a_p=2.5$

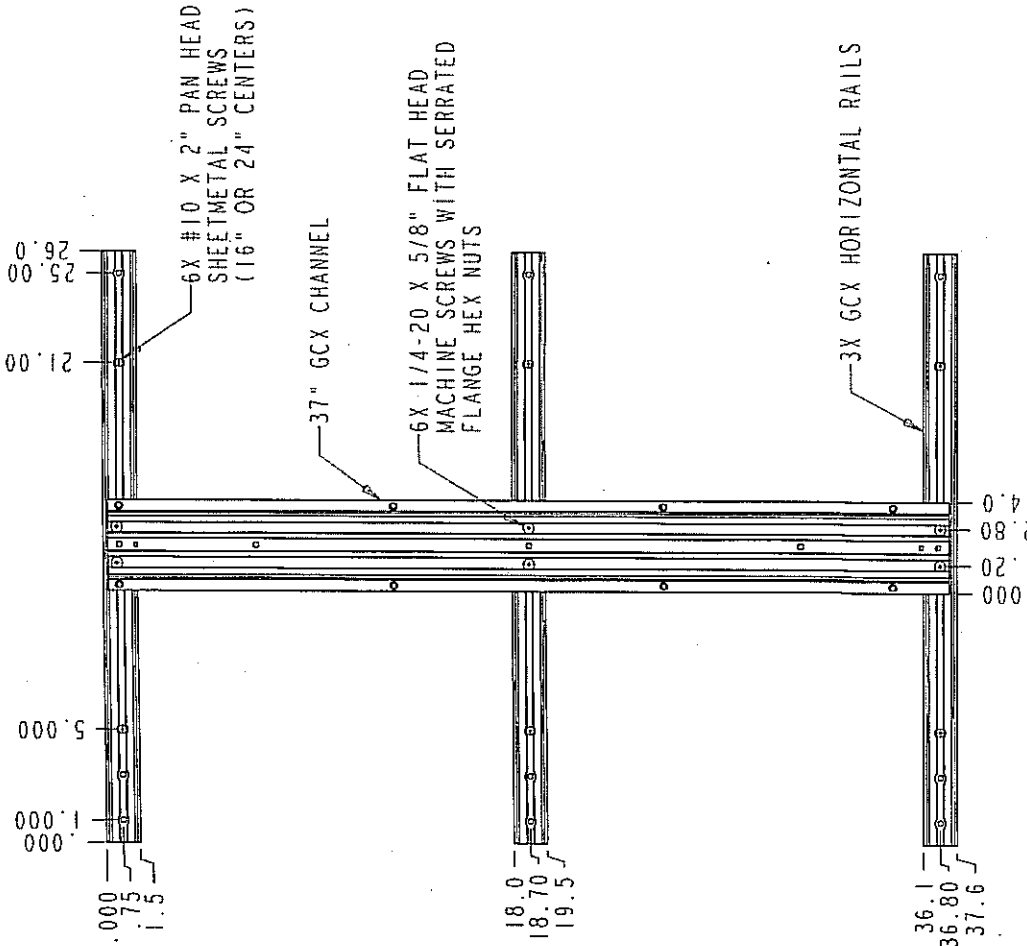
SEISMIC FORCE FACTOR:
(ALLOWABLE STRESS DESIGN)
HORIZONTAL: $F_{ph} = 2.3571 (W_p)$
VERTICAL: $F_{pv} = 1/3(F_{ph}) = 0.7857(W_p)$

A P P R O V E D
Fixed Equipment Anchorage
Office of Statewide Health Planning and Development
OPA-0698



on
Friday, November 04, 2005
Anthony R. Piko
Anthony R. Piko (P16) 654-3382

SHEET 2 OF 5



- NOTES:
1. PRE-DRILL 9/64 OR #28 HOLES FOR 20 GAGE SHEETMETAL STUD WALLS
 2. SCREWS DRIVEN DIRECTLY INTO WOOD STUD WALLS
 3. FOR INSTALLATION OF HORIZONTAL RAILS SEE SHEET 3.

DIMENSIONAL TOLERANCES AS FOLLOWS:
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES
UNLESS NOTED OTHERWISE

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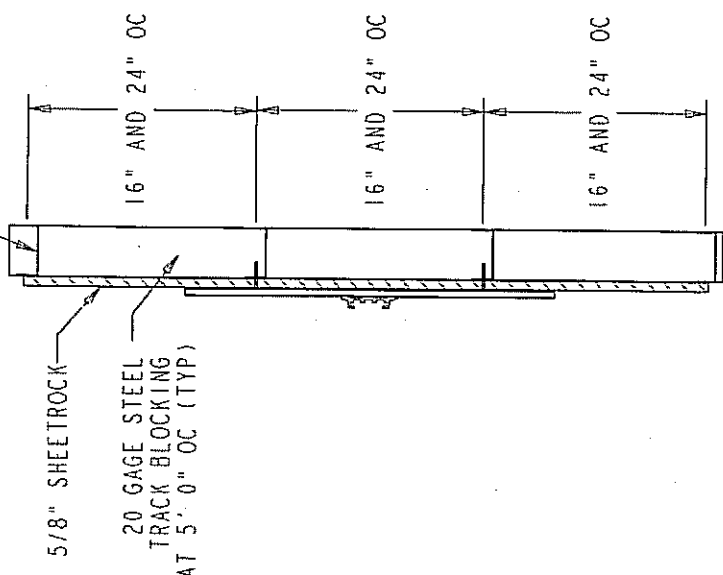
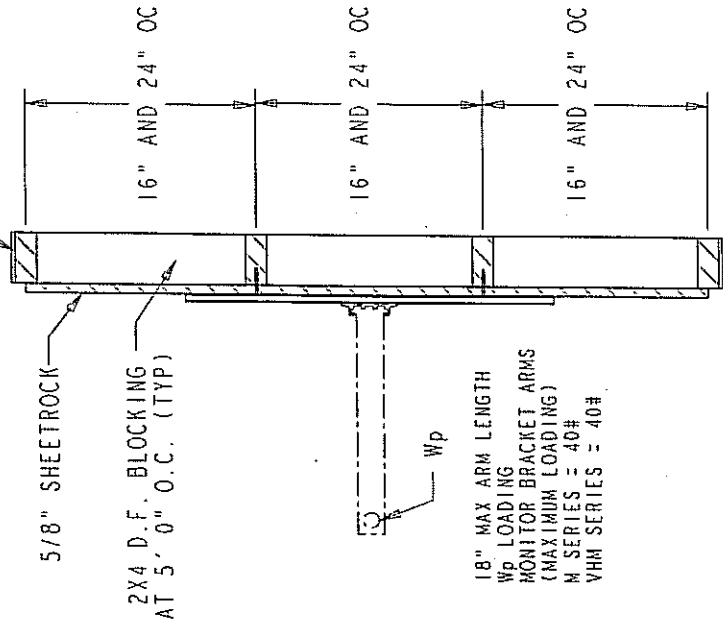
REV	ECN#	DATE	APPRV.	DRAWN BY
				R. GLASER
				DESIGNER
				CHECKED BY

GCX 37" CHANNEL W/HORIZ RAILS

ONG NO: OPA0698-D2.0
DATE: 1/31/05
REV. A
LEV. PT

MIN 2x4 D.F. STUDS

MIN C3 1/2" X 20GA METAL STUDS



WOOD FRAMED WALLS

STEEL FRAMED WALLS

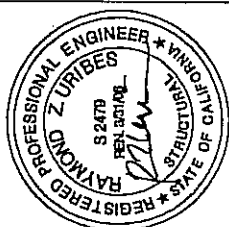
MAXIMUM LOAD RATING FOR THIS ANCHORAGE SYSTEM IS 40LBS/18in. FOR THE HORIZ. RAIL MOUNTED GCX CHANNELS, M-SERIES ARMS AND VHM SERIES ARMS. MAXIMUM ARM LENGTH OF 18" USING WOOD OR STEEL ANCHORAGE METHODS SHOWN HERE. ANCHORAGE OR SUPPORT OF THE STUD WALL FRAMING MUST BE VERIFIED BY THE PROJECT ENGINEER AND APPROVED BY OSRHP PRIOR TO INSTALLATION OF ANY ARM.

TESTS WERE CONDUCTED USING 10 FOOT TALL TEST WALLS. 578# SHEET ROCK WAS APPLIED TO ONLY ONE SIDE OF WALLS TO SIMULATE WORST CASE SITUATION. ANY DEVIATION FROM TESTED CONDITION REQUIRES APPROVAL FROM OSRHP.

#10 SHEET METAL SCREWS ARE SHIPPED WITH ALL GCX CHANNELS AND ARE TO BE USED FOR ALL WALL ANCHORAGE SOLUTIONS.

THE WALL FRAMING DESIGNS SHOWN HERE WERE TESTED FOR A MAXIMUM WALL HEIGHT OF 10'-0". WHERE THE WALL HEIGHT EXCEEDS 10'-0" THE ENGINEER OF RECORD FOR THAT SITE MUST VERIFY THE ADEQUACY OF THE WALL FRAMING DESIGN FOR LOADS DUE TO ARMS/DEVICES THAT MAY BE MOUNTED TO THE WALL. IN NO CASE SHALL THE WALL FRAMING BE DESIGNED FOR LESS THAN THE CODE REQUIRED MINIMUM DESIGN LOADS.

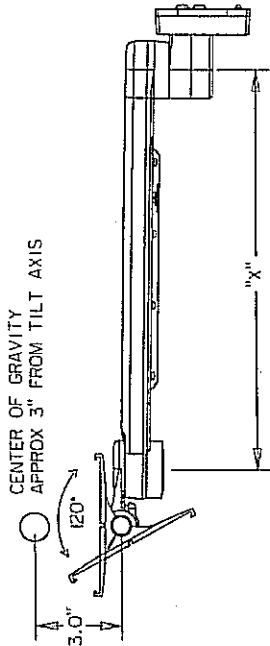
ANCHORAGE DESIGNED FOR:
 2001 CALIFORNIA BUILDING CODE (CBC)
 SECTION 1632A
 SEISMIC ZONE: 4
 IMPORTANCE FACTOR: I_p=1.5
 NEAR-SOURCE FACTOR: N_s=1.5
 SOIL PROFILE TYPE: S_d, C_s=0.44(I_m)
 EQUIP. LOCATION HGT: H_e=11.0
 BUILDING HGT: H_r=11.0
 RESPONSE FACTOR: R_p=3.0
 COMP. AMP. FACTOR: a_p=2.5
 SEISMIC FORCE FACTOR (ALLOWABLE STRESS DESIGN)
 HORIZONTAL: F_{ph} = 2.3571(W_p)
 VERTICAL: F_{pv} = 1.731(F_{ph}) = 0.7857(W_p)



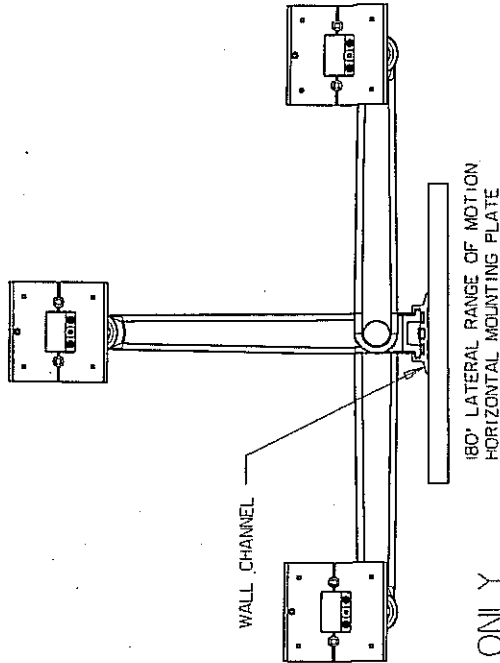
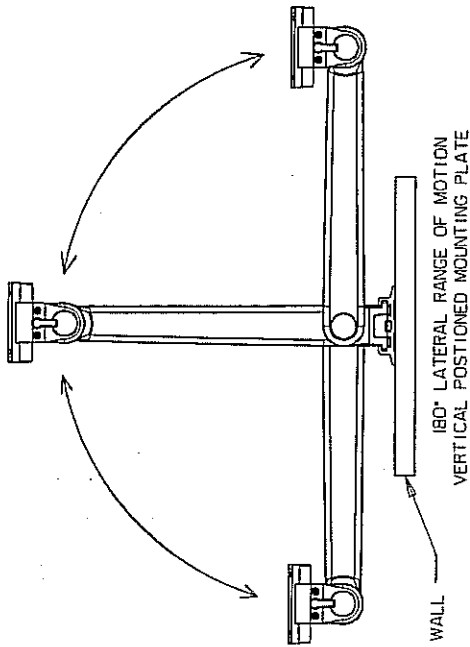
APPROVED
 Fixed Equipment Anchorage
 Office of Statewide Health Planning and Development
OPA-0698
 ON
 Friday, November 04, 2005
 Anthony R. Pileg
 (916) 854-3382

DIMENSIONAL TOLERANCES AS FOLLOWS X.XXX ±.00 X.XX ±.005 X.X ±.005		DRAWN BY: R. GLASER DESIGNER	TEST WALLS - GCX CHANNELS W/HORIZ RAILS	
GCX PROPRIETARY THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION THAT IS GCX CORPORATION INTELLECTUAL PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED IN WRITING BY GCX.		CHECKED BY: R. GLASER	REV. DATE: 01/03/05	REV. A DATE: 1/31/05

DESCRIPTION	"X"
M SERIES - 8" PIVOT ARM	8
M SERIES - 12" PIVOT ARM	12
M SERIES - 16" PIVOT ARM	16




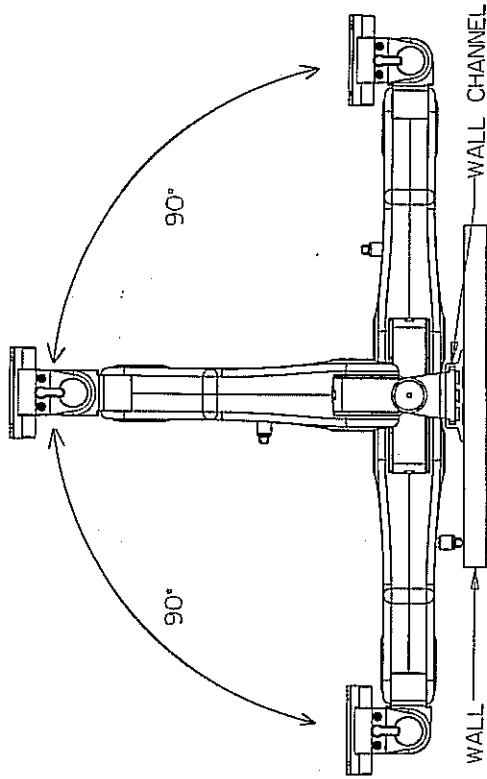
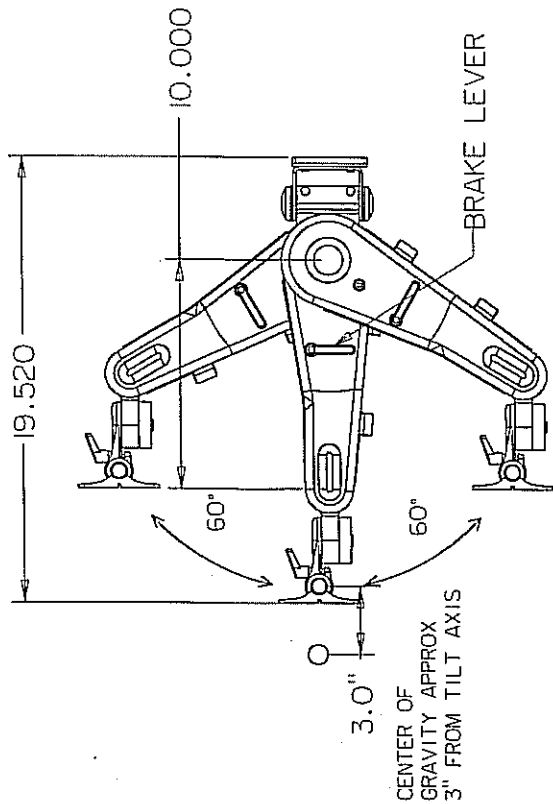
- 8" (20.3cm), 12" (30.5cm) and 16" (40.6cm) ARM LENGTHS:
- Pivot at the slide for lateral adjustability
 - 180° nominal lateral pivot range
 - Smooth tilt and swivel adjustments at front and end
 - 60lbs. (27.2 kg) Arm / 30 lbs. (13.6 kg) Tilt duty ratings
 - Monitor attachment hardware (to GCX mounting plates) shall be sized and numbered adequately to withstand forces generated by the maximum load rating of the GCX arm/channel system. (40LBS FOR OPA-0698)



REFERENCE ONLY

SHEET 4 OF 5

REV	ECNF	DATE	APPRV.	DRWNG BY:	REV.
				TLH	A
				DESIGNER:	LEV
				GCX	PT
				CHECKED BY:	
DIMENSIONAL TOLERANCES AS FOLLOWS UNLESS OTHERWISE SPECIFIED: .XXXA ±.00 .XX ±.05 .X ±.10					DWG NO. OPA0698-04.0 DATE: 1/31/05
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8", 12" & 16" M-SERIES ARMS 					



180° LATERAL RANGE OF MOTION

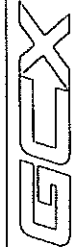
VHM ARM:

- Vertical and lateral movement combined with independent tilt and swivel adjustment at the head of the arm permits optimal positioning of equipment.
- 0-40 lbs. (13.6 kg) duty rating, counterbalanced via an adjustable internal gas spring.
- +/- 60 degrees vertical motion range (17" (43.18cm) total travel)
- +/- 90 degrees lateral motion range (from perpendicular to wall)
- Tilt and pivot joints held with adjustable friction.
- Vertical position may be locked w/broke lever.
- Monitor attachment hardware (to GCX mounting plates) shall be sized and numbered adequately to withstand forces generated by the maximum load rating of the GCX arm/channel system. (40LBS FOR OPA-0698)

REFERENCE ONLY

SHEET 5 OF 5

DIMENSIONAL TOLERANCES AS FOLLOWS UNLESS OTHERWISE SPECIFIED:		REV	ECN#	DATE	APPRV.	DESIGNED BY:	DRAWN BY:
X.XXX	+0.00						
X.XX	+0.05						
XXX	+0.00						
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<p>GCX PROPRIETARY</p>							
<p>VHM - VARIABLE HEIGHT SUPPORT ARM</p>							
						DESIGNED BY:	REV. A
						CHECKED BY:	LEV. A
						DATE:	1/31/05
							PT



DWG NO. OPA0698-05.0