

Department of Agriculture, Trade and Consumer Protection
Division of Agricultural Development
Agricultural Development & Diversification Program (ADD)
Grant Project Final Report

Contract Number: 20011

Grant Project Title: **Expansion of Specialty Ethnic Market for Sheep and Goat Meat**

Amount of Funding Awarded: \$16,900

Name of Principal Contact Person: Larry Jacoby

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WEB Address: www.shepherdsongfarm.com

Report Submitted on: July 10, 2006

Please use the following questions as a guide for writing your grant project final report. In your final report, please answer each question as it relates to your grant project.

- 1) What was the original intent of the grant?
 - What did you want to accomplish with the grant? The original intent of this grant was to design, construct and test a new animal holding device that would improve the ability of meat processors to slaughter animals humanely in accordance with kosher and halal approved practices to meet the consumer demand identified in a previously developed feasibility study.
 - How was it expected to benefit Wisconsin Agriculture? Locally grown lamb and kid are seriously undervalued in the WI/Midwest area creating an excess supply of premium product that is sold at auction for commodity prices, and transported by truck to the live animal markets in Iowa and the eastern metropolitan cities. Currently, in the Minneapolis metro area there is no significant supply of locally grown halal or kosher lamb or kid. Only frozen kosher lamb (from Iowa) and halal lamb and kid (imported from Australia and New Zealand) are available. WI producers have lambs and kids but there is no infrastructure to connect locally grown kosher and /or halal slaughtered meat with the consumer. This project begins to address the distribution channel from the producer to slaughter facility and finally to the consumer.
 - What makes this project work important or significant? There is a rapidly growing need for locally grown halal kid and lamb in the Minneapolis metro area and yet there is a lack of halal slaughter capacity in the Midwest to begin filling this need.
- 2) What steps did you take to reach your goal?
 - What worked? The design, fabrication, and trials worked as plan with minor variations from expectations. Other product spin-offs are being considered such as a carcass holding cart for hide and internal organ removal, a veal restraining pen, attaching chute, leg positioner within the chute and a halal slaughter knife.
 - What challenges did you face? Smaller sized animals did not behave as expected in the restraint. Although the majority of lambs and goats will be 60 pounds or over, there is also a strong market in some areas of the country for 40 pound kids that will not be efficiently restrained in the current device.
 - What would you do differently? We would have smaller and more frequent trials of the equipment with animals that varied in size and build. Instead we trialed larger numbers of consistently sized animals.

While the latter is important for efficiency improvements and marketing a uniform product it became apparent that the restraint requires more adjustability for animal size, weights and curiosity. We inadvertently had two opposing testing objectives during the trials.

- What are the results from this project? This project resulted in two models of an animal slaughter restraint. Our restraint allows for a safe, unstressed slaughter complying with both halal and Orthodox Jewish kosher requirements while meeting the letter and more importantly the spirit of the Humane Slaughter Act of 1978.
 - Include any analysis of data collected or materials developed through project work. Attached are the CAD drawings and preliminary product brochure draft.
- 3) What conclusions can you make based on project work the analysis of collected data? 1) There is a significant decrease in the stress level of the animal; 2) The restraint will work as planned with a few refinements to allow for small sized kids to be properly supported; 3) The product can be manufactured efficiently as designed but changes will be made to allow for it to be shipped in a knocked down condition.
 - 4) What do you plan to do in the future as a result of this project? Continue to refine product and fabricate a mobile slaughter unit built specifically for the halal and kosher slaughter of lambs and goats using the restraint.
 - 5) What information or additional resources are needed to commercially develop this enterprise? 1) Funds are required for additional refinement of the units and the patenting process of the second version; 2) Financial resources will be required to allow for quantity purchases of lambs and goats from WI producers. Producers need to be paid upon delivery and cannot wait 30-60 days for payment. Whereas our receivables will be 60-90 days out. 3) We will need a high enough volume of animals to recover the additional expense of the religious supervision required.
 - 6) How should the agricultural industry use the results from your grant project? A key need is for animal restraint methods that meet modern animal welfare requirements. The developed restraints allow for the safe, unstressed slaughter of animals that complies with both halal and kosher requirements, while going beyond the letter of the law for the Humane Slaughter Act of 1970.

SPIRIT OF HUMANE

By using an upright restraint, our system meets the highest standards of humane slaughter.

The designs are optimized for getting the animals in easily.

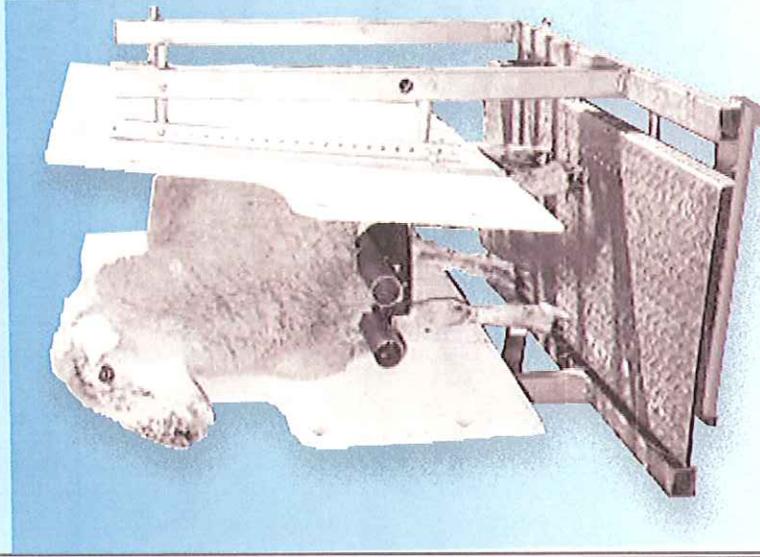
The Spirit of Humane slaughter equipment has been developed to help on-farm, small scale custom slaughter, and even low volume state and federally inspected plants to upgrade their animal handling.

These systems are easy to assemble and can be shipped anywhere in the world.

FEATURES:

- Non-slip floor
- Double rail support
helps calm the animal
- Solid sides
prevents distraction & meets religious restrictions or sharpening a knife in front of animal
- Comfort for the slaughterperson
- Easy cleanability
- Long life
- Allows animal time to become insensible

SPIRIT OF HUMANE



Halal, Kosher & General Humane
Slaughter Equipment

SPIRIT OF HUMANE

Manufactured by:
Stillpoints
823 Main Street • Boyceville, WI 54725
ph. 715-643-7110 • fx. 715-254-0653
larry@stillpoints.us



PRODUCTS:

- Dropped Floor Model Restraining Pen
 - Dropped Floor Model Holding Cart*
 - Lifting Double Rail Restraining Pen*
 - Veal/Beef Restraining Pen*
- * in development

Finish Options: Stainless, Aluminum, Zinc Plated.
To discuss which might work best for you, please contact us prior to ordering.

ADDITIONAL ITEMS:

- Low stress pre-pen handling chutes
- Leg positioner
- Special humane slaughter knife



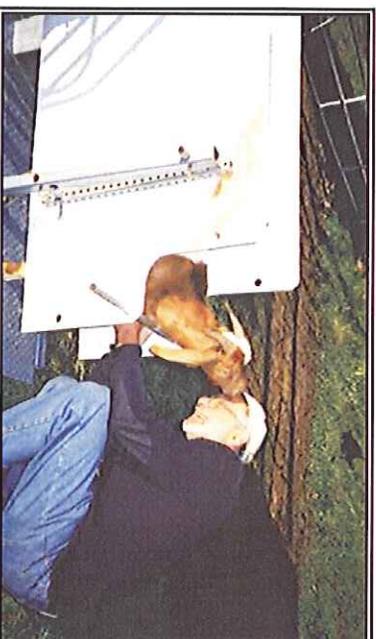
Visit www.spiritofhumane.com for additional pictures, pricing information and more detailed descriptions of our product line.

Posters are FREE electronically.

Posters (8.5" x 11") require a \$10 shipping and handling charge for up to 25 copies. A 56" x 47" poster is also available for \$10 S&H, \$6 for each additional to the same address.

Our products come out of our efforts to develop a sustainable, natural sheep and goat program in the upper Midwest (mainly WI and MN). As growers of about 400 sheep and goats, we have been exploring the religious (kosher and halal) markets.

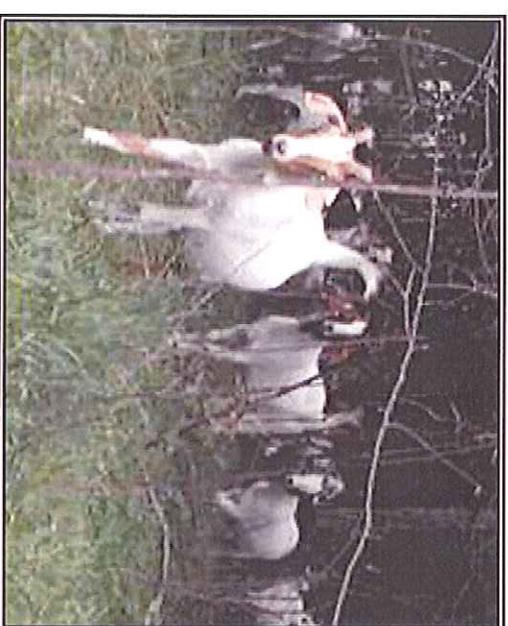
A key need is for animal restraint methods that meet modern animal welfare requirements such as those established by Dr. Temple Grandin, Professor of Animal Science, at Colorado State University and the world's expert on animal welfare friendly restraint and handling systems. (See www.grandin.com)



Dr. Joe Regenstein measures a young goat on an early prototype.

Working in collaboration with Dr. Joe Regenstein, Professor of Food Science at Cornell University, and a specialist in kosher and halal food regulations, we have been improving on the initial restraint system and slaughter knife that these two distinguished faculty have developed.

The humane/halal slaughter poster is available in English and Persian. Text in Somali, Urdu, Arabic and Spanish are also available. We'll be happy to send you an electronic copy.



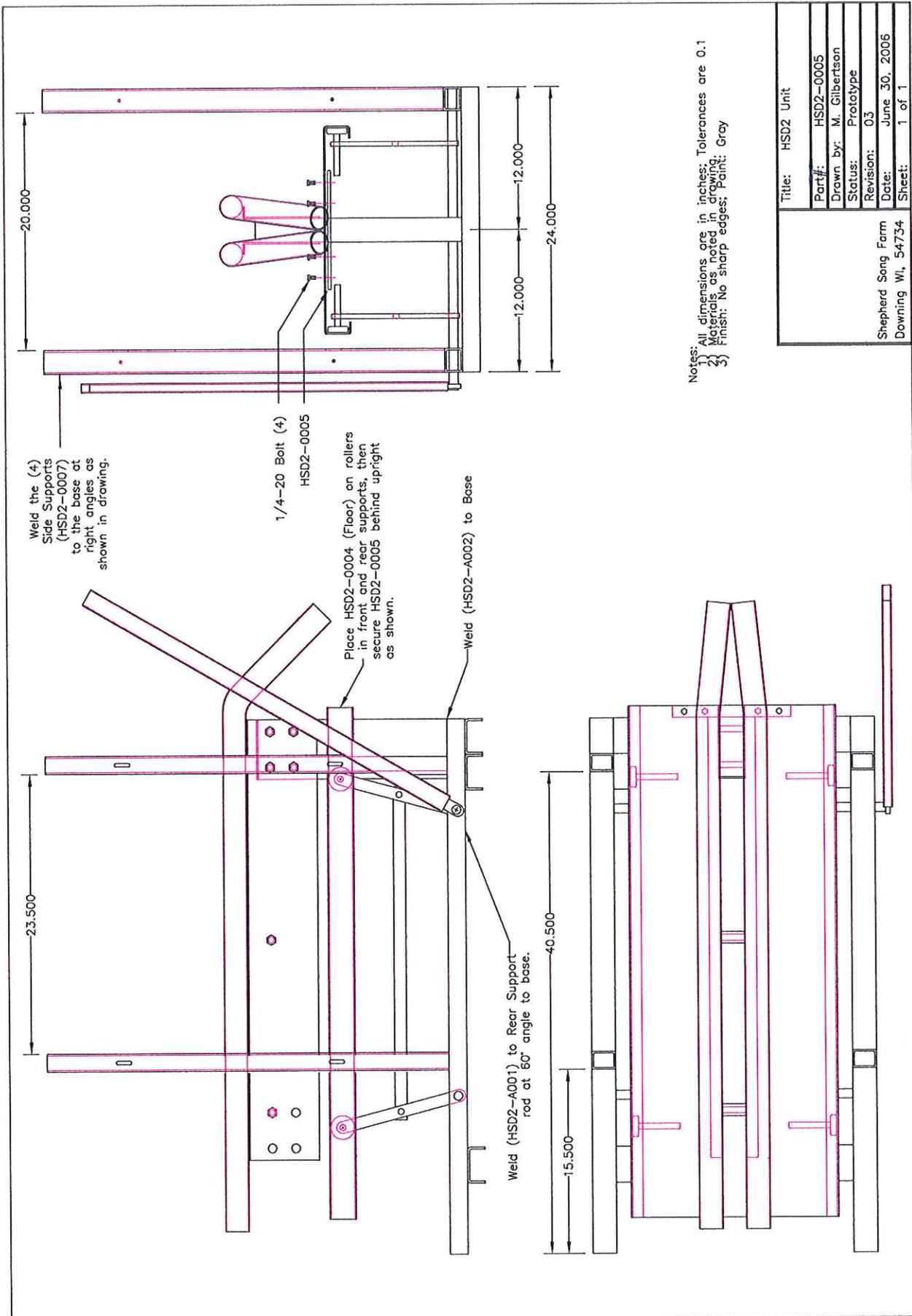
The restraints allow for the safe, unstressed slaughter of animals that complies with both halal and kosher requirements, while going beyond the letter of the law for the Humane Slaughter Act of 1970 and so reflect the "Spirit of Humane" and are consistent with the newer requirements of the following organizations:

American Meat Institute, AMI
www.meatami.org
(National trade association of the meat processing industry; animal handling guidelines)

Food Marketing Institute, FMI
www.fmi.org
(National trade association of the supermarkets; animal welfare standards)

National Council of Chain Restaurants
www.nccr.net
(National trade association; animal welfare standards)

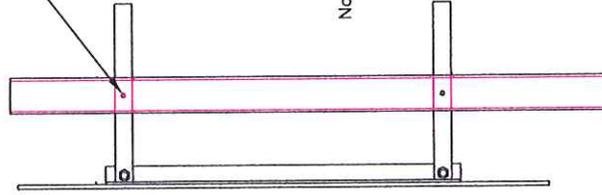
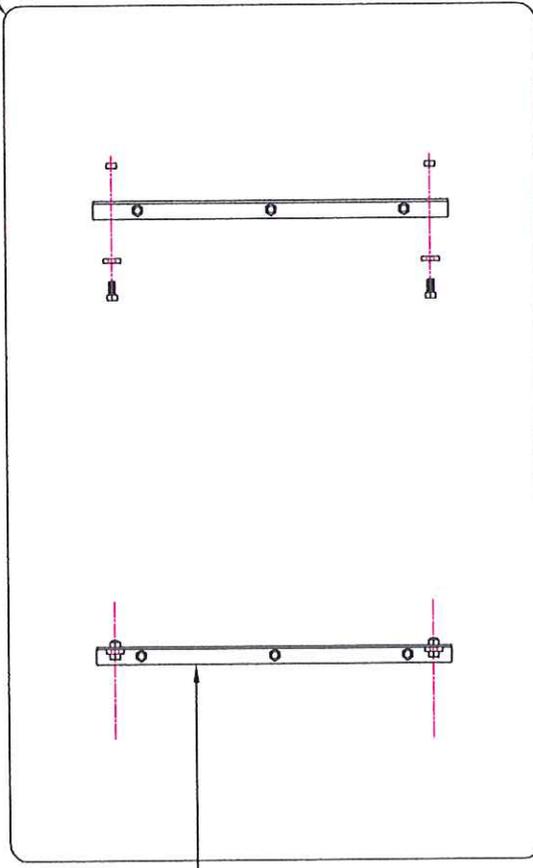
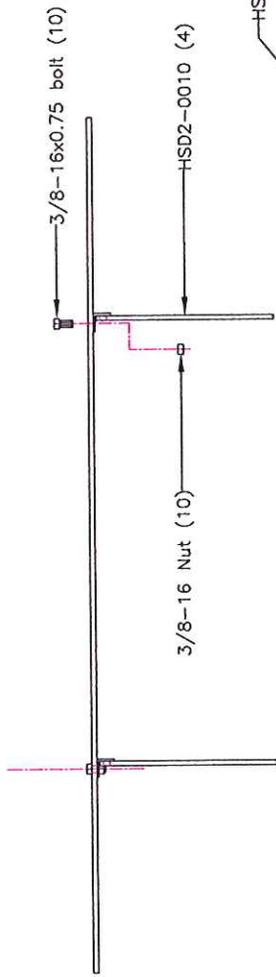
Humane Farm Animal Care
www.humanecertified.org
www.humanecertified.org/
(A program with higher animal welfare standards)



Notes:
 1) All dimensions are in inches; Tolerances are 0.1
 2) Materials as noted in drawing;
 3) Finish: No sharp edges; Paint: Gray

Title:	HSD2 Unit
Part#:	HSD2-0005
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
 Downing WI, 54734



Position and Secure Side assembly to side support (welded to base) with 1/4-20x1.5" set screw (4)

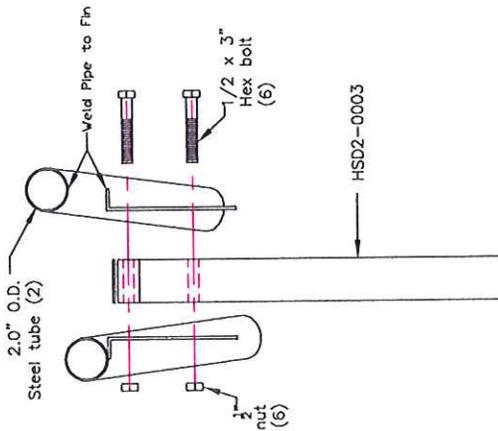
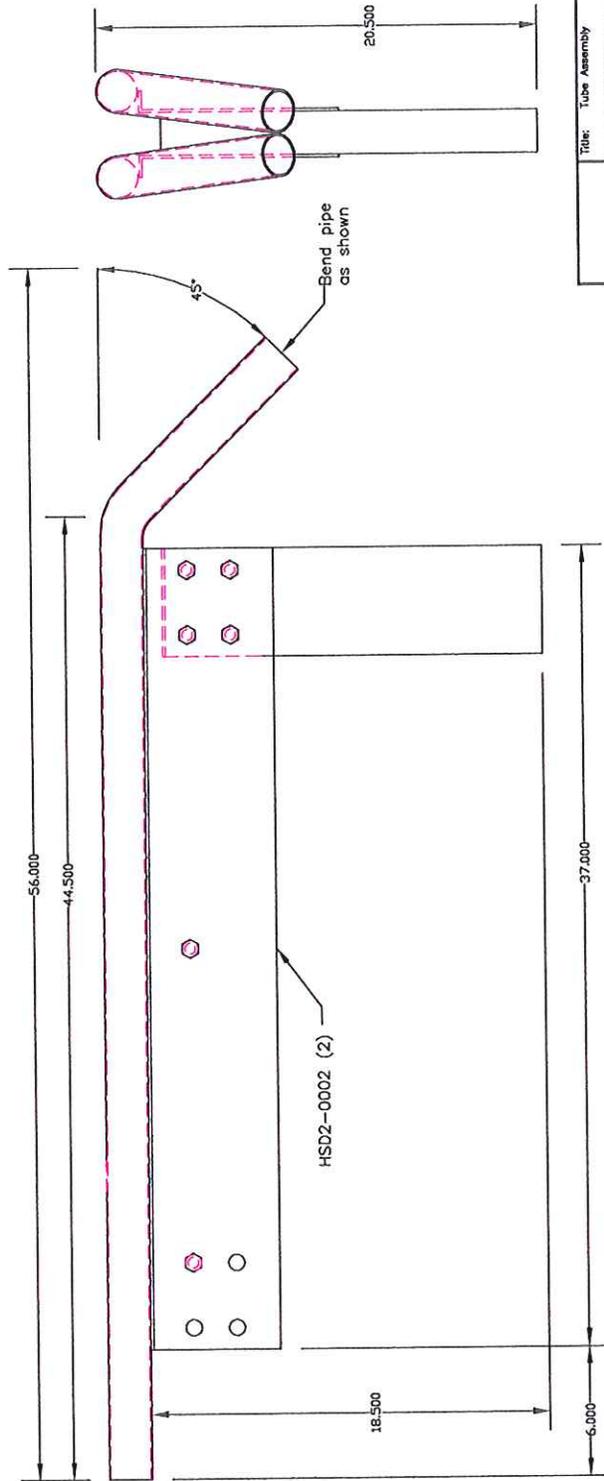
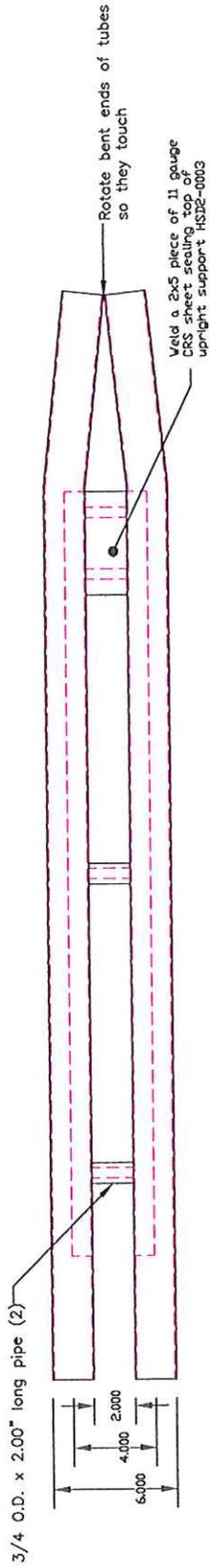
Note: Side Support (HSD2-0007) is not part of this assembly, it is part of assembly HSD2-A005

Notes:

- 1) All dimensions are in inches; Tolerances are 0.1
- 2) Materials as noted in drawing.

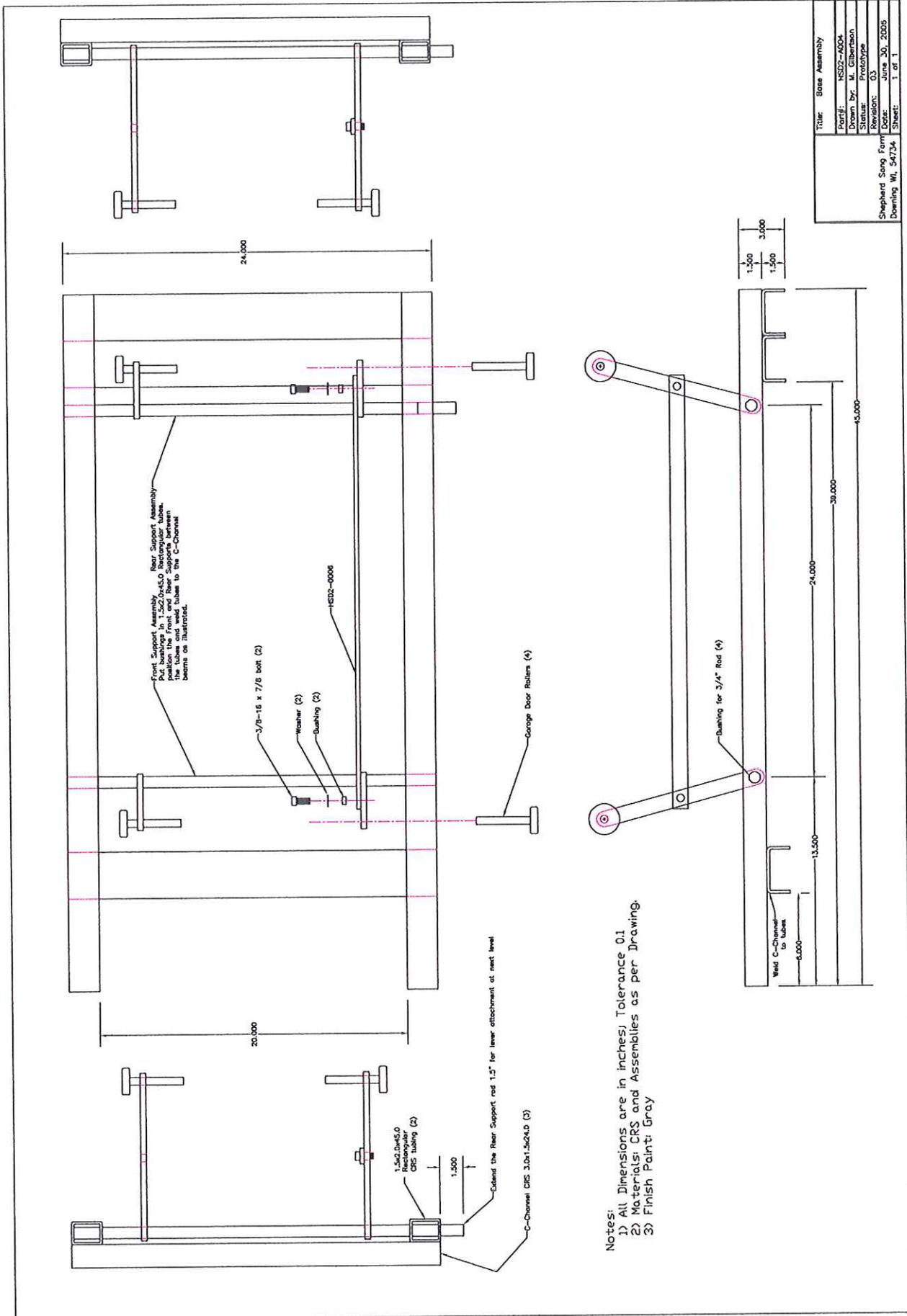
Title: Side Assembly	
Part#:	HSD2-0006
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
Downing WI, 54734



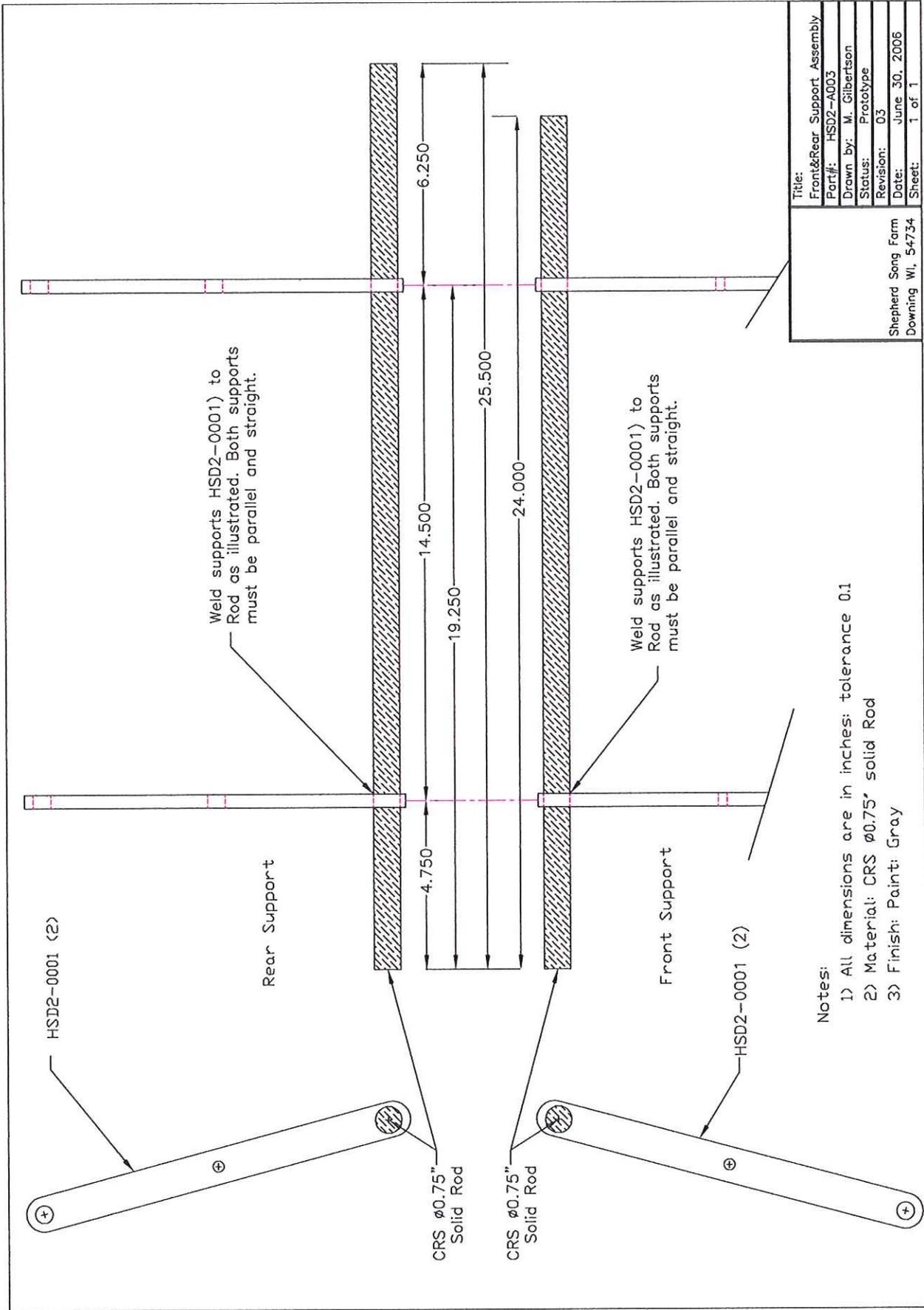
Title:	Tube Assembly
Part#: HSD2-A002	
Drawn by: M. Gilbertson	
Status: Prototype	
Revision: 03	
Date: June 30, 2008	
Sheet: 1 of 1	

Notes:
 1) All dimensions are in inches; Tolerances are 0.1
 2) Materials as noted in drawing.
 3) Finish: No sharp edges; Paint: Gray



Title: Stone Assembly	
Part#: HS02-6004	Drawn by: M. Giberson
Status: Prototype	Revision: 03
Shepherd Song Form	Date: June 30, 2005
Drawing Nr. 54724	Sheet: 1 of 1

- Notes:
- 1) All Dimensions are in inches; Tolerance .01
 - 2) Materials: CRS and Assemblies as per Drawing.
 - 3) Finish Paint: Gray



Weld supports HSD2-0001) to Rod as illustrated. Both supports must be parallel and straight.

Weld supports HSD2-0001) to Rod as illustrated. Both supports must be parallel and straight.

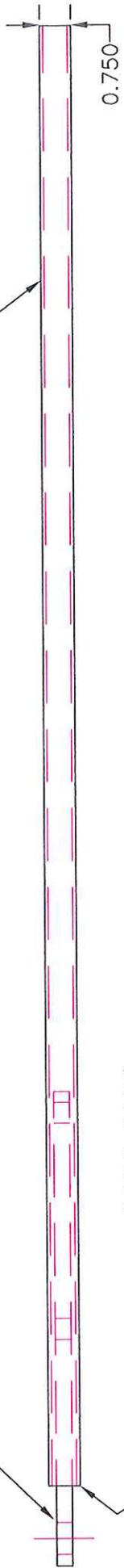
- Notes:
- 1) All dimensions are in inches: tolerance 0.1
 - 2) Material: CRS $\phi 0.75"$ solid Rod
 - 3) Finish: Paint: Gray

Title:	Front&Rear Support Assembly
Part#:	HSD2-A003
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

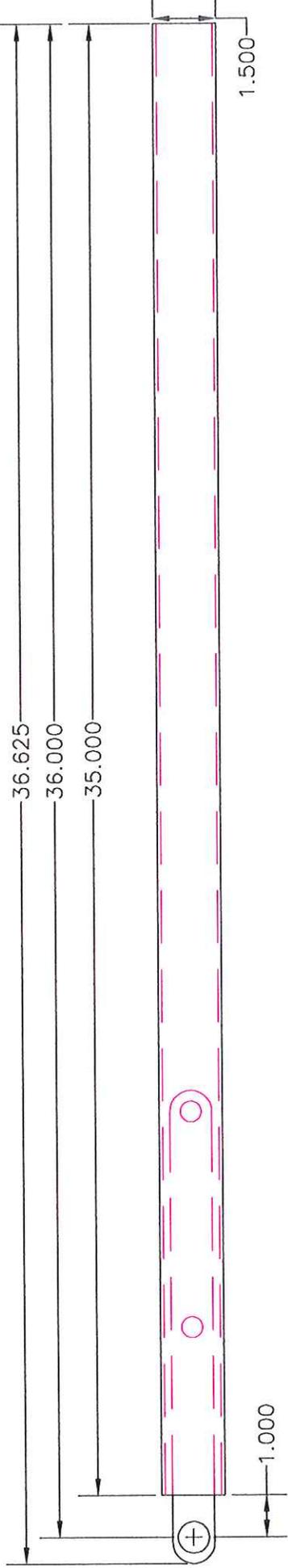
Shepherd Song Farm
Downing WI, 54734

Support Bar HSD2-0001

1.50" x 0.75" Rectangular Tube



Slide a Support bar (HSD2-0001) inside of tube as shown in drawing. Then Weld in place.

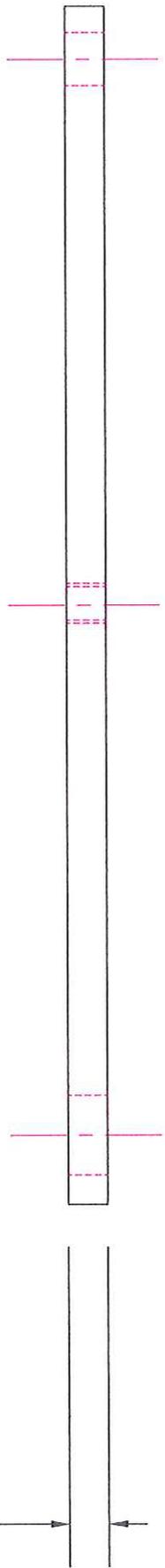


Notes:

- 1) All Dimensions are in inches; Tolerance 0.1"
- 2) Material CRS 1.5x0.75 rectangular tubing and part# HSD2-0001
- 3) Finish: Break all sharp edges.

Title: Lever Assembly	Shepherd Song Farm Downing WI, 54734
Part#: HSD2-A001	
Drawn by: M. Gilbertson	
Status: Prototype	
Revision: 03	
Date: June 30, 2006	
Sheet: 1 of 1	

0.375 Nominal



3/8-16 Tapped Hole

(2) R0.500 ϕ 0.750

1.000 Nominal

(5) 0.500

0.000

0.625
0.500
0.000

ϕ 0.500



10.750
11.250

(2)

Notes:

- 1) All Dimentionions are in inches; Tolerance 0.01"
- 2) Material: CRS Bar Stock
- 3) Finish: break all sharp edges, Timesaver.

Title: Support Bar

Part#: HSD2-0001

Drawn by: M. Gilbertson

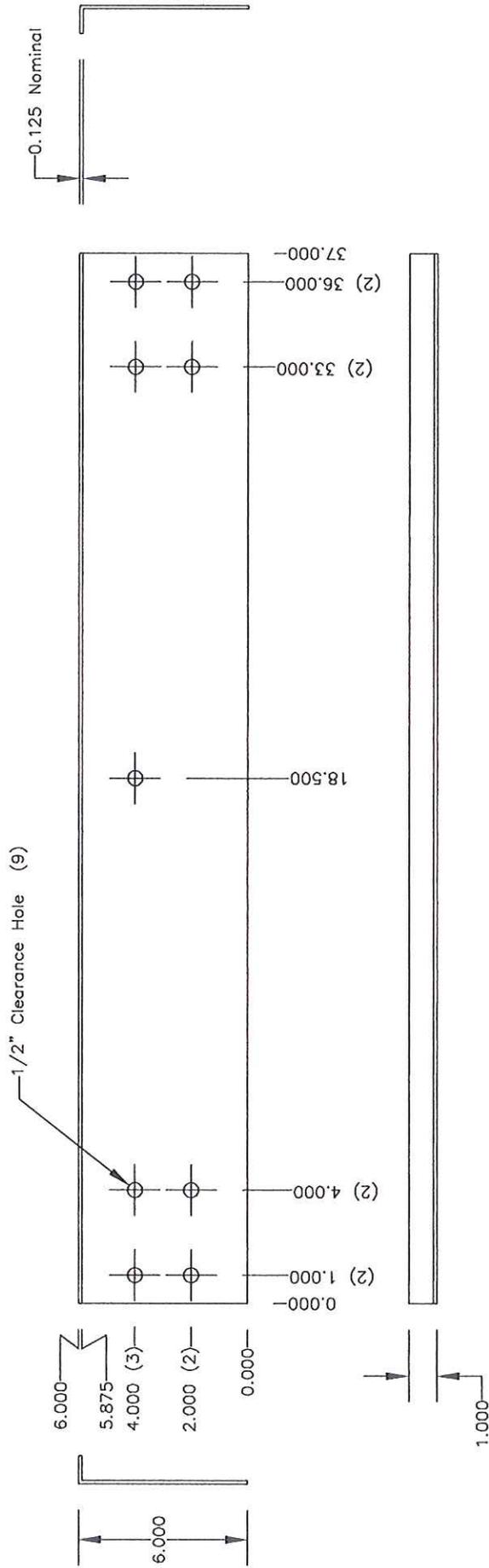
Status: Prototype

Revision: 03

Date: June 10, 2006

Sheet: 1 of 1

Shepherd Song Farm
Downing WI, 54734



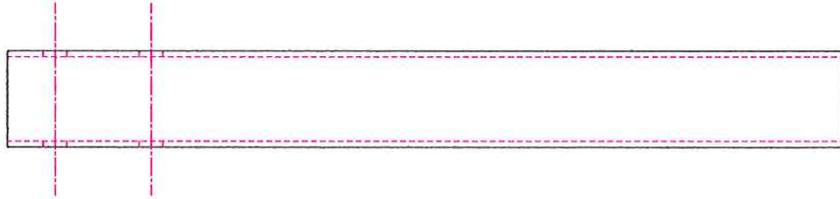
Notes:
 1) All dimensions are in inches; Tolerance 0.05; Minimum bend radius allowed on right angle bend
 2) Material: CRS 11 gauge (0.125) sheet
 3) Finish: Break all sharp edges; Paint: Gray

Title:	Tube Fin
Part#:	HSD2-0002
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
Downing WI, 54734

0.00
1.00 (2)
4.00 (2)
5.00

17.50
(2) 16.50
(2) 14.50

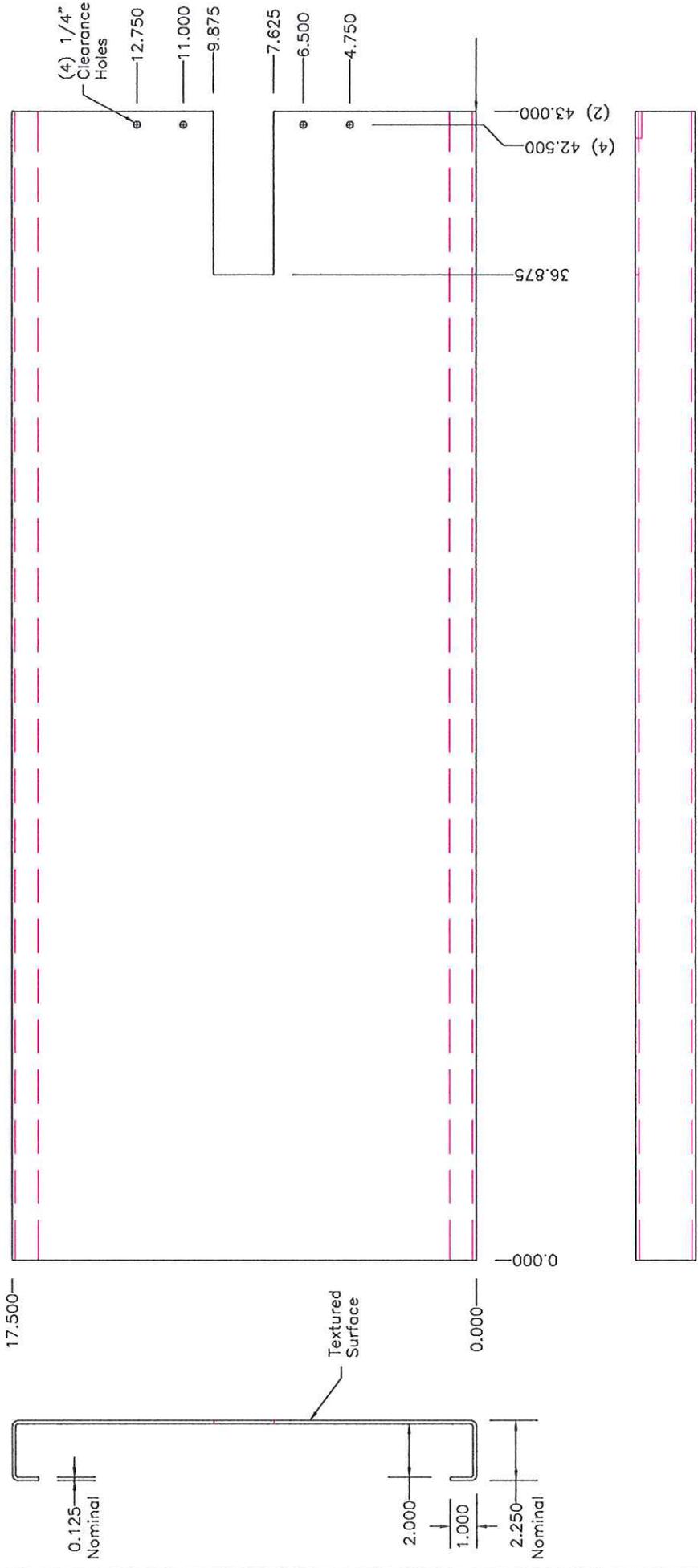


(4) 1/2" Clearance Holes Though both sides

Notes:
1) All dimensions are in inches: tolerance 0.05
2) Material: CRS 2x5 rectangular tube
3) Finish: Paint: Gray

Title:	Tube Upright Support
Part#:	HSD2-0003
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
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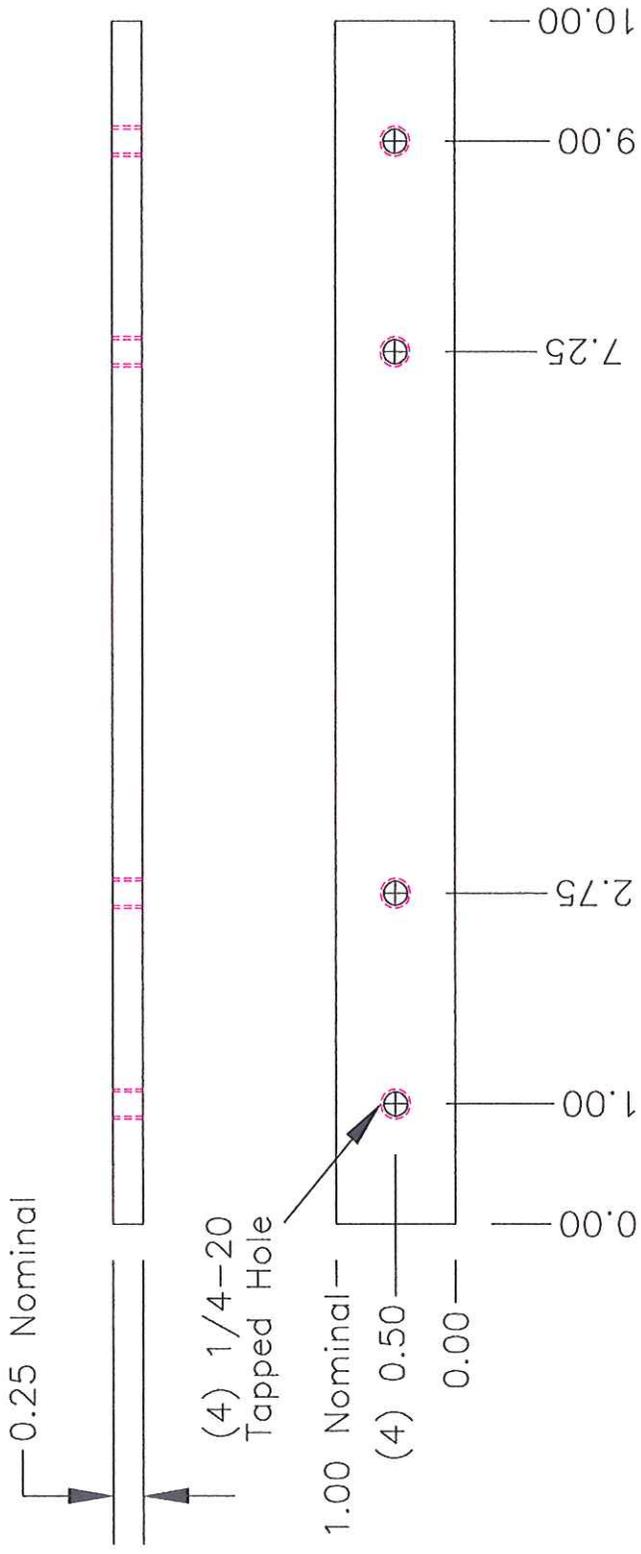


Notes:

- 1) All dimensions are in inches; Tolerance 0.05; Minimum bend radius allowed on right angle bend
- 2) Material: CRS 11 gauge (0.125) Sheet Floor Plate with non-slip texture surface.
- 3) Finish: Break all sharp edges; Paint: Gray

Title:	Floor
Part#:	HSD2-0004
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
Downing WI, 54734

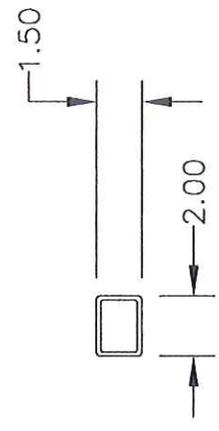
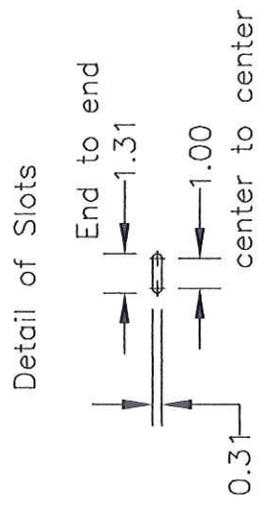
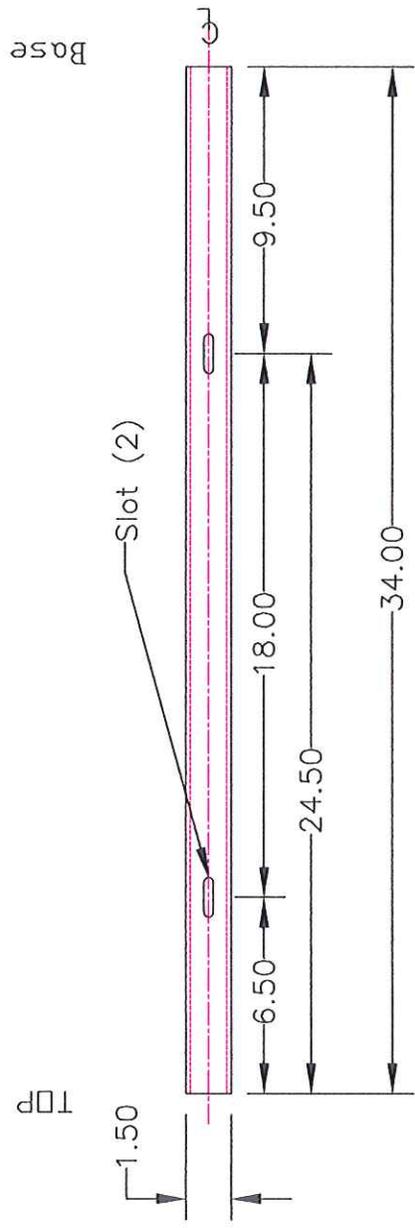
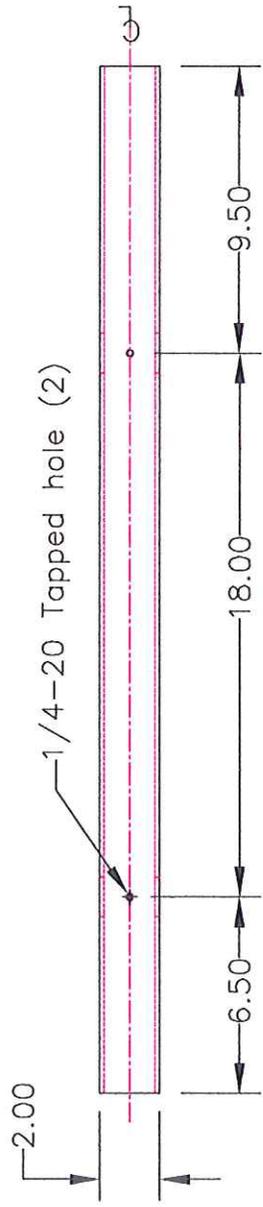


Notes:

- 1) All Dimensions are in inches; Tolerance 0.05"
- 2) Material: CRS Bar Stock 1.0x0.25
- 3) Finish: break all sharp edges, Timesaver.

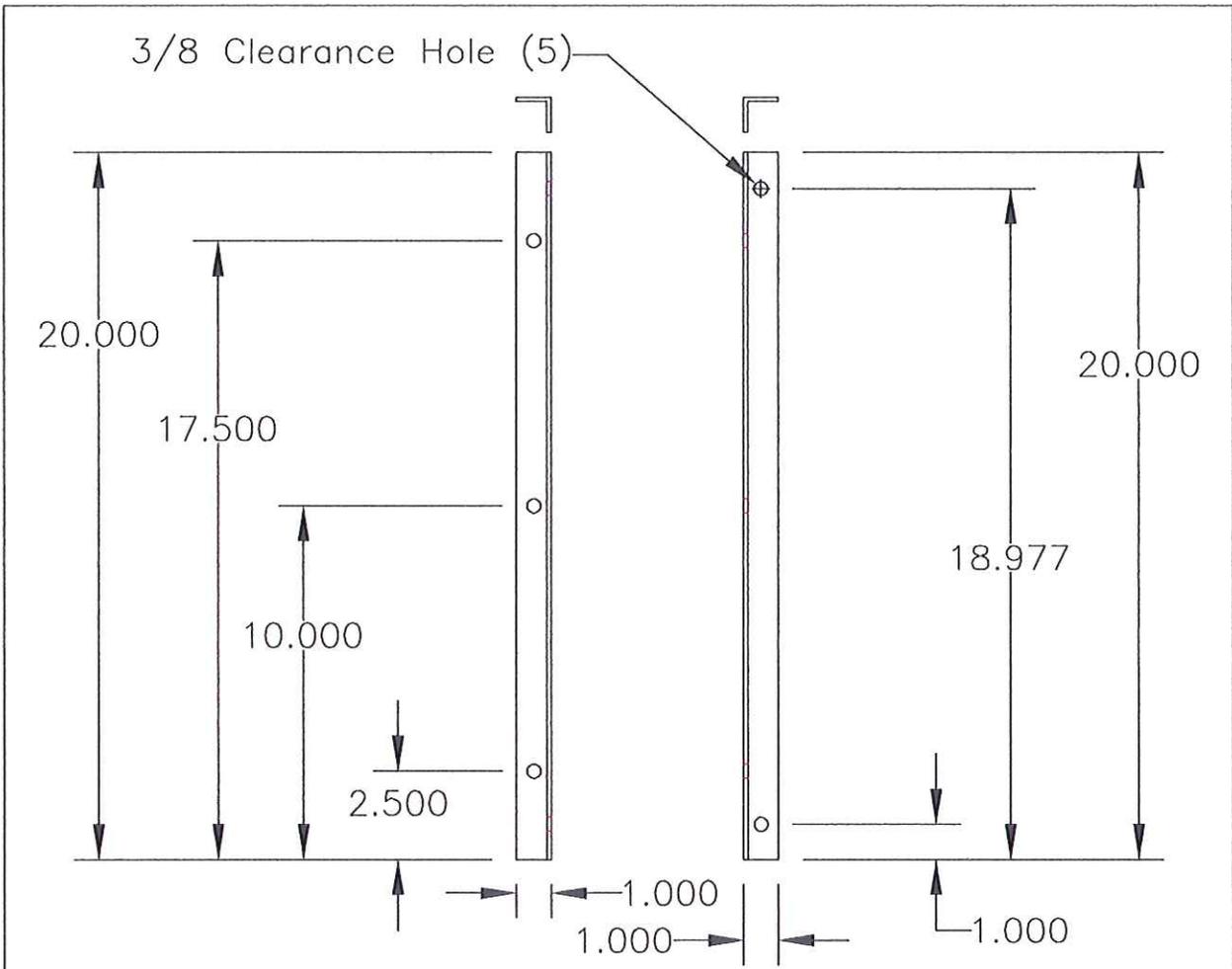
Title:	Floor Guide Bar
Part#:	HSD2-0005
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
Downing WI, 54734



- Notes:
- 1) All dimensions are in inches; Tolerances are 0.1
 - 2) Materials: 1.5x2.0 Rectangular CRS Tube
 - 3) Finish: No sharp edges; Paint: Gray

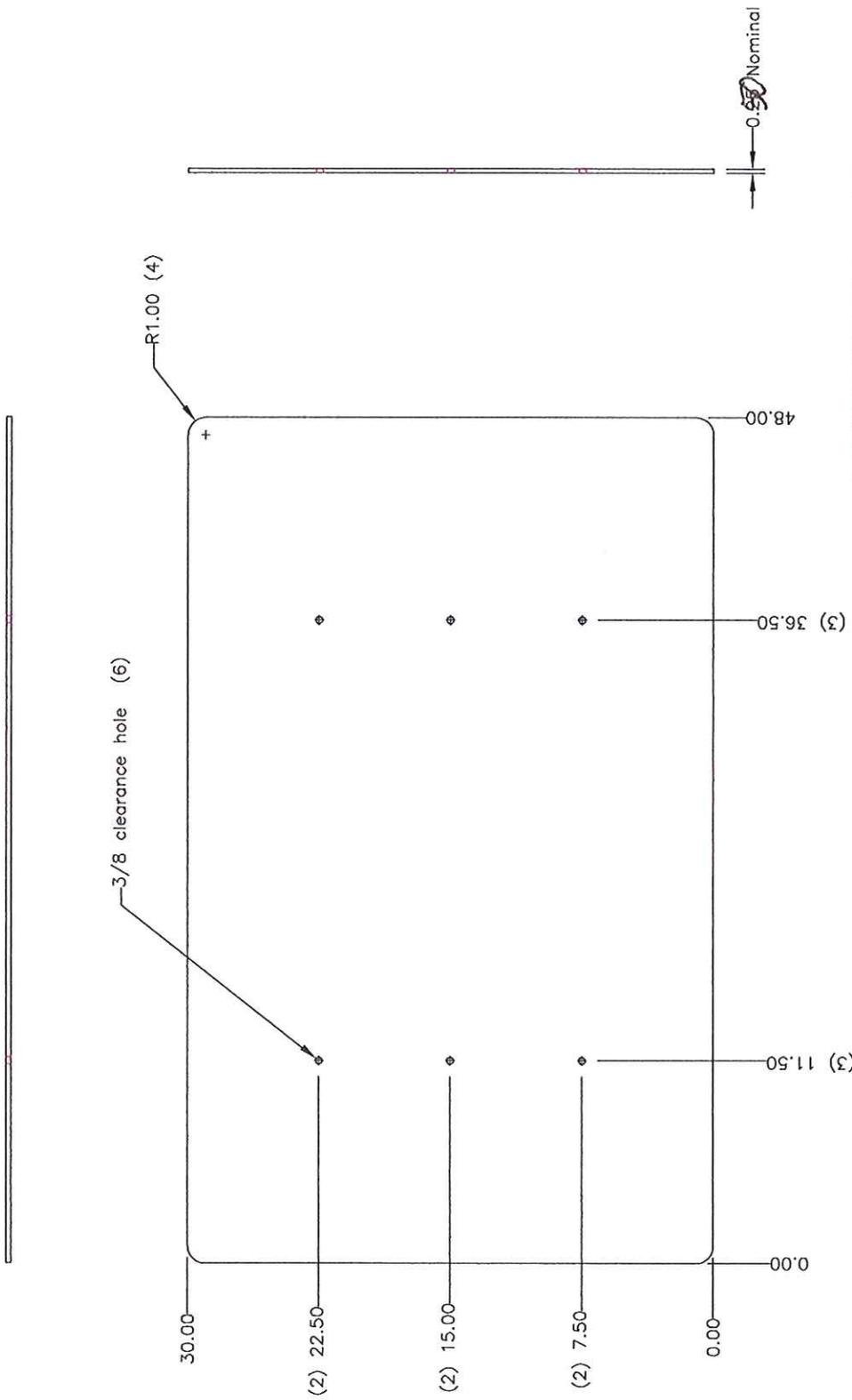
Shepherd Song Farm Downing WI, 54734	Title: Side Support
	Part#: HSD2-0007
	Drawn by: M. Gilbertson
	Status: Prototype
	Revision: 03
Date: June 30, 2006	Sheet: 1 of 1



Notes:

- 1) All dimensions are in inches; Tolerances are 0.1
- 2) Materials: 1x1 L-shaped CRS angle iron
- 3) Finish: No sharp edges; Paint: Gray

Shepherd Song Farm Downing WI, 54734	Title: Side Mounting Brackets
	Part#: HSD2-0008
	Drawn by: M. Gilbertson
	Status: Prototype
	Revision: 03
	Date: June 30, 2006
	Sheet: 1 of 1

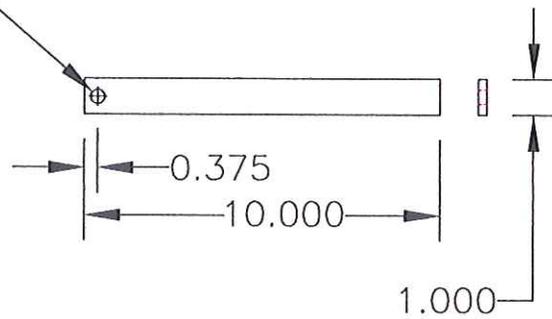


Notes:
 1) All dimensions are in inches. Tolerances are 0.1
 2) Materials: 1/8" thick ~~Plexiglas~~ *Poly Board*
 3) Finish: No sharp edges

Title:	HSD2 Side Panel
Part#:	HSD2-0009
Drawn by:	M. Gilbertson
Status:	Prototype
Revision:	03
Date:	June 30, 2006
Sheet:	1 of 1

Shepherd Song Farm
Downing WI, 54734

3/8 Clearance Hole (5)



Notes:

- 1) All dimensions are in inches; Tolerances are 0.1
- 2) Materials: 1x0.25 CRS Bar Stock
- 3) Finish: No sharp edges; Paint: Gray

Shepherd Song Farm Downing WI, 54734	Title: Side Mounting Bar
	Part#: HSD2-0010
	Drawn by: M. Gilbertson
	Status: Prototype
	Revision: 03
	Date: June 30, 2006
	Sheet: 1 of 1