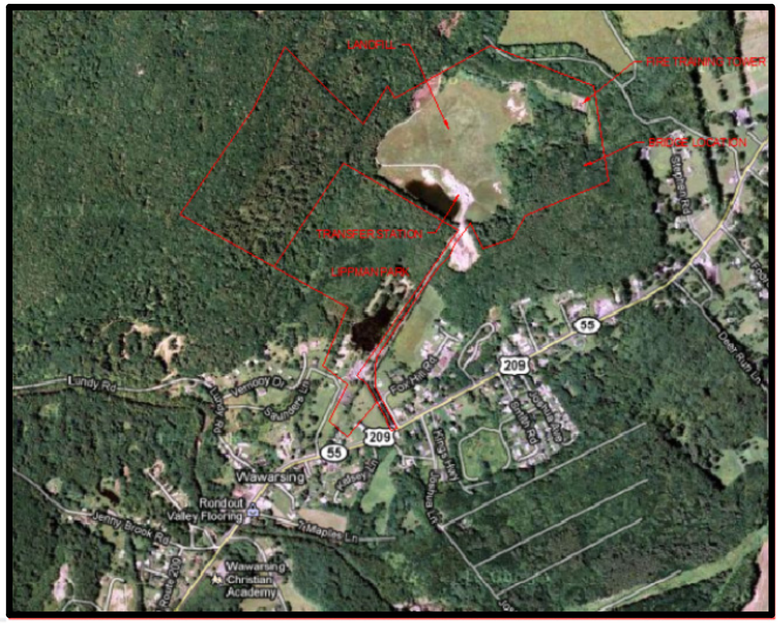
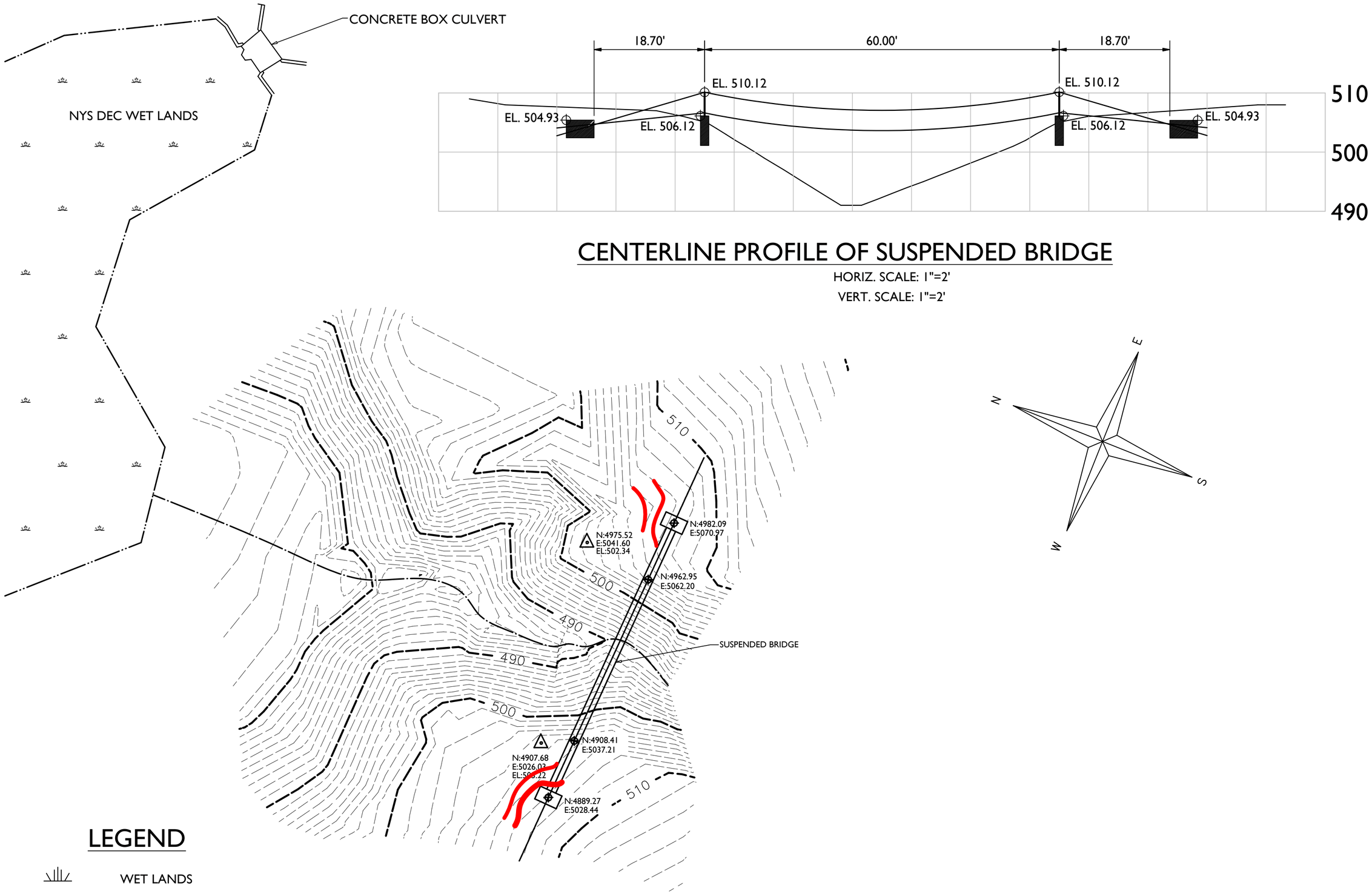
Lippman Park Suspended Bridge
Wawarsing, NY



LOCATION MAP SCALE: 1"=100'

List of Drawings	
Sheet No.	**Description**
1	BRIDGE LAYOUT
2	BRIDGE ASSEMBLY
3	STANTION ASSEMBLY
4	STANTION DETAILS
5	RAILING DETAILS
6	DECKING DETAILS
7	SUSPENDER CABLES
8	ANCHOR FORM DETAILS
9	ANCHOR ASSEMBLY
10	ANCHOR DETAILS

DRAWN IND 208 Class	4/27/2011	**SUNY Ulster**	
CHECKED DENNIS LARIOS P.E.	8/16/2011	TITLE COVER SHEET	
QA			
MFG			
APPROVED			
		SIZE C	DWG NO LPSB2011 REV
		SCALE: AS NOTED	SHEET OF 10



CENTERLINE PROFILE OF SUSPENDED BRIDGE

HORIZ. SCALE: 1"=2'

VERT. SCALE: 1"=2'

LEGEND

- WET LANDS
- EDGE OF WET LANDS
- ℄ STREAM
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- PROPOSED CONTOUR LINE

BRIDGE LAYOUT

DRAWN	IND 208 Class	4/27/2011
CHECKED	DENNIS LARIOS P.E.	8/16/2011
QA		
MFG		
APPROVED		

SUNY Ulster

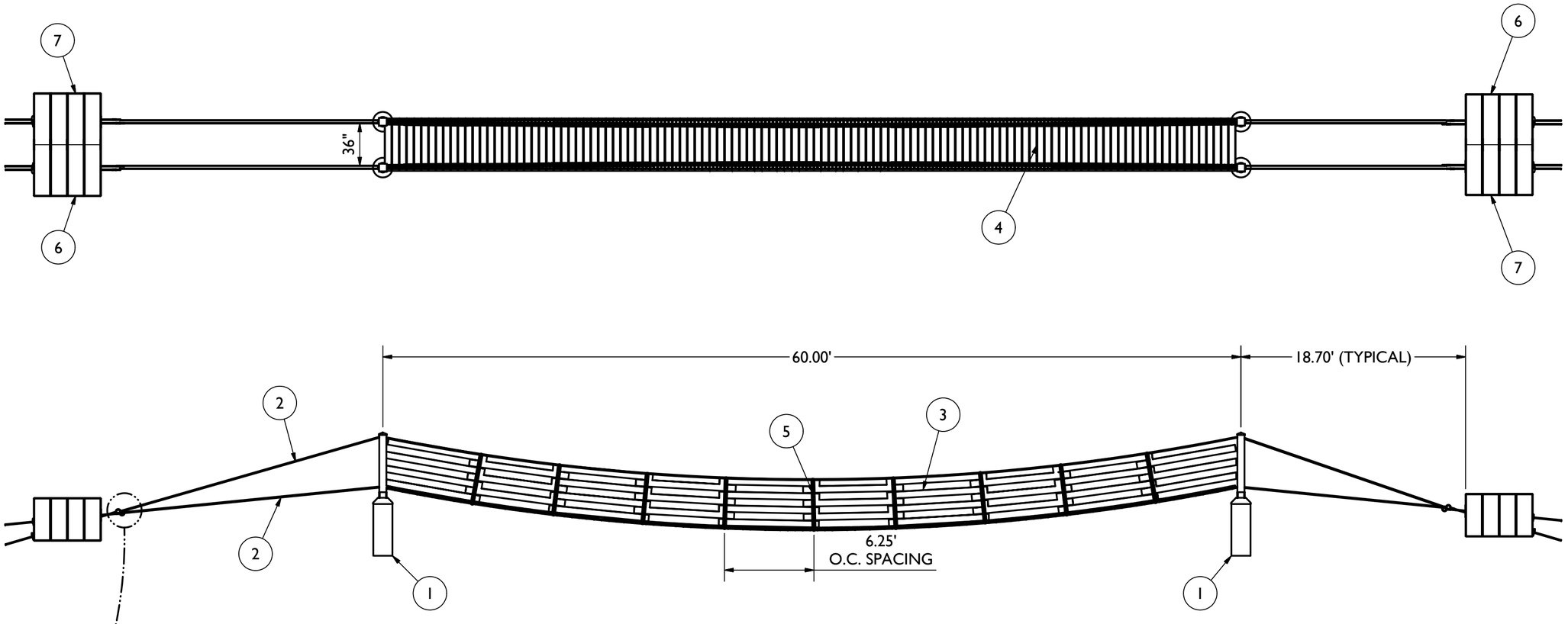
TITLE

BRIDGE LAYOUT

SIZE	DWG NO	REV
C	LPSB2011	

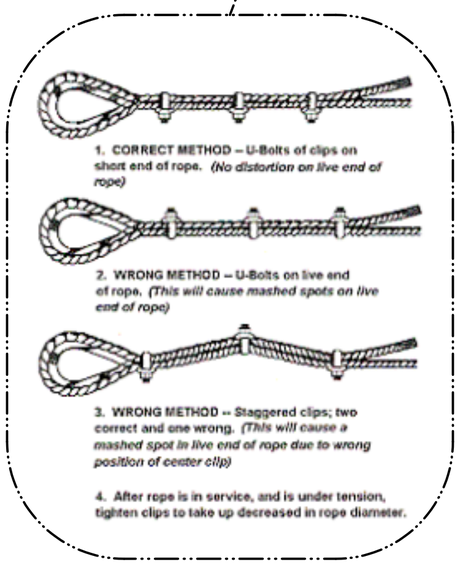
SCALE: AS NOTED

SHEET 1 OF 10



BRIDGE ASSEMBLY

SCALE 1 / 75



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	STANTIONS	SEE PAGES 5 & 6
2	4	MAIN CABLE	1/2" DIA. 8x19 WITH HEMP CORE CABLE 16,040 lbs. BREAKING STRENGTH (MACHINERY'S HANDBOOK)
3	2	RAILING	SEE PAGE 9
4	121	DECKING BOARDS	SEE PAGE 8
5	18	SUSPENDER CABLE	SEE PAGE 7
6	2	LEFT ANCHOR	SEE PAGES 3 & 4
7	2	RIGHT ANCHOR	SEE PAGES 3 & 4

DRAWN	IND 208 Class	4/27/2011
CHECKED	DENNIS LARIOS P.E.	8/16/2011
QA		
MFG		
APPROVED		

SUNY Ulster

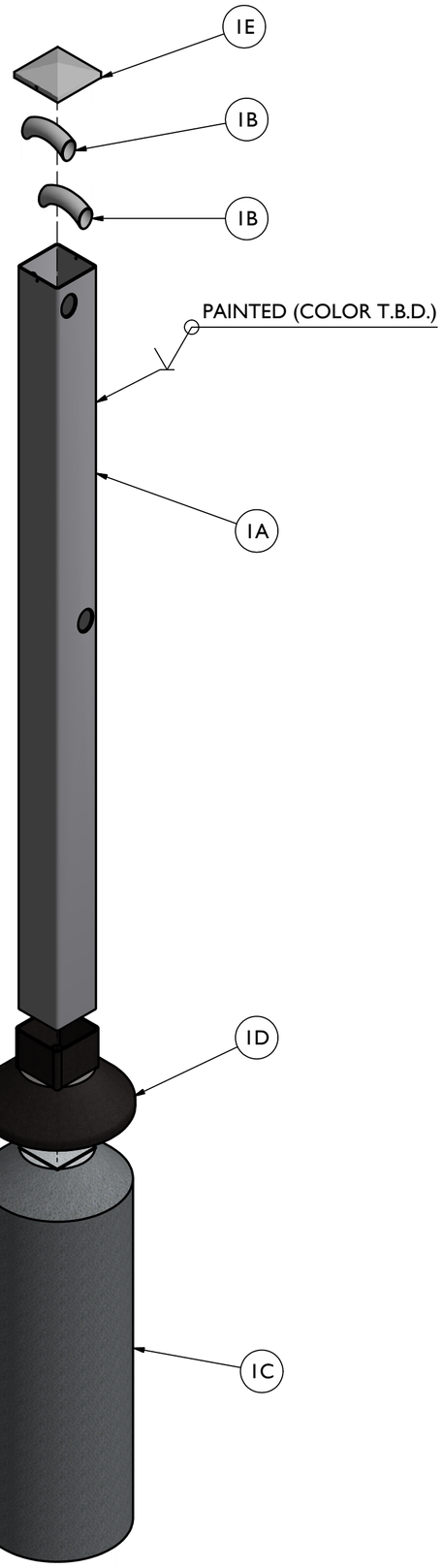
TITLE

BRIDGE ASSEMBLY

SIZE		DWG NO	REV
C		LPSB2011	

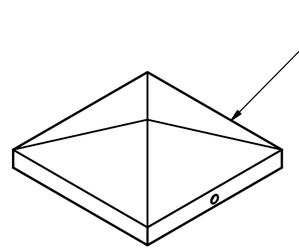
SCALE: AS NOTED

SHEET 2 OF 10



1-STANTION ASSEMBLY

SCALE 1 / 12



1E POST CAP

SCALE 1 / 4

NOTES:
1. POST CAP IS TO BE INSTALLED LAST. DRILL A HOLE IN THE STEEL POST USING THE HOLE IN THE CAP AS A GUIDE. REMOVE THE CAP AND TAP THE HOLE USING A 1/4"-20-UNC TAP. RE INSTALL CAP AND INSTALL BOLTS.

2. PIPE SLEEVES ARE TO BE FABRICATED AND INSTALLED IN A SHOP ENVIRONMENT.

3. TAR AT INTERSECTION OF CONCRETE AND STEEL IS TO BE APPLIED IN LAYERS TO ACHIEVE A THICKNESS OF APPROXIMATELY 1/8".

4. FINAL DEPTH OF CONCRETE AND TOP ELEVATION WILL VARY ACCODING TO LOCATION AND TOPOGRAPHY. SEE LAYOUT FOR LOCATIONS AND ELEVATIONS.

5. CONCRETE SHOULD HAVE A Fc=3,000 PSI OR BETTER

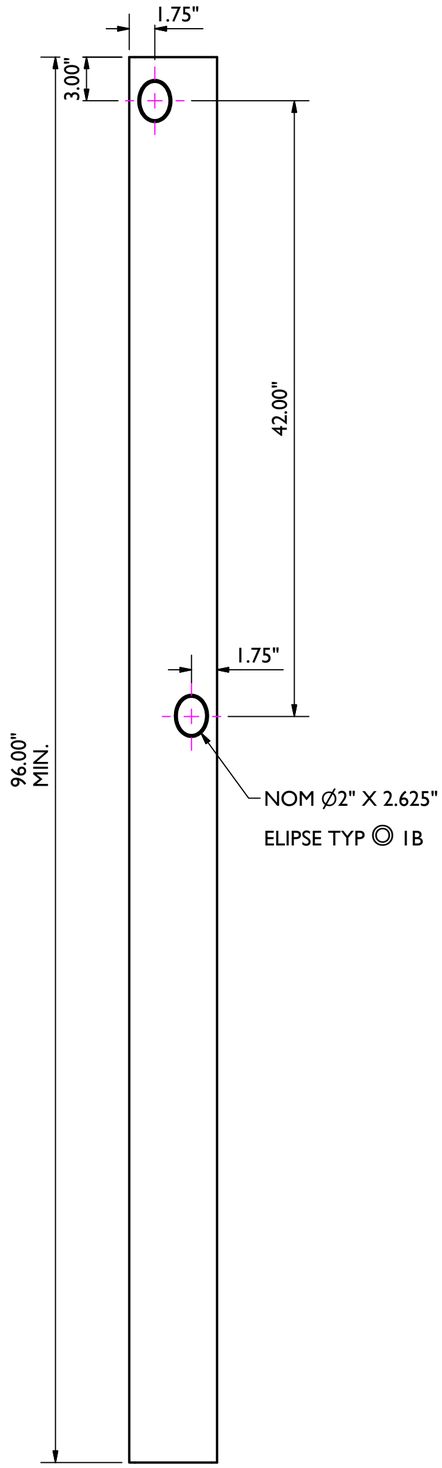
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1A	1	6" x 6" x 3/16" - 96"	GALVANIZED STEEL BOX BEAM
1C	1	CONCRETE PIER	CAST IN PLACE
1B	2	SLEEVE	NOM 2" STEEL TUBE, .120" WALL
1D	1	TAR	KOOL SEAL KST0000SP OR EQUAL
1E	1	CAP	MI-811 CAST IRON CAP
1F	2	BOLT	1/4" - 20 x 3/4" HEX HEAD CAP SCREW
1G	1	SONOTUBE	16" ID X 72" SONOTUBE

DRAWN: IND 208 Class	4/27/2011	**SUNY Ulster**
CHECKED: DENNIS LARIOS P.E.	8/16/2011	TITLE: STANTION ASSEMBLY
QA		
MFG		
APPROVED		

SIZE	DWG NO	REV
C	LPSB2011	

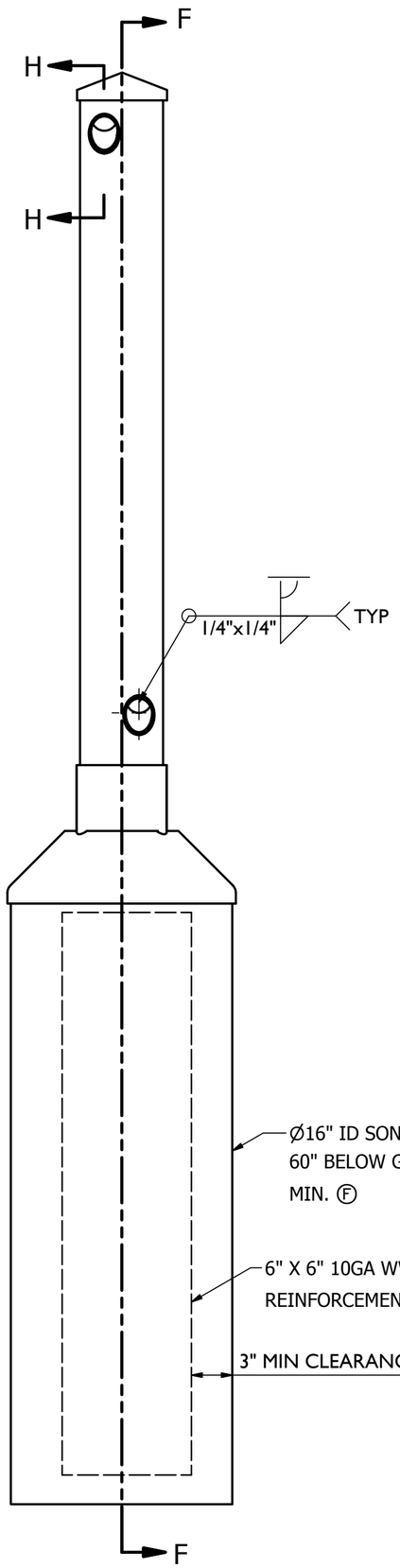
SCALE: AS NOTED

SHEET 3 OF 10



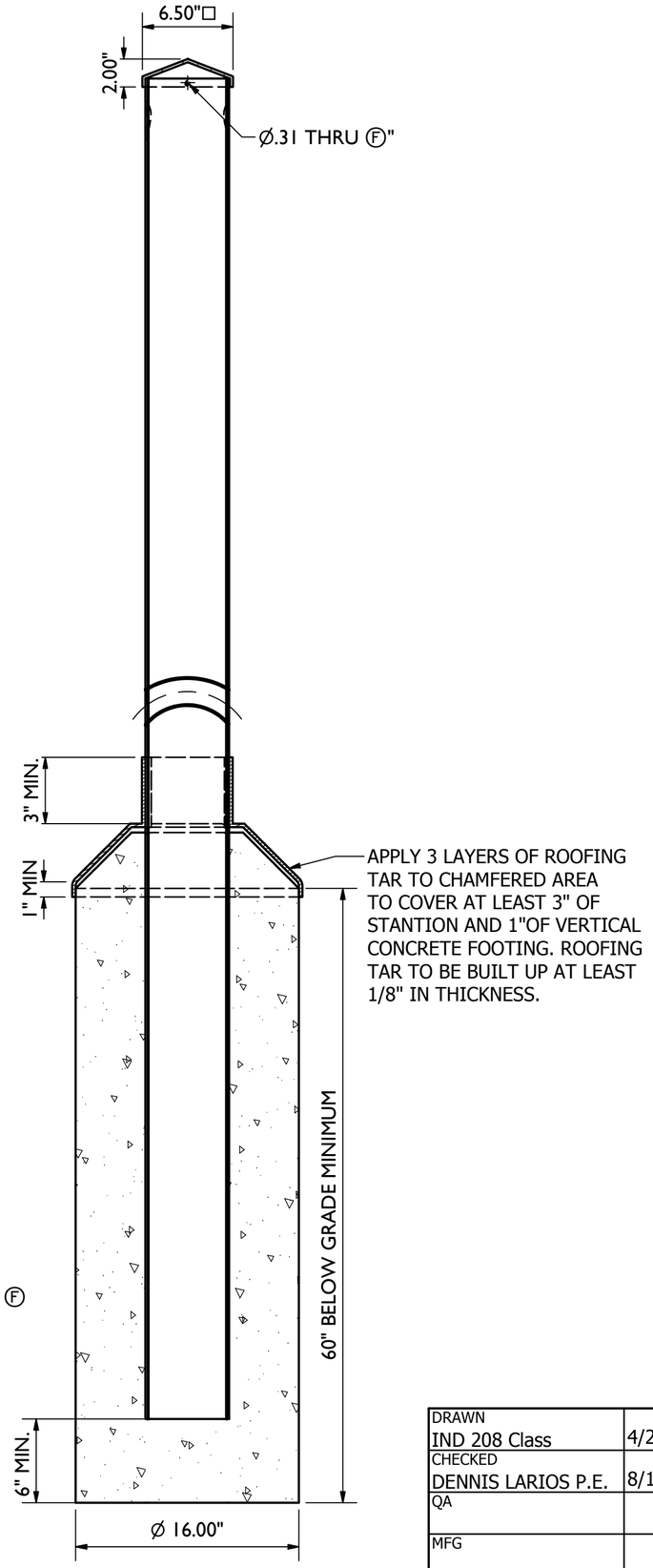
SLEEVE LAYOUT

SCALE: 1/8



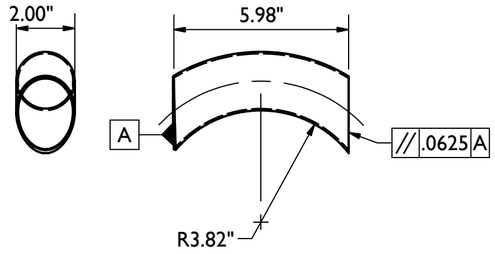
1-ASSEMBLED STANTION

SCALE" 1/8



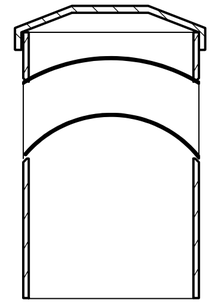
SECTION F-F

SCALE: 1/8



1B SLEEVE

SCALE: 1 / 4



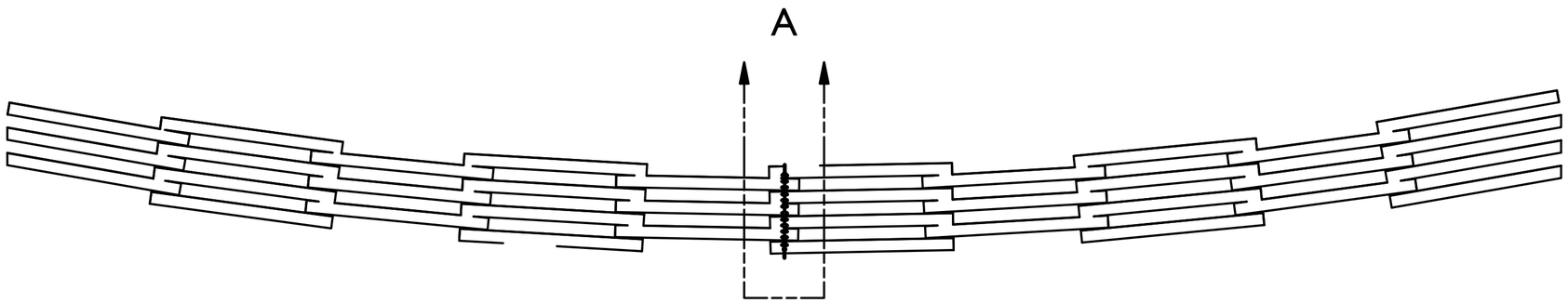
SECTION H-H

SCALE: 1/4

NOTES:

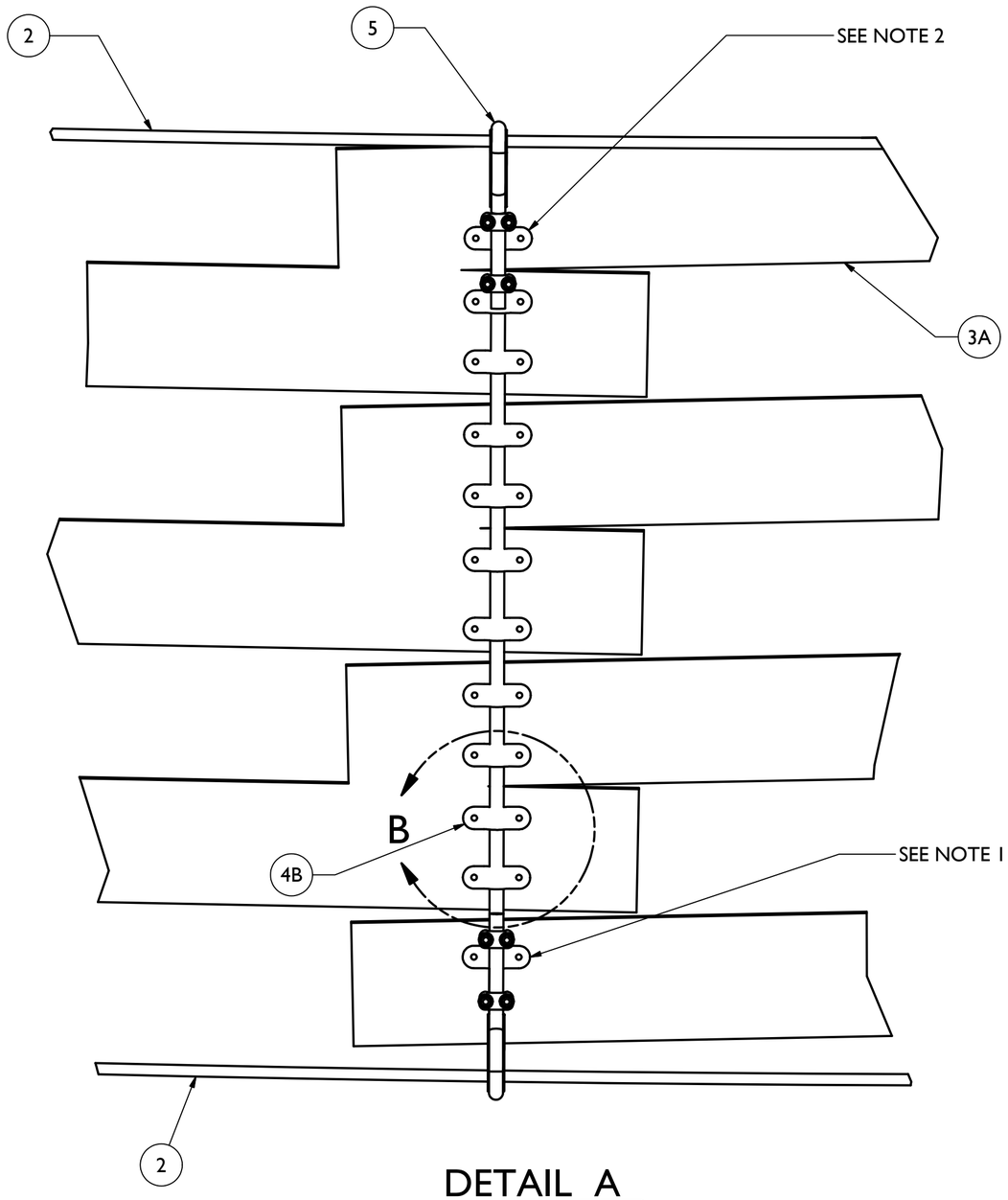
1. ASSEMBLY TO BE DESCALED & DEGREASED PRIOR TO APPLYING FINISHES
2. ALL COATINGS TO BE PREPARED AND APPLIED IN ACCORDENCE WITH ACCEPTABLE INDUSTRIAL STANDARDS WITH REGARD TO WORKMANSHIP AND ENVIRONMENTAL RESPONSIBILITY.

DRAWN	IND 208 Class	4/27/2011	**SUNY Ulster**
CHECKED	DENNIS LARIOS P.E.	8/16/2011	TITLE: STANTION DETAILS
QA			
MFG			
APPROVED			
SIZE: C	DWG NO: LPSB2011	REV:	
SCALE: AS NOTED		SHEET 4 OF 10	



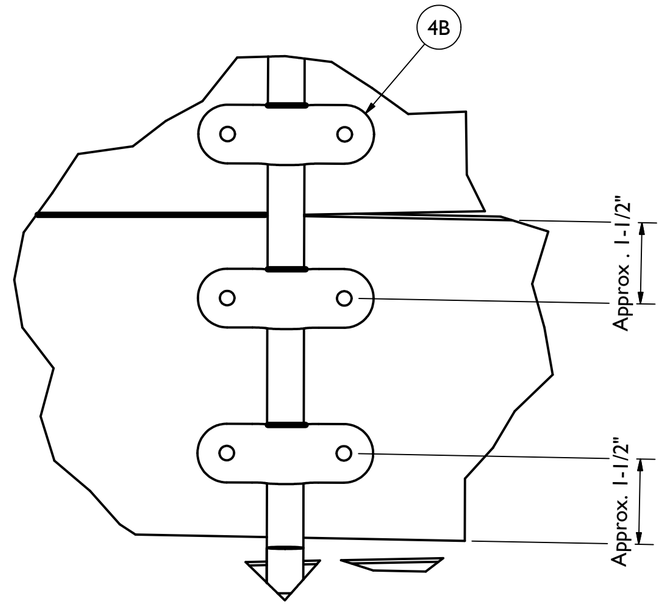
3-RAILING LAYOUT

SCALE: 1 / 50



DETAIL A
(Approx. Location of Side Rail Clips)

SCALE: 1/5



DETAIL B
(Conduit Clamp Location)

SCALE: 1/2

NOTES:

1. TOP & BOTTOM CLIP SIZES AND LOCATIONS TO BE DETERMINED IN FIELD BASED ON THIMBLE TO RAIL INTERFACE.
2. CONDUIT CLAMP LOCATIONS TO BE SET EQUIDISTANT FROM SUSPENDER DECK BOARD EDGES.
3. SEE PAGE 2 FOR SUSPENDER O.C. SPACING

PARTS LIST		
ITEM	PART NUMBER	DESCRIPTION
2	MAIN CABLES	1/2" DIA. 8x19 WITH HEMP CORE CABLE 16,040 lbs. BREAKING STRENGTH (MACHINERY'S HANDBOOK)
5	SUSPENDER ASSEMBLY	1/2" DIA. 8x19 WITH HEMP CORE CABLE 16,040 lbs. BREAKING STRENGTH (MACHINERY'S HANDBOOK)
3A	SIDE RAILS	2"x 6" TREATED BOARDS 7' LONG
4B	CONDUIT CLAMP	SEE PG 6 FOR PART DESCRIPTION

DRAWN	IND 208 Class	4/27/2011
CHECKED	DENNIS LARIOS P.E.	8/16/2011
QA		
MFG		
APPROVED		

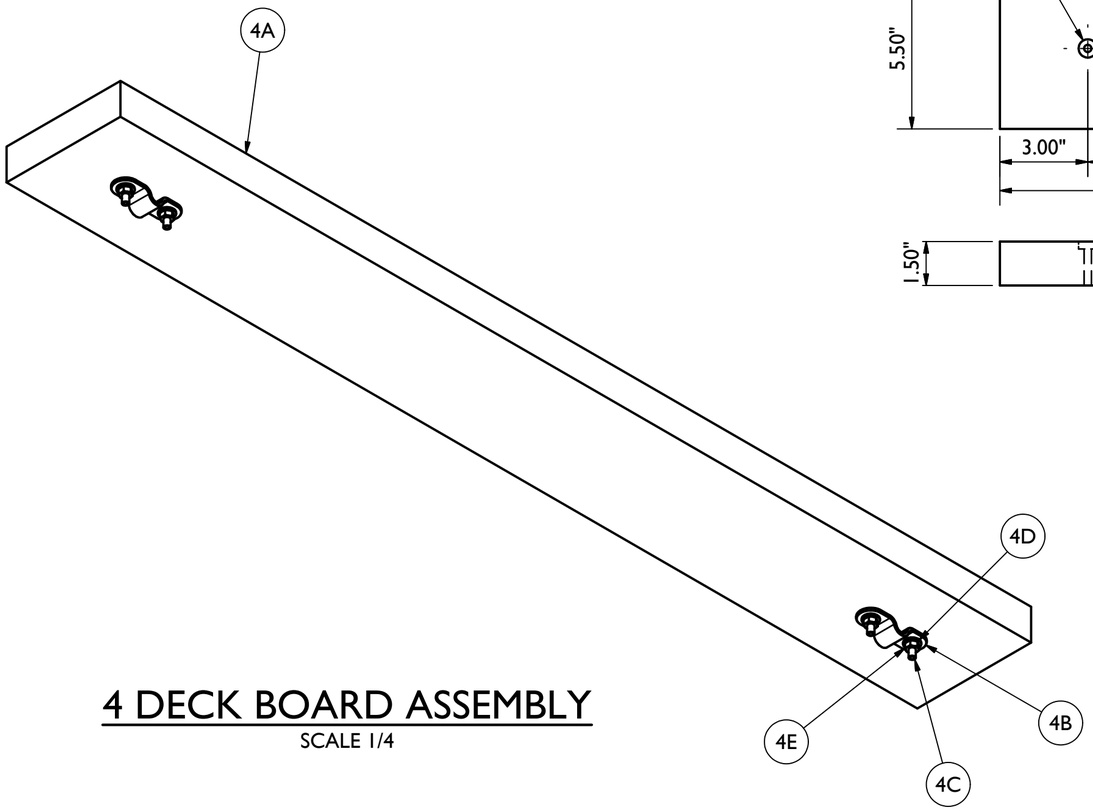
SUNY Ulster

TITLE

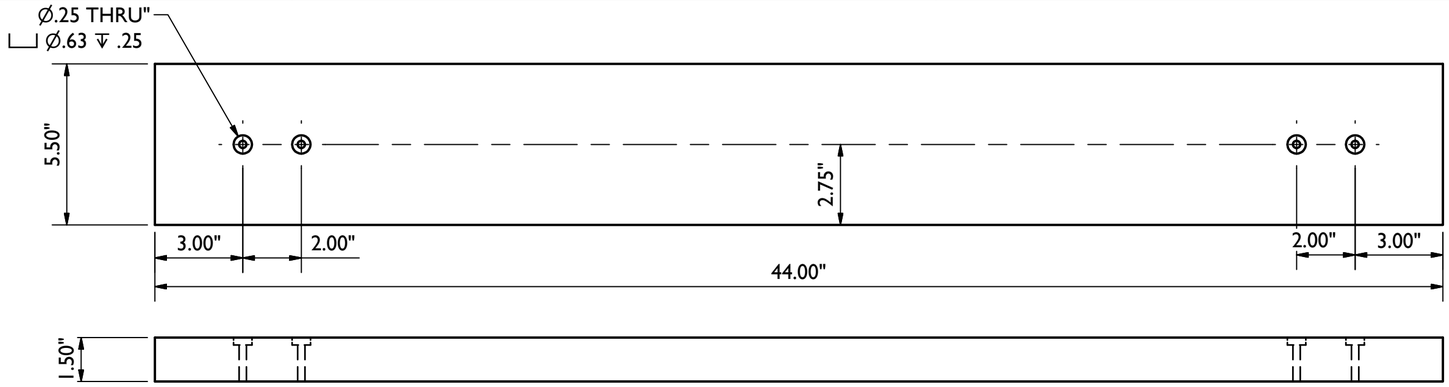
RAILING DETAILS

SIZE		DWG NO	REV
C		LPSB2011	

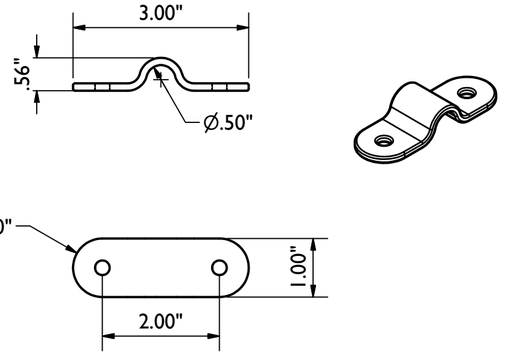
SCALE: AS NOTED



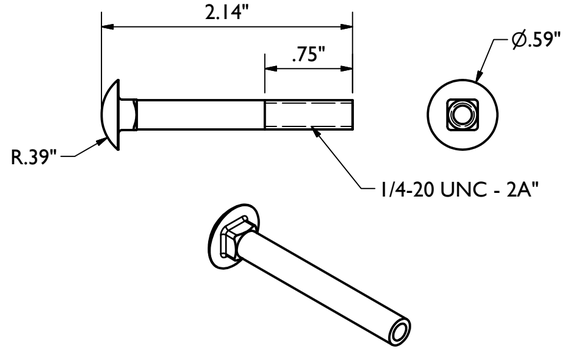
4 DECK BOARD ASSEMBLY
SCALE 1/4



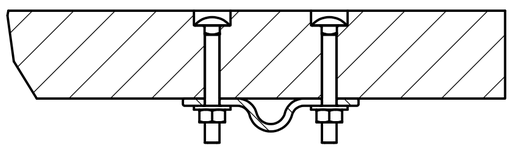
4A DECK BOARD
SCALE 1 / 4



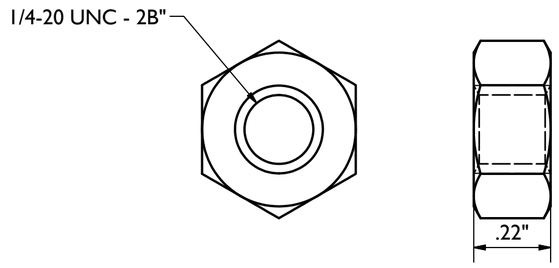
4B-DECKING CONNECTOR
SCALE 1 / 2



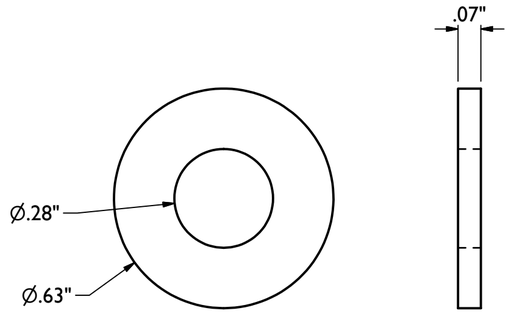
4C-CARRIAGE BOLT
SCALE 1 : 1



DETAIL F
SCALE 1 / 2



4E-NUT
SCALE 3 : 1



4D-WASHER
SCALE 3 : 1

PARTS LIST					
ITEM	QTY	PART NAME	DESCRIPTION	URL	PART NUMBER
4A	1	DECK BOARD	2x6 PRESSURE TREATED LUMBER SPF #2		
4B	2	DECKING CONNECTOR	METAL CONDUIT STRAP	http://www.mcmaster.com/#catalog/117/1496/=bv57mc	#9439t43
4C	4	BOLT	ROUND HEAD SQUARE NECK BOLT	http://www.mcmaster.com/#93548a551/=bv4cji	#93548A551
4E	4	NUT	PLAIN WASHER	http://www.mcmaster.com/#catalog/117/3173/=bv4db2	#90490a029
4D	4	WASHER	HEX NUTS (INCH SERIES)	http://www.mcmaster.com/#91083a029/=bv4don	#91083a029

DRAWN	IND 208 Class	4/27/2011
CHECKED	DENNIS LARIOS P.E.	8/16/2011
QA		
MFG		
APPROVED		

SUNY Ulster

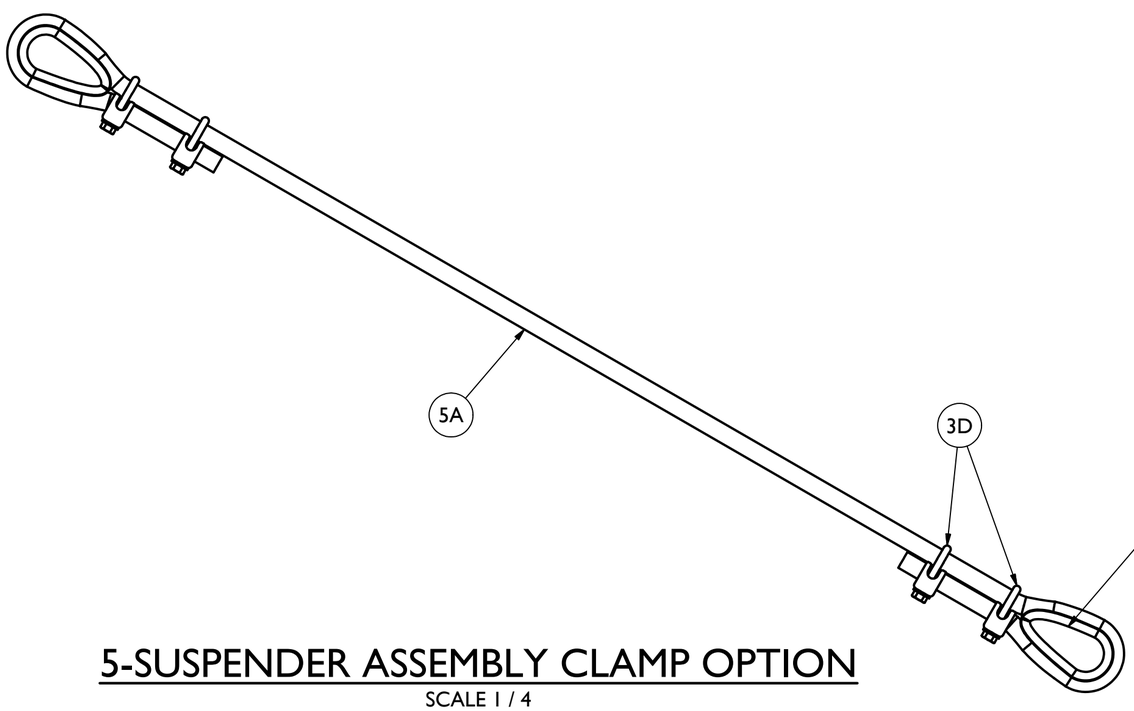
TITLE

DECKING DETAILS

SIZE	DWG NO	REV
C	LPSB2011	

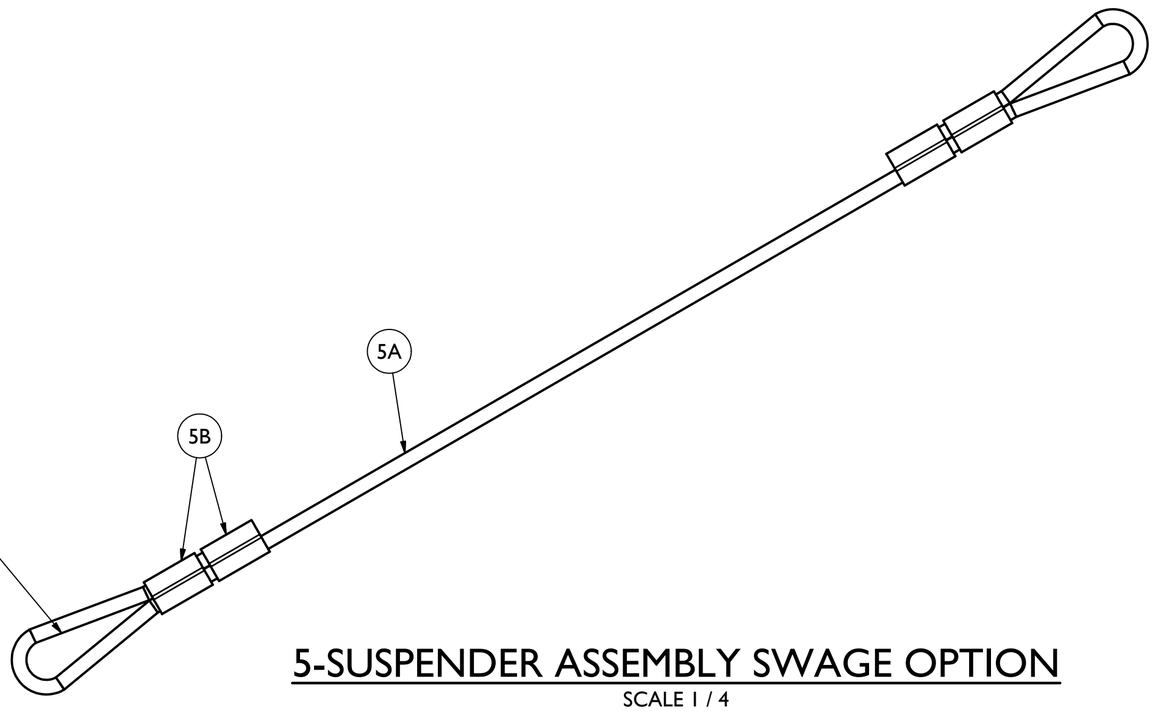
SCALE: AS NOTED

SHEET 6 OF 10



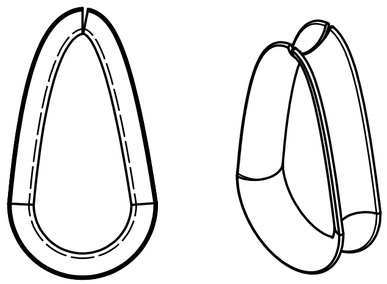
5-SUSPENDER ASSEMBLY CLAMP OPTION

SCALE 1 / 4



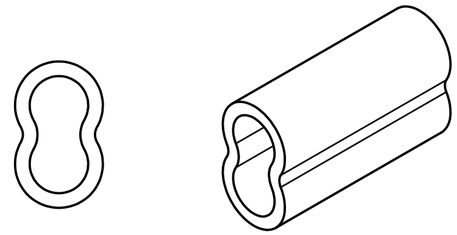
5-SUSPENDER ASSEMBLY SWAGE OPTION

SCALE 1 / 4



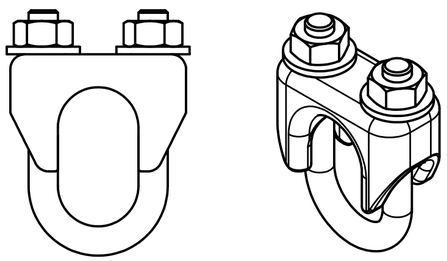
3C THIMBLE #30335t24

SCALE 2/3



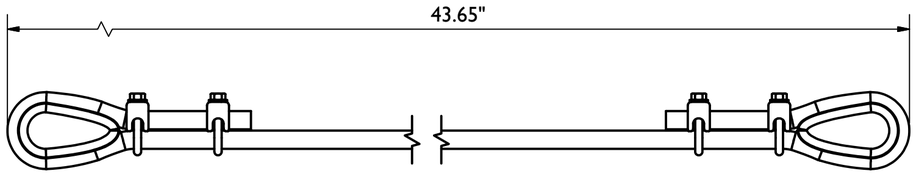
5B-SWAGE SLEEVE #30335t24

SCALE 1 : 1



3D-CLAMP #30325t33

SCALE 1 : 1

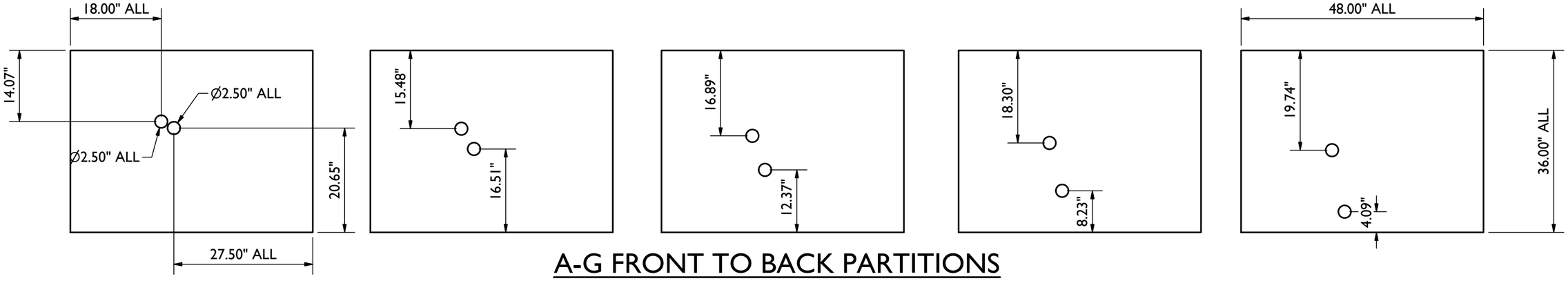


SUSPENDER CABLE DETAIL

SCALE 1 / 4

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
5A	1	SUSPENDER CABLE	1/2" DIA. 8x19 WITH HEMP CORE CABLE 16,040 lbs. BREAKING STRENGTH (MACHINERY'S HANDBOOK)
3C	2	THIMBLE #30335t24	LIGHT DUTY THIMBLE FOR 1/2" CABLE
3D	4	CLAMP #30325t33	CAST WIRE ROPE CLIP FOR 1/2" CABLE
5B	4	SWAGE SLEEVE	ALUMINUM OVAL COMPRESSION SLEEVE FOR 1/2" ROPE DIAMETER, 2-1/8" SLEEVE LENGTH

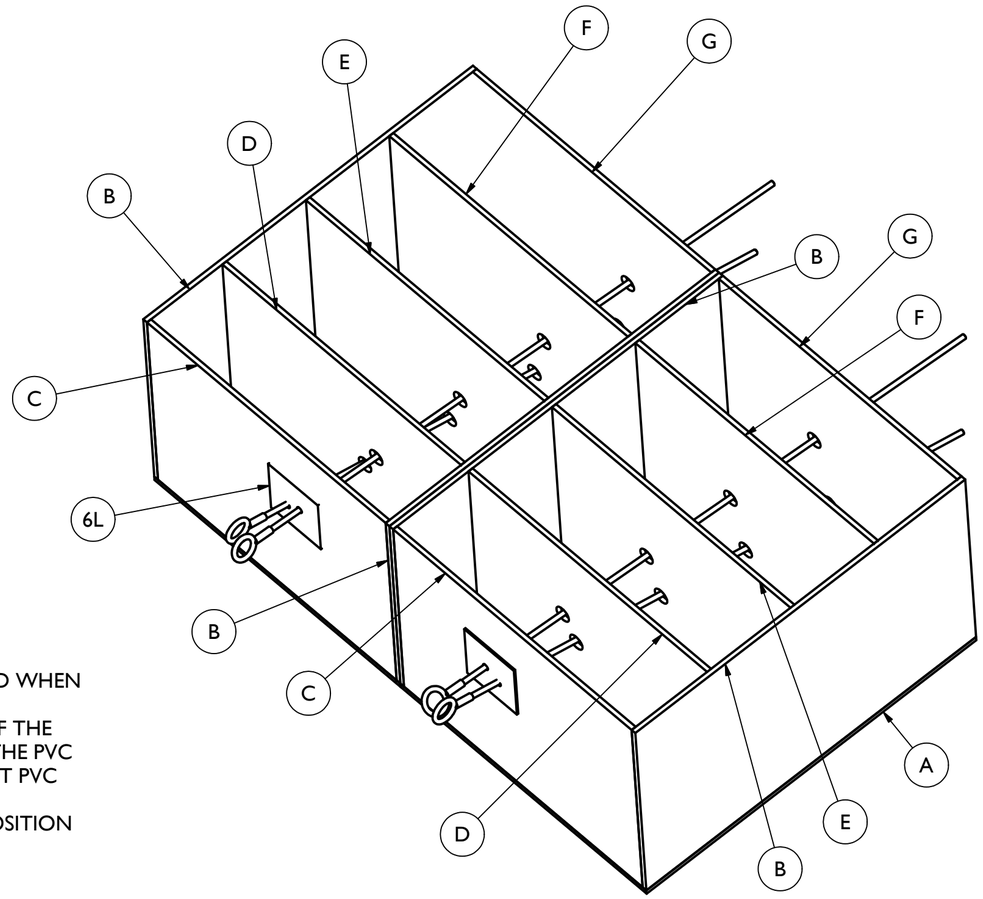
DRAWN IND 208 Class	4/27/2011	**SUNY Ulster**
CHECKED DENNIS LARIOS P.E.	8/16/2011	TITLE: SUSPENDER CABLES
QA		
MFG		
APPROVED		
SIZE C	DWG NO LPSB2011	REV
SCALE: AS NOTED	SHEET 7 OF 10	



A-G FRONT TO BACK PARTITIONS

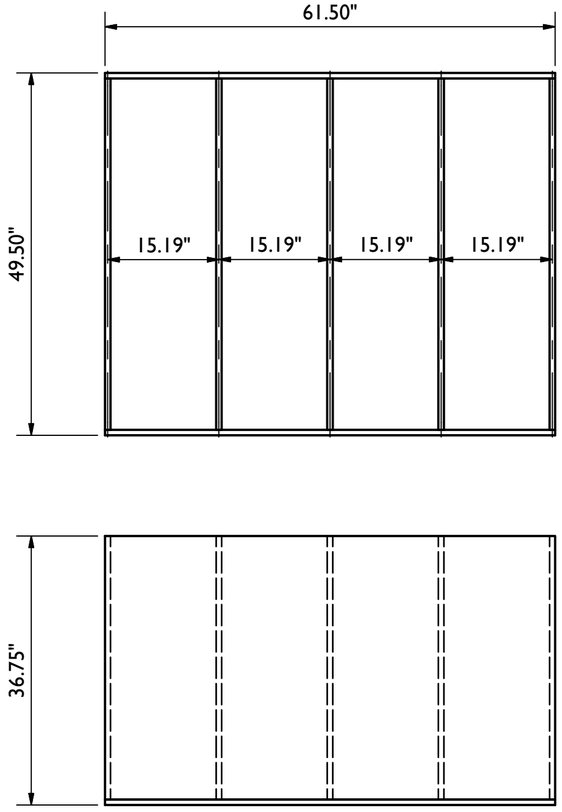
SCALE 1/16

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
A	2	BOTTOM	
B	4	SIDES	
D	2	FIRST PARTITION	
E	2	SECOND PARTITION	
F	2	THIRD PARTITION	
G	2	BACK	
C	2	FRONT	
6E	4	THREADED ROD ASSEMBLY	SEE PAGE 10
6L	2	1/4" STEEL PLATE 2 HOLES	SEE PAGE 10



ANCHOR FORM ASSEMBLY

SCALE 1/16



ANCHOR FORM LAYOUT

SCALE: 1/16

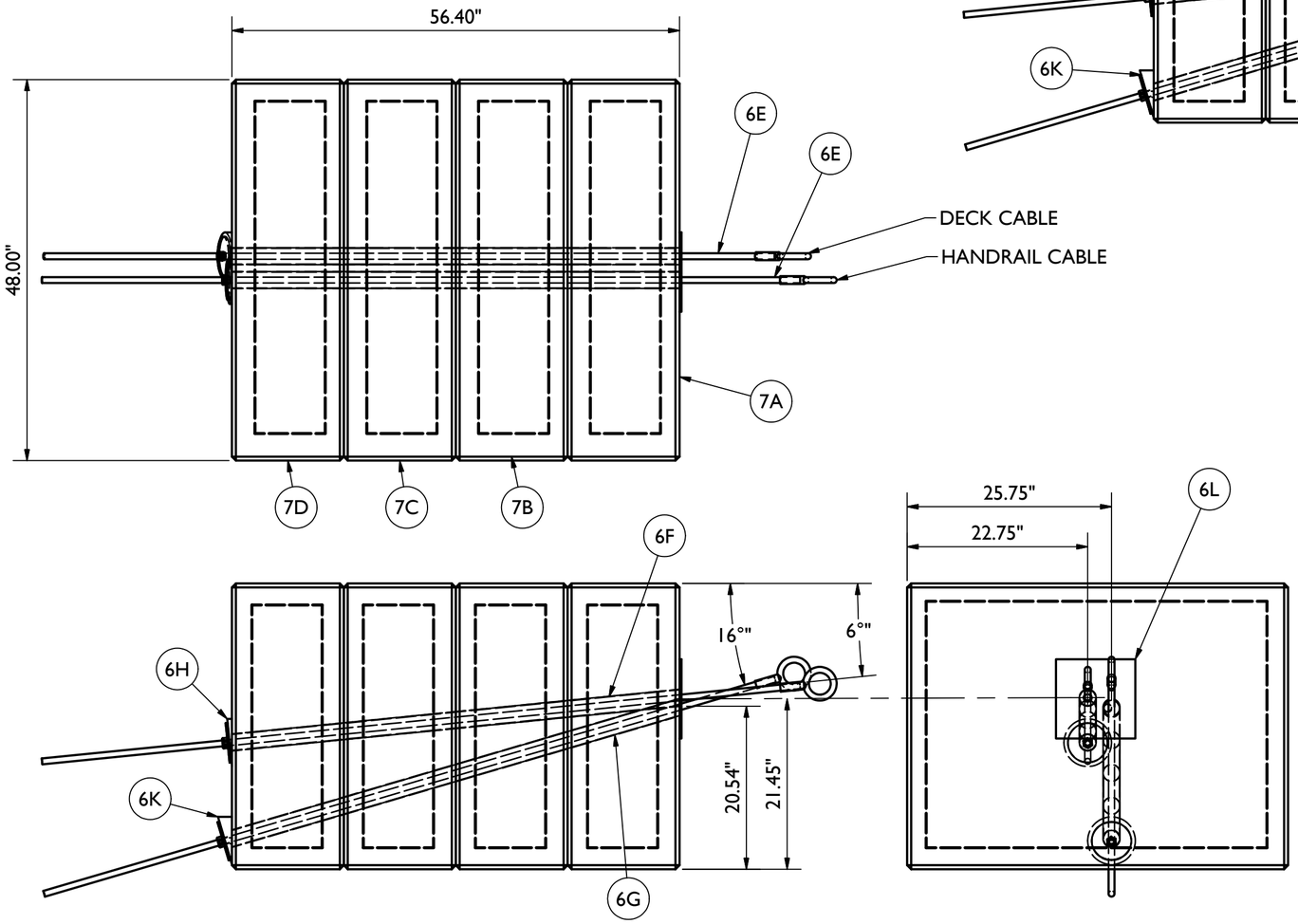
NOTES:

1. PARTS A-G ARE THE SAME FOR BOTH SIDES BUT MIRRORED WHEN INSTALLED.
2. INSTALL THE PVC SLEEVES AND MARK THE LOCATIONS OF THE INTERIOR PARTITIONS. REMOVE THE SLEEVES AND CUT THE PVC SLEEVES 3/4 OF THE WAY THROUGH. RE-INSTALL THE CUT PVC SLEEVES.
3. INSTALL THE THREADED ROD ASSEMBLY TO SECURELY POSITION THE PVC SLEEVES AND TO HELP KEEP THE FORMS FROM SPREADING.
4. IN ALL THE CORNERS ADD A 3/4" CHAMFER STRIP.
5. ADD 2"x 4" BRACING TO OUTSIDE TO PREVENT THE FORMS FROM SPREADING.
6. TWO SHEETS OF 6"x6" 10 GA. WIRE MESH ARE TO BE PLACED IN EACH FORM COMPARTMENT, NO LESS THAN 3" FROM ALL SIDES.
7. ALL INTERIOR PLYWOOD SURFACES ARE TO BE SPRAYED WITH KEROSENE PRIOR TO FILLING WITH CONCRETE.

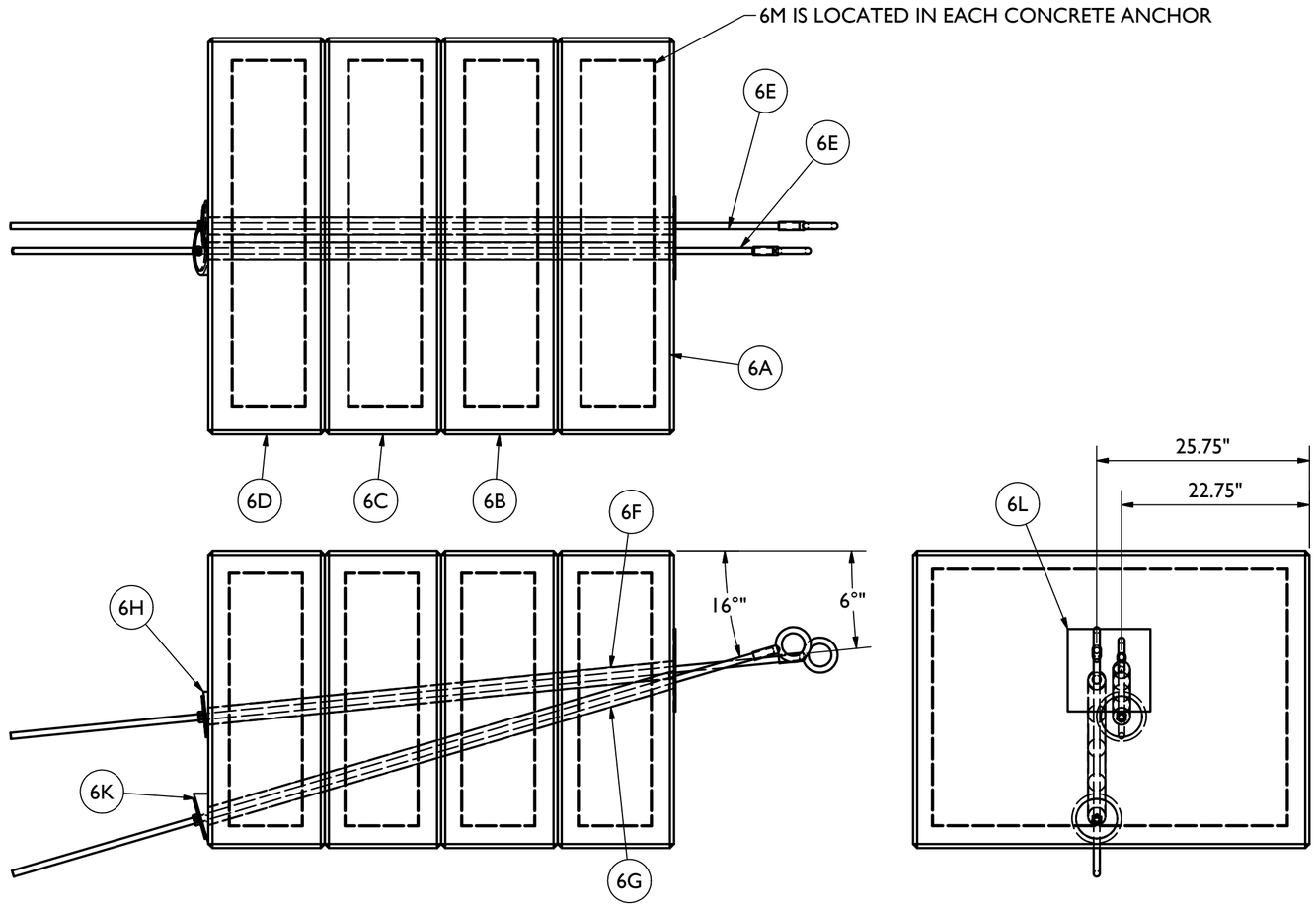
DRAWN: IND 208 Class	4/27/2011	**SUNY Ulster**
CHECKED: DENNIS LARIOS P.E.	8/16/2011	TITLE: ANCHOR FORM DETAILS
QA		
MFG		
APPROVED		
SIZE: C	DWG NO: LPSB2011	REV
SCALE: AS NOTED	SHEET 8 OF 10	

NOTES:
1. CONCRETE IS TO SET A MINIMUM 7 DAYS BEFORE TRANSPORTATION TO BRIDGE SITE.
2. SLUMP IS TO BE A MAXIMUM OF 3.5"
3. CONCRETE IS TO BE VIBRATED TO REMOVE HONEYCOMBS
4. INSTALL A 3' DIAMETER #4 REBAR RING INTO FORM PRIOR TO POURING CONCRETE FOR TRANSPORT
5. UPON ASSEMBLY OF FORM, TEMPORARLY INSTALL PVC SLEEVES AND MARK LOCATION OF EACH PARTITION. REMOVE PVC SLEEVES AND CUT 3/4 THROUGH AT EACH MARK. RE-INSTALL THE PVC SLEEVES TO RECEIVE CONCRETE IN EACH FORM.
6. WHEN ALL CONCRETE ANCHORS ARE INSTALLED AT THE BRIDGE SITE THE TOP OF THE ANCHORS ARE TO BE COVERED WITH ROOFING TAR TO A THICKNESS OF 1/8" MIN.
7. PARTS 6 & 7 ARE MIRRORED. THE FORM PARTITONS ARE TO BE FLIPPED TO PRODUCE THE MIRRORED ANCHOR.

RIGHT ANCHOR PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
7A-D	4	CONCRETE ANCHORS	
6E	2	THREADED ROD ASSEMBLY	
6F	1	PVC SLEEVE	
6G	1	PVC SLEEVE LONG	
6K	1	WIDE WEDGE	
6H	1	NARROW WEDGE	
6L	1	1/4" PLATE WASHER 2 HOLES	
6M	4	6"x 6" 10 GA WELDED WIRE FABRIC	CUT AND FOLD TO KEEP 3" OF CLEARANCE FROM EDGE OF CONCRETE



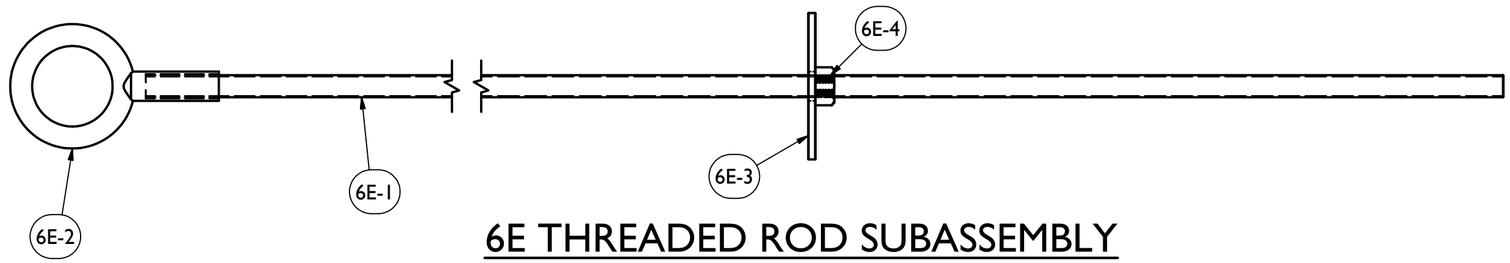
7-RIGHT ANCHOR
SCALE 1 / 14



6-LEFT ANCHOR
SCALE 1 / 14

LEFT ANCHOR PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
6A-D	4	CONCRETE ANCHORS	
6E	2	THREADED ROD ASSEMBLY	
6F	1	PVC SLEEVE	
6G	1	PVC SLEEVE LONG	
6K	1	WIDE WEDGE	
6H	1	NARROW WEDGE	
6L	1	1/4" PLATE WASHER 2 HOLES	
6M	4	6"x 6" 10 GA. WELDED WIRE FABRIC	CUT AND FOLD TO KEEP 3" OF CLEARANCE FROM EDGE OF CONCRETE

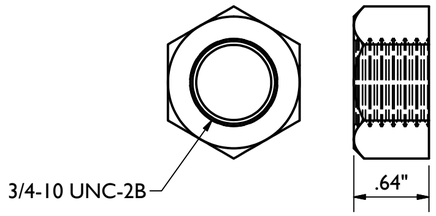
DRAWN	IND 208 Class	4/27/2011	**SUNY Ulster**
CHECKED	DENNIS LARIOS P.E.	8/16/2011	TITLE: ANCHOR ASSEMBLY
QA			
MFG			
APPROVED			
SIZE: C		DWG NO: LPSB2011	REV
SCALE: AS NOTED			SHEET 9 OF 10



6E THREADED ROD SUBASSEMBLY

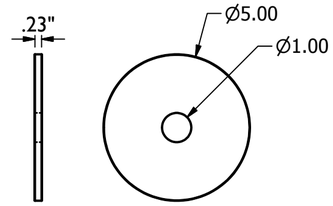
SCALE: 1/4

NOTES:
1. UPPER NUT AND WASHER (NOT SHOWN IN ASSEMBLY) ARE TO BE INSTALLED PRIOR TO INSTALLATION OF THE THREADED EYE. UPON ACHIEVING CORRECT TENSION IN CABLE THE UPPER NUT IS TO BE TIGHTENED TO COMPRESS THE CONCRETE ANCHORS.
2. ALL PARTS IN THE THREADED ROD ASSEMBLY ARE TO BE GALVANIZED OR STAINLESS STEEL.



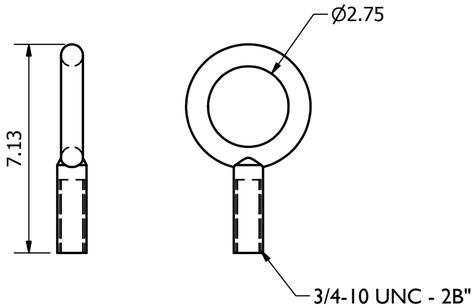
6E-4 HEX HEAD NUT

SCALE 1 : 1



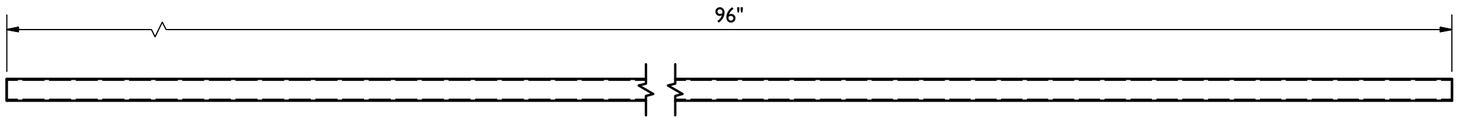
6E-3 WASHER

SCALE: 1 / 4



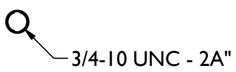
6E-2 THREADED EYE

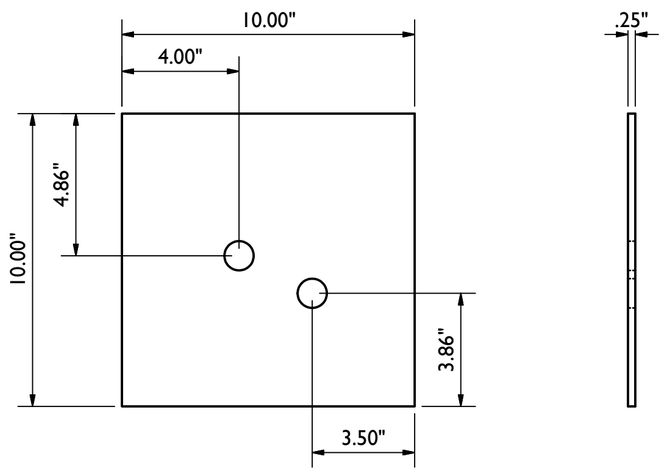
SCALE:1 / 4



6E-1 THREADED ROD

SCALE 1 / 4





6L 1/4" PLATE WASHER 2 HOLES

SCALE: 1 / 4

THREADED ROD PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
6E-1	1	THREADED ROD	
6E-2	1	THREADED EYE	10,600 LB WORKING LOAD
6E-3	2	WASHER	
6E-4	2	HEX HEAD NUT	

DRAWN: IND 208 Class	4/27/2011	**SUNY Ulster**
CHECKED: DENNIS LARIOS P.E.	8/16/2011	TITLE: ANCHOR DETAILS
QA		
MFG		
APPROVED		
SIZE: C	DWG NO: LPSB2011	REV
SCALE: AS NOTED	SHEET 10 OF 10	