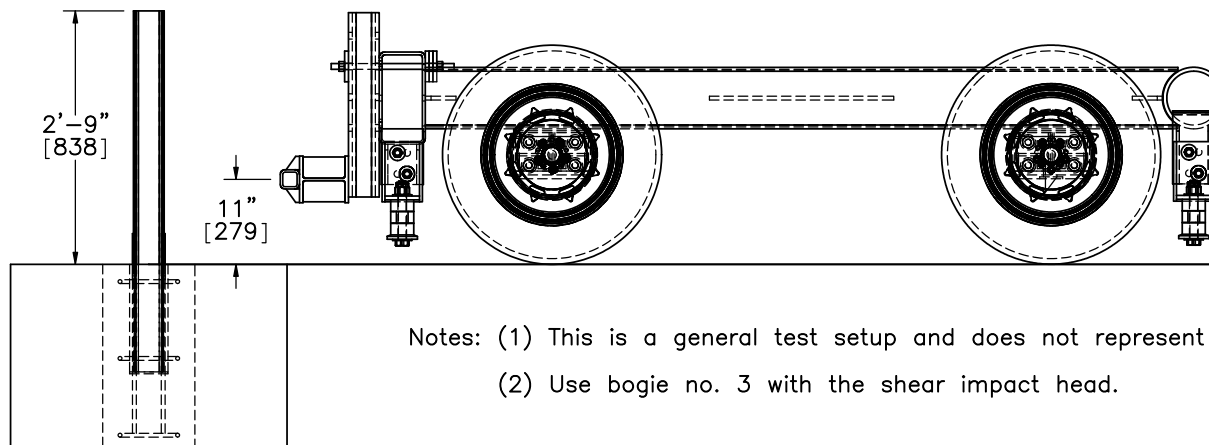


Test No.	Soil Type	Rebar Configuration	Footing Depth	Speed mph [km/h]	Angle (degrees)
HTCB-1	A-3 Sand	A	24" [610]	20 [32.2]	0
HTCB-2	A-3 Sand	B	36" [914]	20 [32.2]	0
HTCB-3	A-3 Sand	B	60" [1524]	20 [32.2]	0
HTCB-4	A-3 Sand	C	60" [1524]	20 [32.2]	0



- Notes: (1) This is a general test setup and does not represent all footing depths.  
(2) Use bogie no. 3 with the shear impact head.



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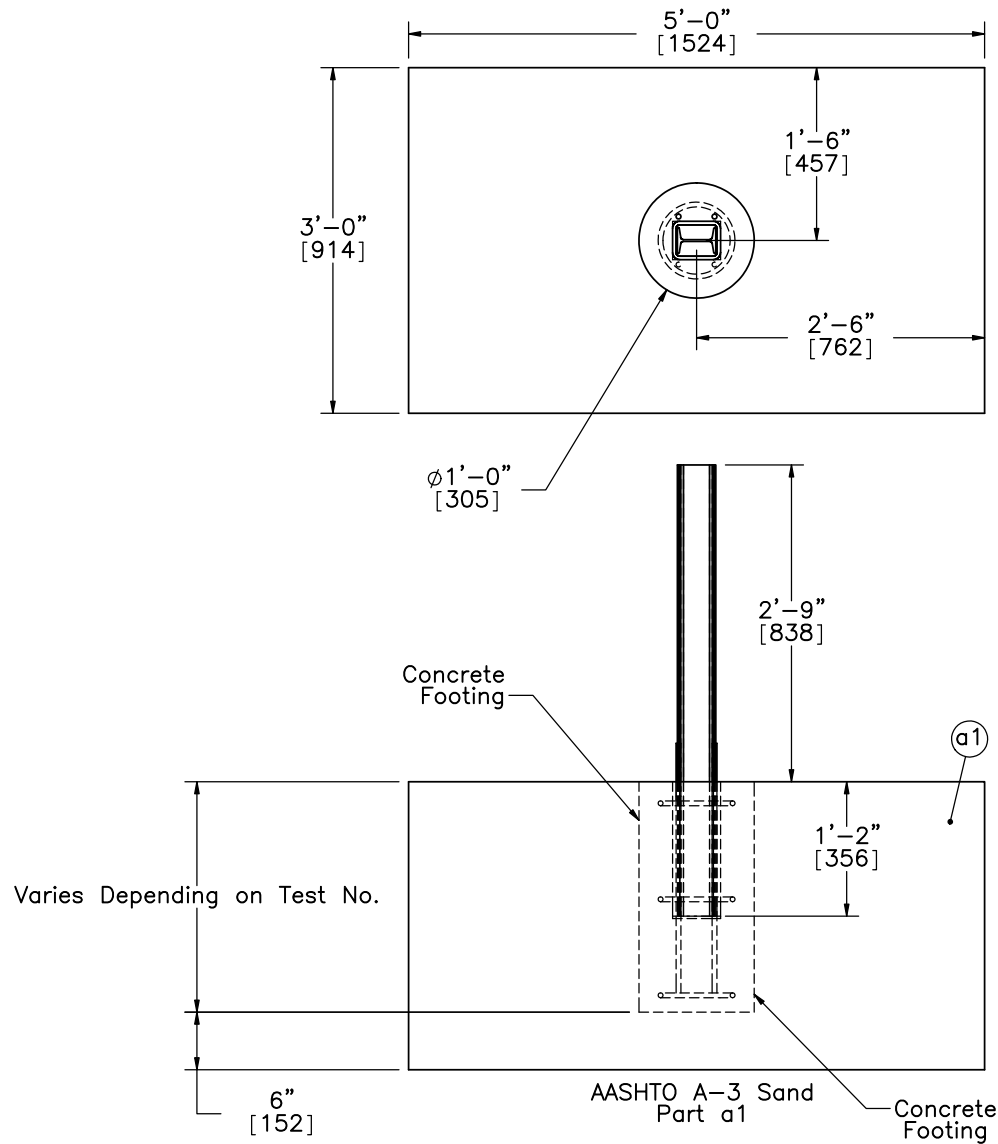
MATC High Tension  
Cable Footing

General Test Setup

DWG. NAME.  
MATC HT Final Test Matrix\_v2

SCALE: 1:25  
UNITS: In[mm]

SHEET:  
1 of 7  
DATE:  
9/22/2011  
DRAWN BY:  
EAJ/RJT/  
DMH  
REV. BY:  
KAL/LZ



- Notes: (1) The surrounding soil is the original field soil or NCHRP Report 350 soil.  
 (2) Rebar configuration shown is Configuration A.

Part No.	Soil Type	Spec.
a1	AASHTO A-3 Sand	No. 40 Sieve-51% min. pass No. 200 Sieve-10% max. pass Plasticity Index-NP Fine Sand



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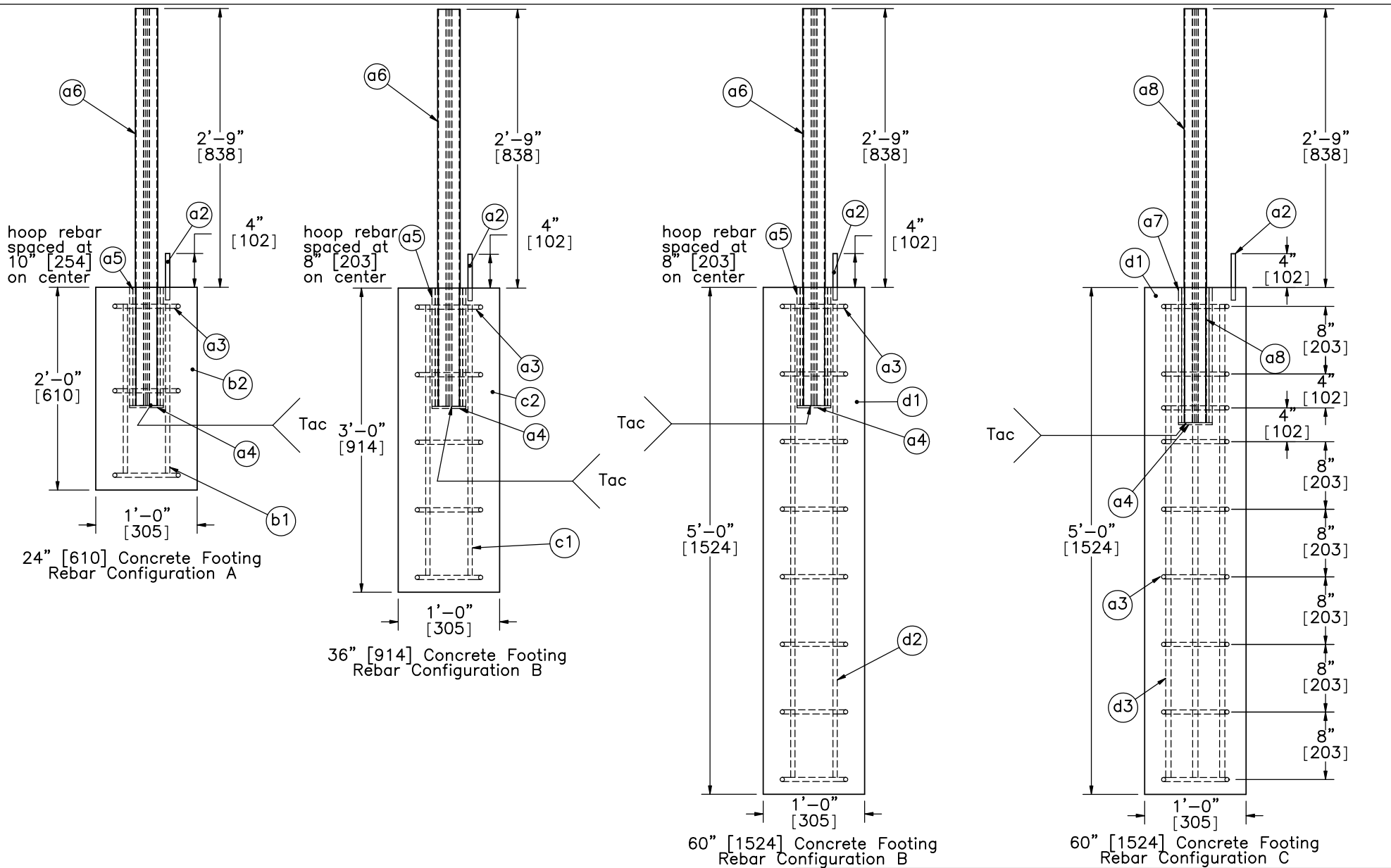
MATC High Tension  
Cable Footing

Soil Type Setup

DWG. NAME:  
MATC HT Final Test Matrix\_v2

SCALE: 1:24  
UNITS: In[mm]

SHEET:  
2 of 7  
DATE:  
9/22/2011  
DRAWN BY:  
EAJ/RJT/  
DMH  
REV. BY:  
KAL/LZ



Note: (1) 2" [51] minimum cover on all rebar.  
 (2) Use Sonotube to precast, only one footing per length.



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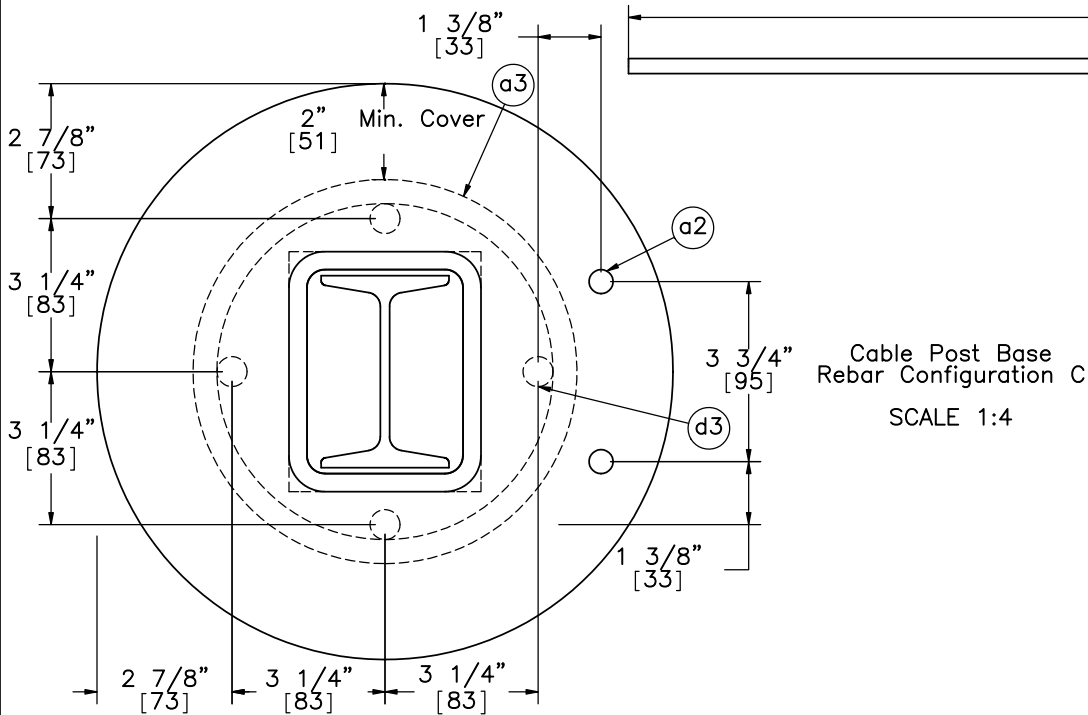
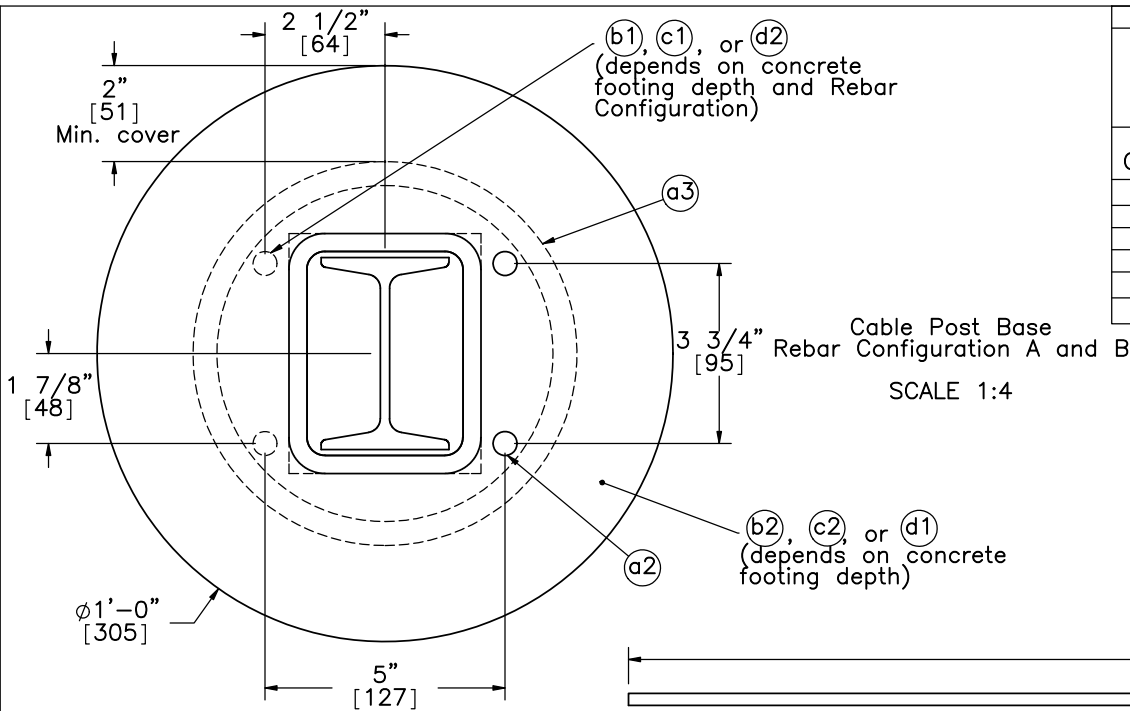
MATC High Tension Cable Footing

Concrete Footing Details

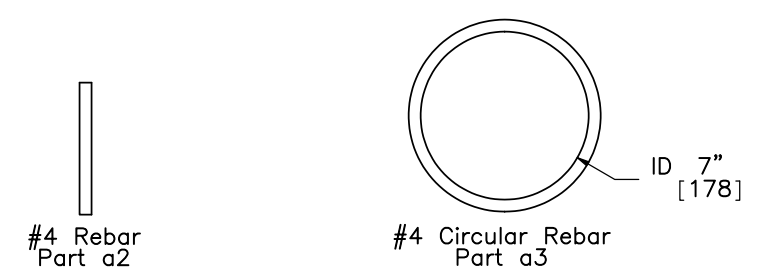
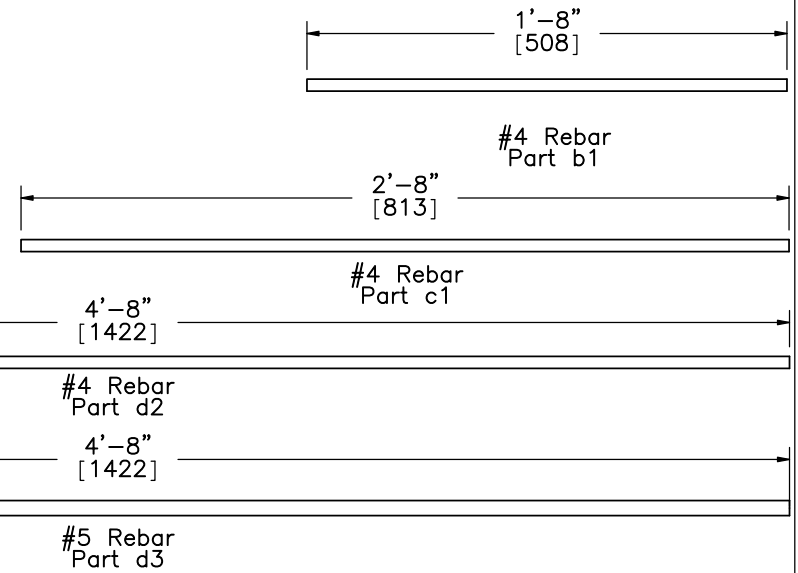
DWG. NAME:  
MATC HT Final Test Matrix\_v2


SCALE: 1:16  
UNITS: In[mm]

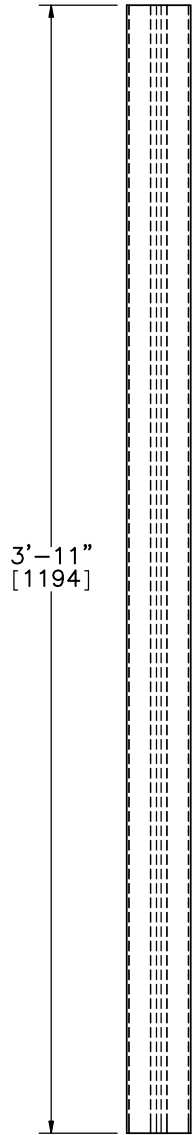
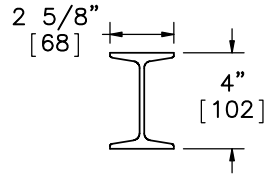
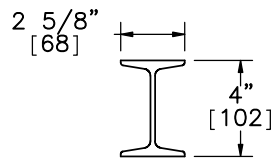
SHEET:  
3 of 7  
DATE:  
9/22/2011  
DRAWN BY:  
EAJ/RJT/  
DMH  
REV. BY:  
KAL/LZ



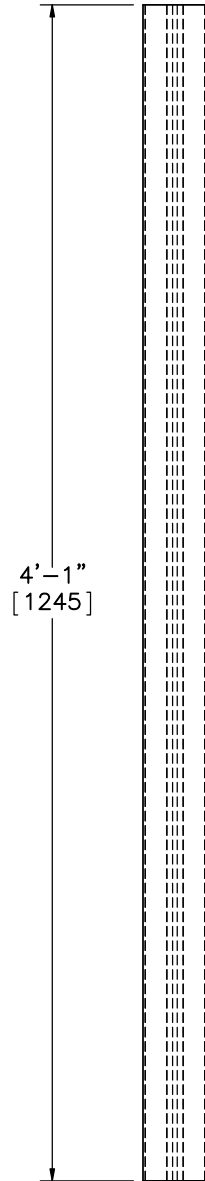
Part No.	Bill of Bars			
	Quantity			
	Footing Depth			
	24" [610]	36" [914]	60" [1524]	
Rebar Configuration	A	B	B	C
a2	2	2	2	2
a3	3	5	8	9
b1	4	0	0	0
c1	0	4	0	0
d2	0	0	4	0
d3	0	0	0	4



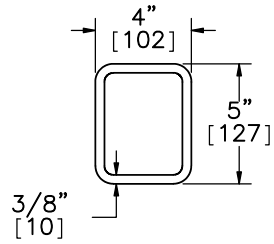
 <b>Midwest Roadside Safety Facility</b>	<b>MATC High Tension Cable Footing</b>  Rebar Details	SHEET: 4 of 7  DATE: 9/22/2011  DRAWN BY: EAJ/RJT/DMH
	DWG. NAME: MATC HT Final Test Matrix_v2	SCALE: 1:8 UNITS: In[mm]



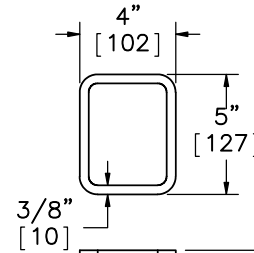
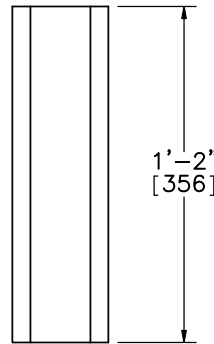
S4x7.7 [S102x11.5]  
Part a6



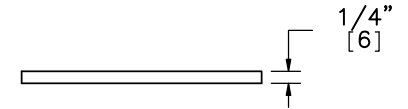
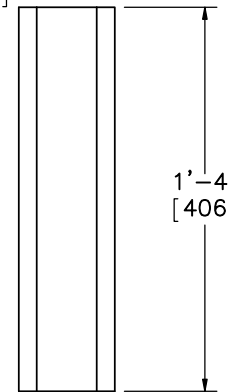
S4x7.7 [S102x11.5]  
Part a8



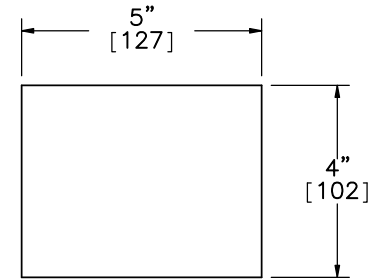
TS 5"x4"x3/8" [TS127x102x10]  
Part a5



TS 5"x4"x3/8" [TS127x102x10]  
Part a7



5"x4"x1/4" [127x102x6] Plate  
Part a4



SCALE : 1:4

Note: Tac weld the steel plate to the bottom of the TS Tube.



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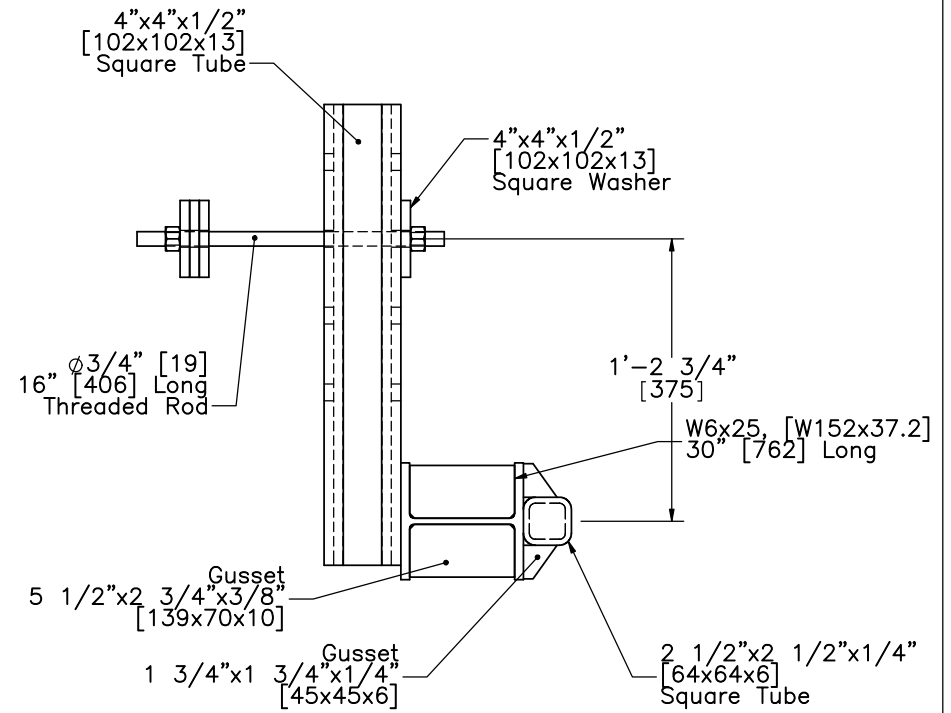
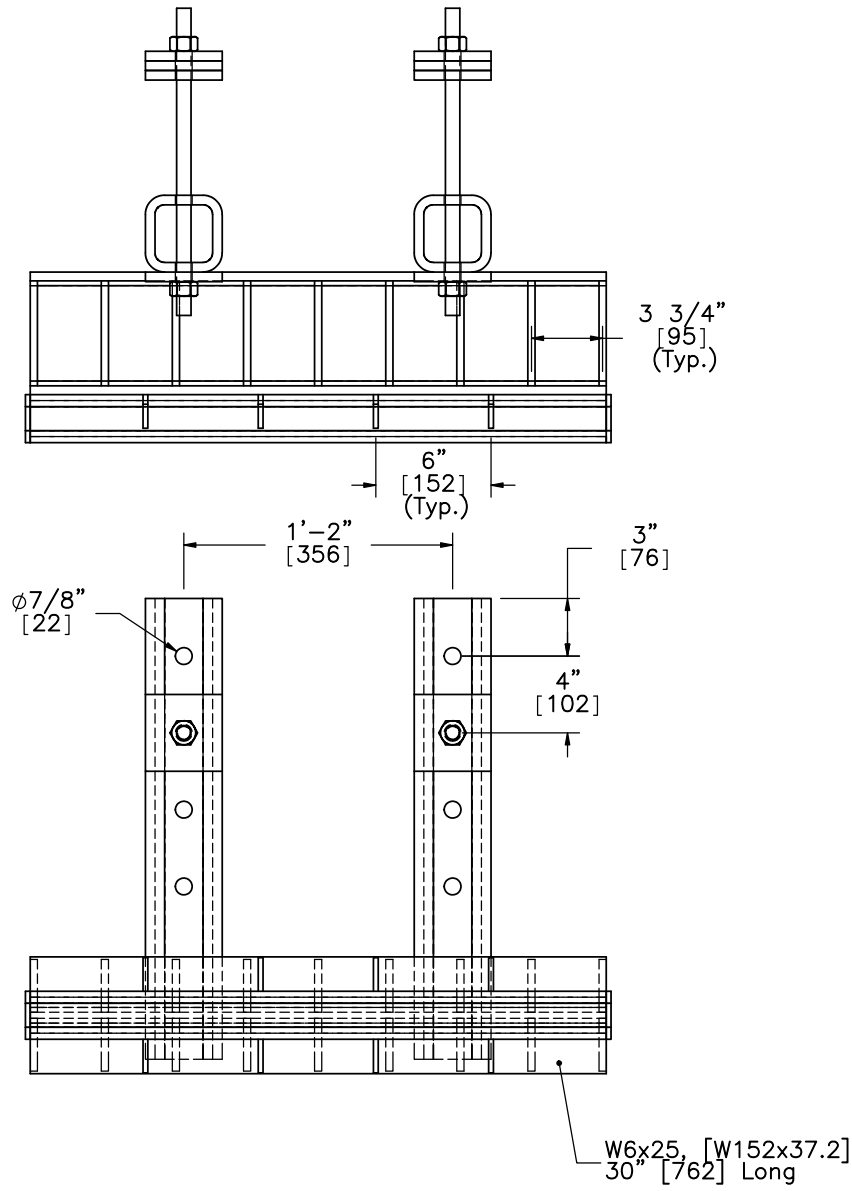
MATC High Tension  
Cable Footing

Post and Foundation Tube  
Details

DWG. NAME.  
MATC HT Final Test Matrix\_v2

SCALE: 1:8  
UNITS: In[mm]

SHEET:  
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DATE:  
9/22/2011  
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DMH  
REV. BY:  
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Midwest Roadside Safety Facility

MATC High Tension Cable Footing

Shear Impact Head

DWG. NAME:  
MATC HT Final Test Matrix\_v2

SCALE: 1:10  
UNITS: In[mm]

SHEET:  
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DATE:  
9/22/2011  
DRAWN BY:  
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DMH  
REV. BY:  
KAL/LZ

MATC High Tension Cable Footing – 24" [610] Depth (Used in A-3 Sand with Rebar Configuration A)			
Item No.	QTY.	Description	Material Spec
a1	1	AASHTO A-3 Sand	See Page 2
a2	2	#4 Rebar 5 1/2" [140] Long	Gr. 60
a3	3	#4 Circular Rebar 7" [178] ID	Gr. 60
a4	1	1/4" [6] Steel Plate	A36
a5	1	TS 5"x4"x3/8" [TS 127x102x10], 14" [356] Long	–
a6	1	S4x7.7 [S102x11.5], 47" [1194] Long	A36
b1	4	#4 Rebar 20" [508] Long	Gr. 60
b2	1	Concrete 24" [610] Long	Min 3500 psi [24 MPa] Comp. Strength

MATC High Tension Cable Footing – 36" [914] Depth (Used in A-3 Sand with Rebar Configuration B)			
Item No.	QTY.	Description	Material Spec
a1	1	AASHTO A-3 Sand	See Page 2
a2	2	#4 Rebar 5 1/2" [140] Long	Gr. 60
a3	5	#4 Circular Rebar 7" [178] ID	Gr. 60
a4	1	1/4" [6] Steel Plate	A36
a5	1	TS 5"x4"x3/8" [TS 127x102x10], 14" [356] Long	–
a6	1	S4x7.7 [S102x11.5], 47" [1194] Long	A36
c1	4	#4 Rebar 32" [813] Long	Gr. 60
c2	1	Concrete 36" [914] Long	Min 3500 psi [24 MPa] Comp. Strength

MATC High Tension Cable Footing – 60" [1524] Depth (Used in A-3 Sand with Rebar Configuration B)			
Item No.	QTY.	Description	Material Spec
a1	1	AASHTO A-3 Sand	See Page 2
a2	2	#4 Rebar 5 1/2" [140] Long	Gr. 60
a3	8	#4 Circular Rebar 7" [178] ID	Gr. 60
a4	1	1/4" [6] Steel Plate	A36
a5	1	TS 5"x4"x3/8" [TS 127x102x10], 14" [356] Long	–
a6	1	S4x7.7 [S102x11.5], 47" [1194] Long	A36
d1	1	Concrete 60" [1524] Long	Min 3500 psi [24 MPa] Comp. Strength
d2	4	#4 Rebar 56" [1422] Long	Gr. 60

MATC High Tension Cable Footing – 60" [1524] Depth (Used in A-3 Sand with Rebar Configuration C)			
Item No.	QTY.	Description	Material Spec
a1	1	AASHTO A-3 Sand	See Page 2
a2	2	#4 Rebar 5 1/2" [140] Long	Grade 60
a3	9	#4 Circular Rebar 7" [178] ID	Gr. 60
a4	1	1/4" [6] Steel Plate	A36
a7	1	TS 5"x4"x3/8" [TS 127x102x10], 16" [406] Long	–
a8	1	S4x7.7 [S102x11.5], 49" [1245] Long	A36
d1	1	Concrete 60" [1524] Long	Min 3500 psi [24 MPa] Comp. Strength
d3	4	#5 Rebar 56" [1422] Long	Gr. 60



Midwest Roadside  
Safety Facility

MATC High Tension  
Cable Footing

Bill of Materials

DWG. NAME:  
MATC HT Final Test Matrix\_v2

SCALE: None  
UNITS: In[mm]

SHEET:  
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DATE:  
9/22/2011  
DRAWN BY:  
EAJ/RJT/  
DMH  
REV. BY:  
KAL/LZ