

1. The guardrail approach terminal represented on these drawings is a proprietary design by Road Systems, Inc. and marketed under the name MSKT. Any infringement on the rights of the design shall be the sole responsibility of the user.
2. These drawings are sufficient for plan details of the MSKT when installed in connection with shoulder guardrail and precludes the requirement for shop drawing submittals unless the plans call for such submittals. The MSKT shall be assembled in accordance with the manufacturer's detailed drawings, procedures, and specifications.
3. The MSKT is available in steel or timber post configurations.

TABLE OF CONTENTS	
SHEET	DRAWING NAME
1 OF 5	MASH Sequential Kinking Terminal (MSKT) (2'-1" Mounting Height/TL-3/Parallel)
2 OF 5	MASH Sequential Kinking Terminal (MSKT) Steel Post System Layout
3 OF 5	MASH Sequential Kinking Terminal (MSKT) Steel Post System Part Details
4 OF 5	MASH Sequential Kinking Terminal (MSKT) Wood Post System Layout
5 OF 5	MASH Sequential Kinking Terminal (MSKT) Wood Post System Part Details

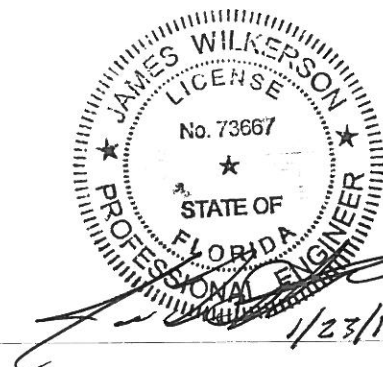
The steel post components are:

- Post #1 lower is W6" x 15# with welded soil plate
- Post #1 upper is 6" x 6" x 1/8" tube and is bolted to post #1 lower with 5/8" bolt
- Post #1 and #2 are connected with a ground line strut
- Post #2 lower is W6" x 9#
- Post #2 upper is W6" x 9# and is bolted to post #2 lower with 3/4" bolt
- Posts #3 and beyond are W6" x 9# x 6'-0" guardrail posts

The wood post components are:

- Post #1 lower is W6" x 15# with welded soil plate
- Post #1 upper is 6" x 6" x 1/8" tube and is bolted to post #1 lower with 5/8" bolt
- Post #1 and #2 are connected with a ground line strut
- Post #2 lower is W6" x 9#
- Post #2 upper is W6" x 9# and is bolted to post #2 lower with 3/4" bolt
- Posts #3 through #8 are 6'-0" long CRT wood posts
- Post #9 is a 6'-0" long wood guardrail post

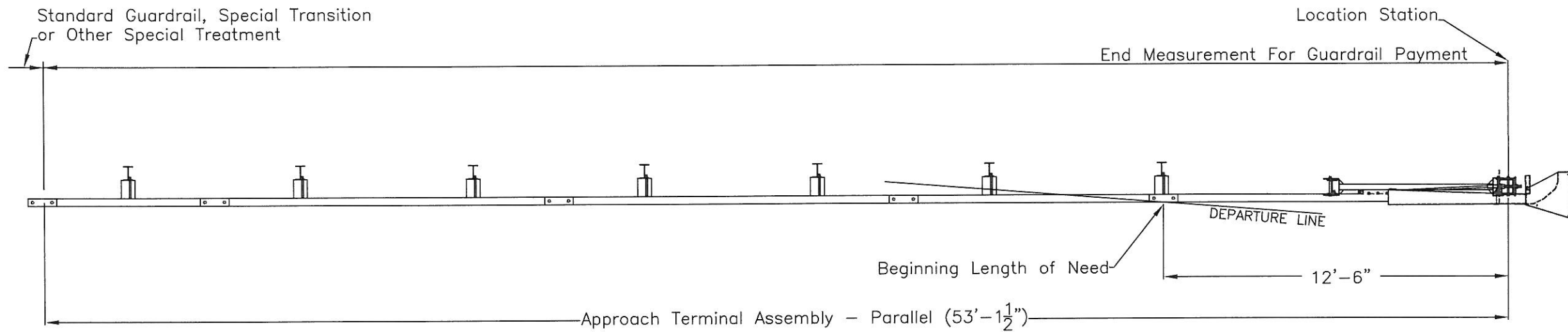
4. The MSKT is intended for use as an approach terminal for shoulder guardrail applications. The beginning length of need point is located at Post 3 (see Sheets 2 and 4).
5. The MSKT shall be installed as a parallel approach terminal.
6. The MSKT can only be used with single-faced guardrail.
7. For details of shoulder grading around end treatments, miscellaneous asphalt pavement and pay limits, see FDOT Standard Plans, Index 536-001.
8. Site Conditions: The steel post system is not permitted adjacent to sidewalks. A site evaluation should be considered if there is less than 25' beyond the back side of the terminal and any adjacent driving lane.



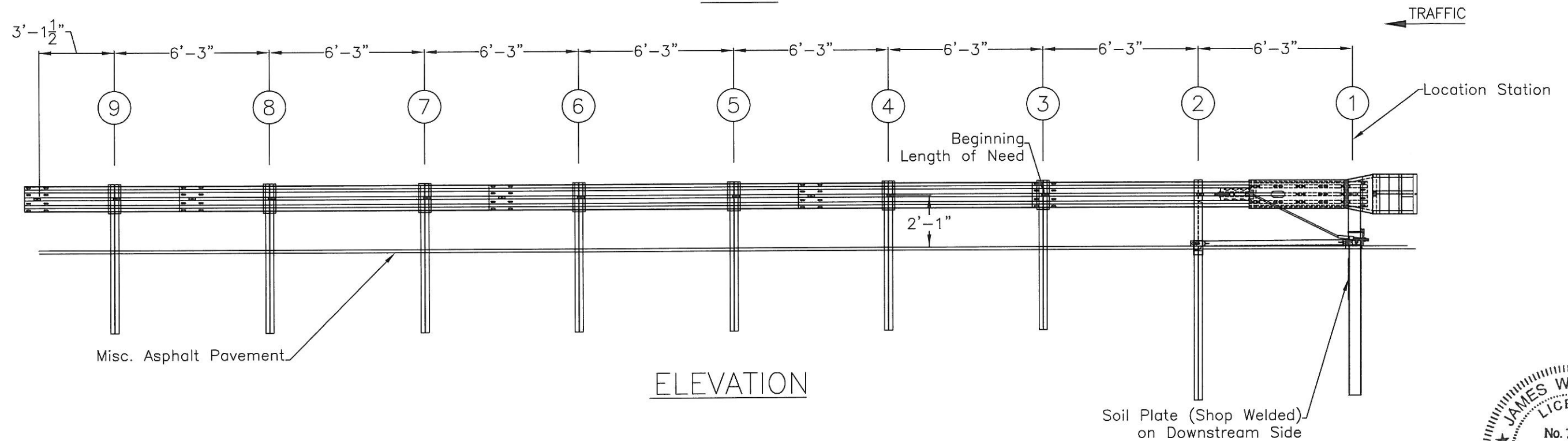
**XD ENGINEERING, PLC**  
 977 FLEMING AVENUE, FLEMING, OH 43026  
 FLCA: 29792

REVISIONS		
DATE	BY	DESCRIPTION

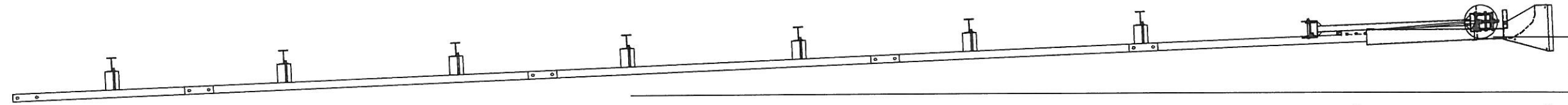
<b>RSI Road Systems, Inc.</b>	
MASH Sequential Kinking Terminal (MSKT) (2'-1" Mounting Height/TL-3/Parallel)	
DATE: 01/16/2018	FILE NAME: MSKT
SHEET: 1 OF 5	Florida APL No. 536-006-003



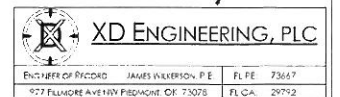
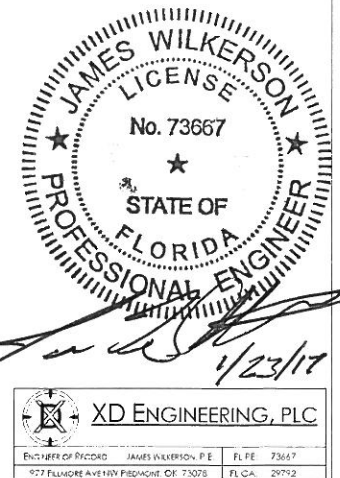
PLAN



ELEVATION



OPTIONAL FLARED INSTALLATION  
1:25 Maximum Flare Rate



Specification 536 - Approach Terminal (PARALLEL)

MODEL	SYSTEM WIDTH	SYSTEM HEIGHT	SYSTEM LENGTH	DESIGN LENGTH	DESIGN SPEED	TEST LEVEL DESIGNATION
MSKT	20"	31"	53'-1 1/2"	50'-0"	≥50 MPH	TL-3

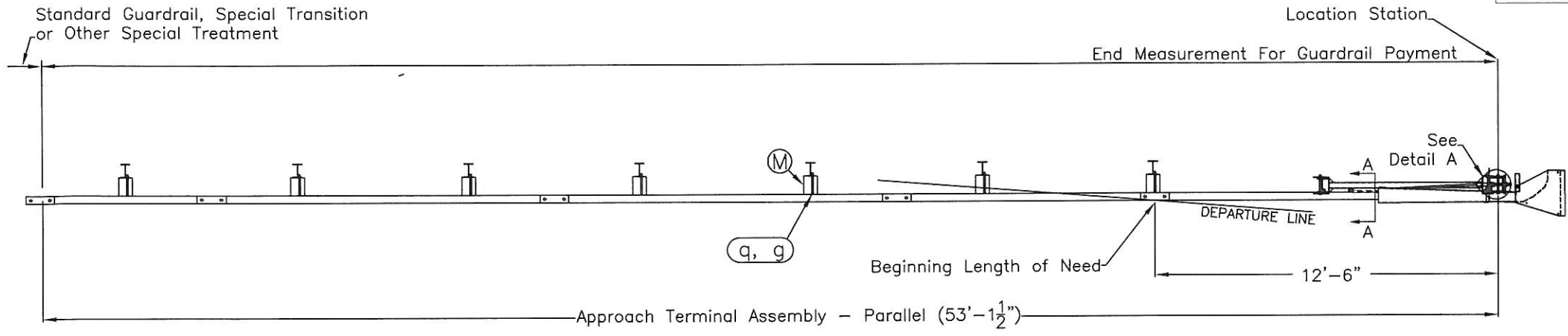
NOTE: THE MSKT TL-3 MAY BE USED FOR LOWER DESIGN SPEEDS.

REVISIONS		
DATE	BY	DESCRIPTION

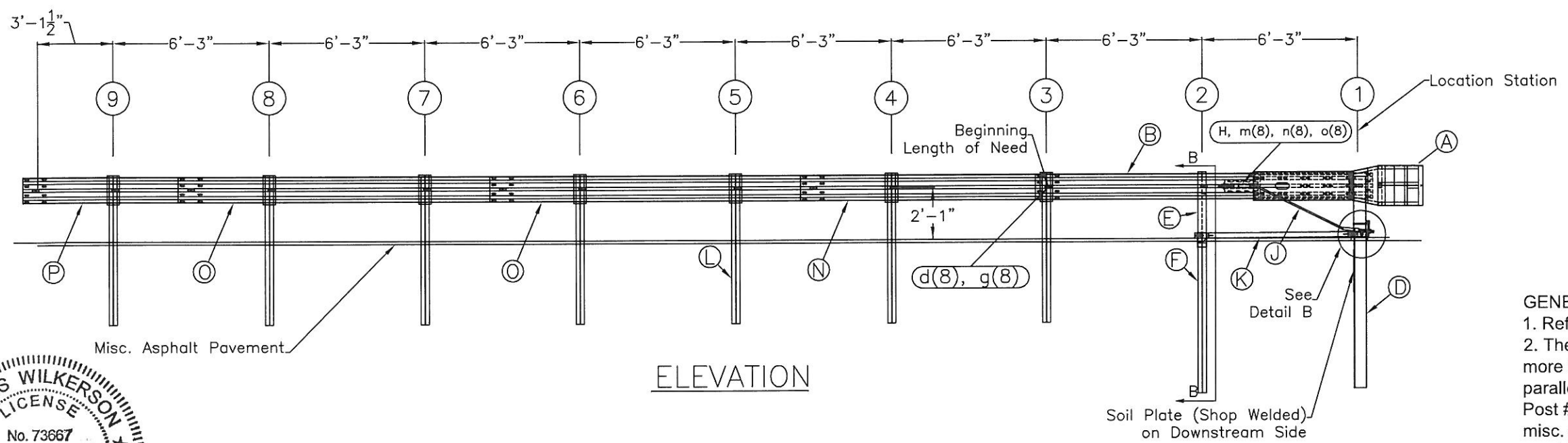
**RSI Road Systems, Inc.**

MASH Sequential Kinking Terminal (MSKT)  
Steel Post System Layout

DATE: 01/16/2018 FILE NAME: MSKT  
SHEET: 2 OF 5 Florida APL No. 536-006-003



**PLAN**



**ELEVATION**

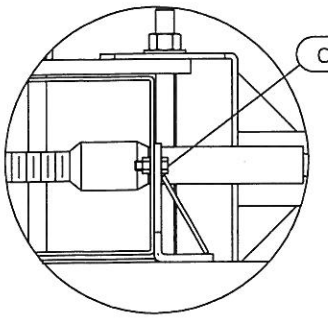
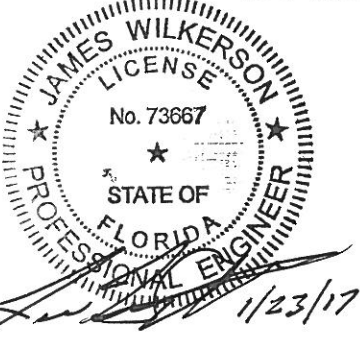
ITEM	QTY	BILL OF MATERIALS	ITEM NO.
A	1	IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	SF1303
C	1	FIRST POST TOP (6X6 3/4" Tube)	MTPHP1A
D	1	FIRST POST BOTTOM (6" W6X15)	MTPHP1B
E	1	SECOND POST ASSEMBLY TOP	UHP2A
F	1	SECOND POST ASSEMBLY BOTTOM	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	STRUT	MS785
L	7	6x9 (6x8.5) STEEL POST	P621
M	7	ROUTED WOOD BLOCK	P616
N	1	W-BEAM MGS RAIL SECTION (9'-4 1/2")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P*	1	W-BEAM MGS RAIL SECTION (6'-3")	G1201A

HARDWARE (ALL DIMENSIONS IN INCHES)

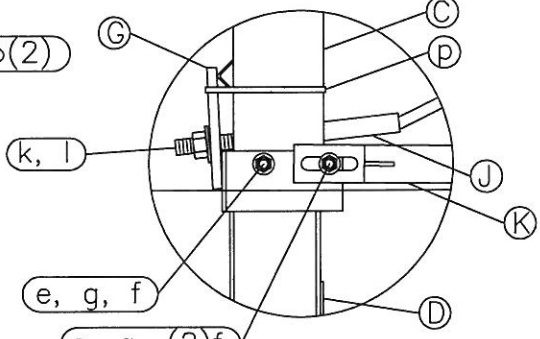
a	2	5/16 x 1 HEX BOLT GRD 5	B5160104A
b	4	5/16 WASHER	W0516
c	2	5/16 HEX NUT	N0516
d	33	5/8 Dia. x 1 1/4 SPLICE BOLT (POST #2)	B580122
e	2	5/8 Dia. x 9 HEX BOLT A449	B580904A
f	3	5/8 WASHER	W050
g	42	5/8 Dia. H.G.R. NUT	N050
h	1	3/4 Dia. x 8 1/2 HEX BOLT GRD A449	B340854A
j	1	3/4 Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	1/2 RSI SHOULDER BOLT W/WASHER	SB12A
n	8	1/2 STRUCTURAL NUT	N012A
o	8	1/2 STRUCTURAL WASHER	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	7	5/8" x 10" H.G.R. BOLT	B581002

P\*: 6'-3" rail section is required when attaching to a transition. It may be omitted if standard guardrail is continued downstream.

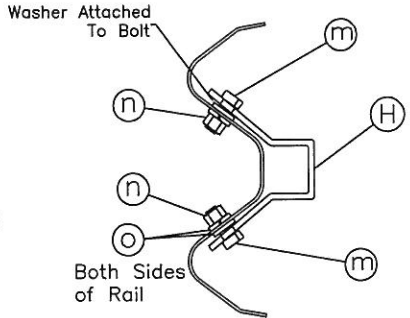
- GENERAL NOTES:**
1. Refer to MSKT Assembly Manual
  2. The lower sections of the Posts 1&2 shall not protrude more than 4 in above the ground (measured along a 5' cord parallel to the system). The center line of the hinge bolt at Post #2 is nominally 1 1/8" above the ground surface or misc. asphalt pavement. Site grading may be necessary to meet these requirement.
  3. The lower sections of the hinged posts should not be driven with the upper post attached. If the post is placed in a drilled hole, the backfill material must be satisfactorily compacted to prevent settlement.
  4. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.



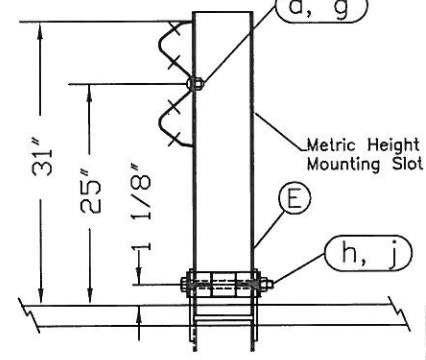
**Detail A**  
Impact Head Connection Detail



**Detail B**  
Post #1 Connection Detail



**SECTION A-A**  
Anchor Bracket



**SECTION B-B**  
Post #2

Specification 536 - Approach Terminal (PARALLEL)

MODEL	SYSTEM WIDTH	SYSTEM HEIGHT	SYSTEM LENGTH	DESIGN LENGTH	DESIGN SPEED	TEST LEVEL DESIGNATION
MSKT	20"	31"	53'-1 1/2"	50'-0"	≥50 MPH	TL-3

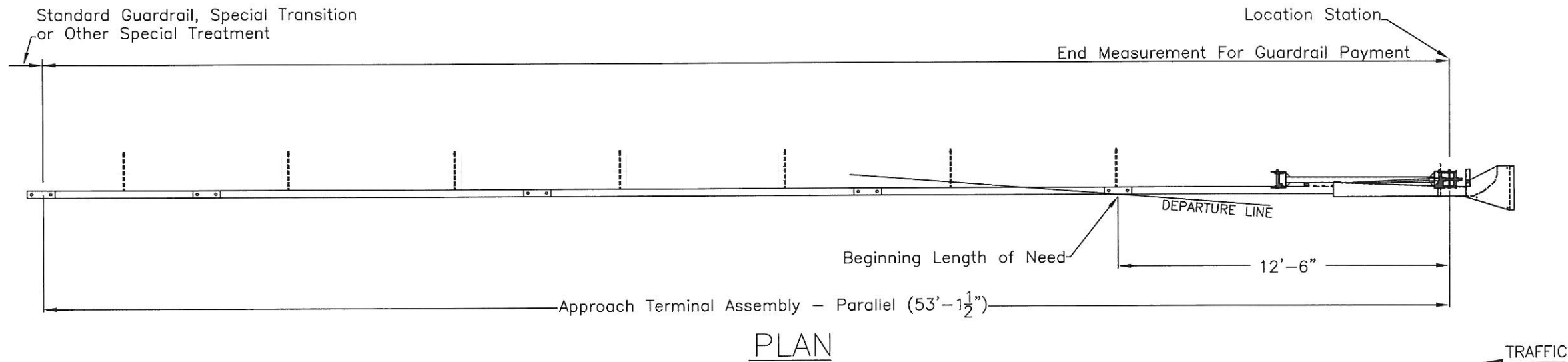
NOTE: THE MSKT TL-3 MAY BE USED FOR LOWER DESIGN SPEEDS.

REVISIONS		
DATE	BY	DESCRIPTION

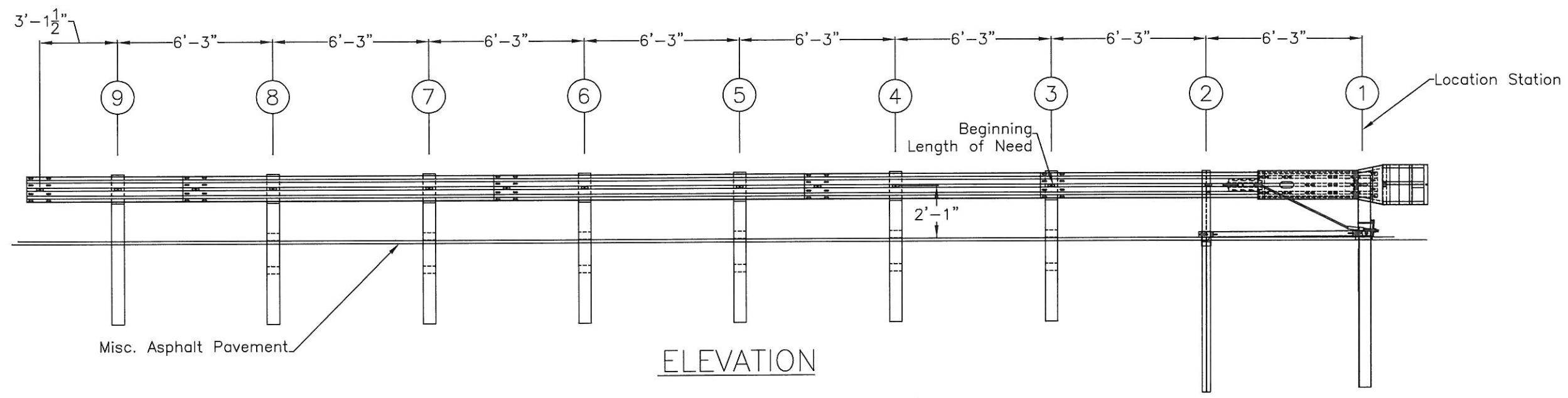
**RSI Road Systems, Inc.**

MASH Sequential Kinking Terminal (MSKT)  
Steel Post System Part Details

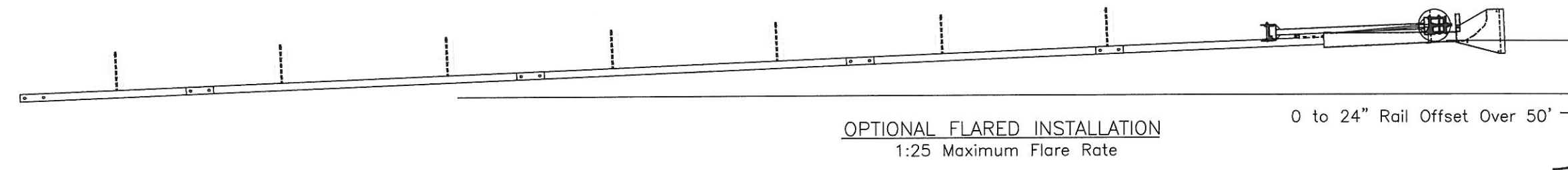
DATE: 01/16/2018 FILE NAME: MSKT  
 SHEET: 3 OF 5 Florida APL No. 536-006-003



PLAN



ELEVATION



OPTIONAL FLARED INSTALLATION  
1:25 Maximum Flare Rate



Specification 536 - Approach Terminal (PARALLEL)

MODEL	SYSTEM WIDTH	SYSTEM HEIGHT	SYSTEM LENGTH	DESIGN LENGTH	DESIGN SPEED	TEST LEVEL DESIGNATION
MSKT	20"	31"	53'-1 1/2"	50'-0"	≥50 MPH	TL-3

NOTE: THE MSKT TL-3 MAY BE USED FOR LOWER DESIGN SPEEDS.



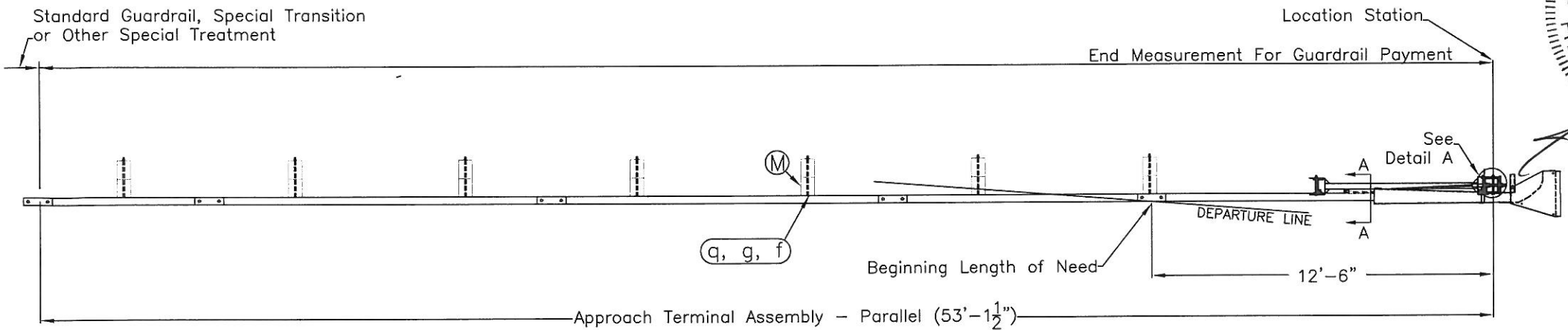
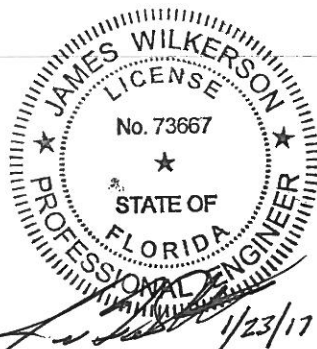
REVISIONS		
DATE	BY	DESCRIPTION

**RSI Road Systems, Inc.**

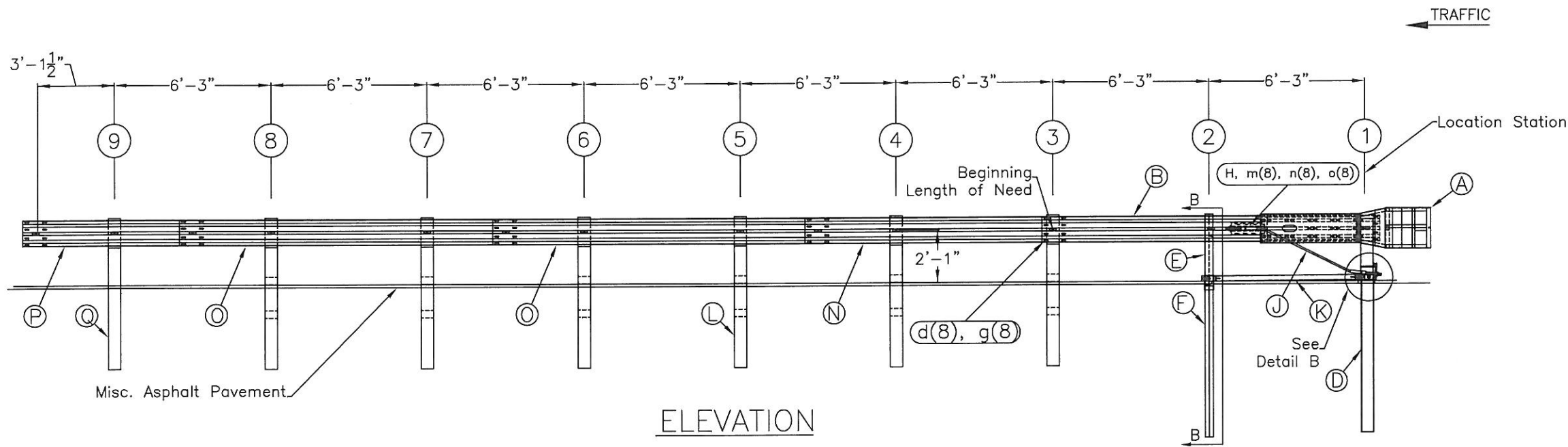
MASH Sequential Kinking Terminal (MSKT)  
Wood Post System Layout

DATE: 01/16/2018 FILE NAME: MSKT

SHEET: 4 OF 5 Florida APL No. 536-006-003



PLAN



ELEVATION

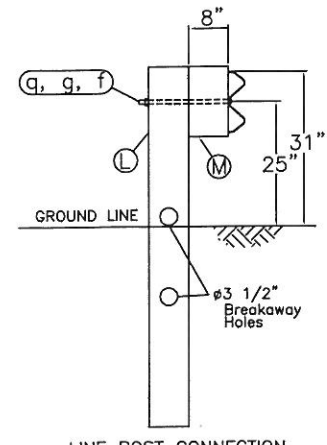
ITEM	QTY	BILL OF MATERIALS	ITEM NO.
A	1	IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Go.	SF1303
C	1	FIRST POST TOP (6X6X $\frac{3}{8}$ Tube)	MTPHP1A
D	1	FIRST POST BOTTOM (6' W6X15)	MTPHP1B
E	1	SECOND POST ASSEMBLY TOP	UHP2A
F	1	SECOND POST ASSEMBLY BOTTOM	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	STRUT	MS785
L	7	UNIVERSAL CRT POST	P671
M	7	TIMBER BLOCK	P675
N	1	W-BEAM MGS RAIL SECTION (9'-4 1/2")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P*	1	W-BEAM MGS RAIL SECTION (6'-3")	G1201A
Q	1	WOOD GUARDRAIL POST 6'	P674

HARDWARE (ALL DIMENSIONS IN INCHES)

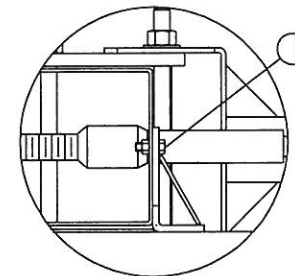
a	2	5/16 x 1 HEX BOLT GRD 5	B5160104A
b	4	5/16 WASHER	W0516
c	2	5/16 HEX NUT	N0516
d	33	5/8 Dia. x 1 1/4 SPLICE BOLT (POST #2)	B580122
e	2	5/8 Dia. x 9 HEX BOLT A449	B580904A
f	10	5/8 WASHER	W050
g	42	5/8 Dia. H.G.R NUT	N050
h	1	3/4 Dia. x 8 1/2 HEX BOLT GRD A449	B340854A
j	1	3/4 Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	1/2 RSI SHOULDER BOLT W/WASHER	SB12A
n	8	1/2 STRUCTURAL NUT	N012A
o	8	1/2 STRUCTURAL WASHER	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	7	5/8" x 18" H.G.R. BOLT	B581802

P\*: 6'-3" rail section is required when attaching to a transition. It may be omitted if standard guardrail is continued downstream.

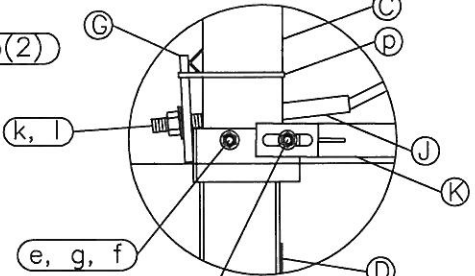
- GENERAL NOTES:
1. Refer to MSKT Assembly Manual
  2. The lower sections of the Posts 1&2 shall not protrude more than 4 in above the ground (measured along a 5' cord parallel to the system). Site grading may be necessary to meet these requirement.
  3. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.



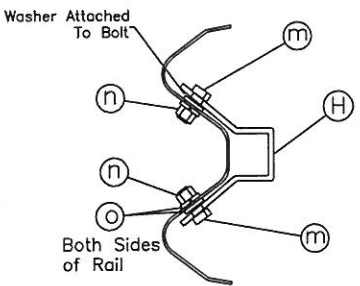
LINE POST CONNECTION  
Posts 3 thru 8



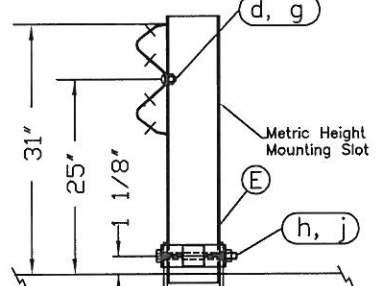
Detail A  
Impact Head Connection Detail



Detail B  
Post #1 Connection Detail



SECTION A-A  
Anchor Bracket



SECTION B-B  
Post #2

Specification 536 - Approach Terminal (PARALLEL)

MODEL	SYSTEM WIDTH	SYSTEM HEIGHT	SYSTEM LENGTH	DESIGN LENGTH	DESIGN SPEED	TEST LEVEL DESIGNATION
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NOTE: THE MSKT TL-3 MAY BE USED FOR LOWER DESIGN SPEEDS.

REVISIONS		
DATE	BY	DESCRIPTION

**RSI Road Systems, Inc.**

MASH Sequential Kinking Terminal (MSKT)  
Wood Post System Part Details

DATE: 01/16/2018 FILE NAME: MSKT

SHEET: 5 OF 5 Florida APL No. 536-006-003

**XD ENGINEERING, PLC**

ENGINEER OF RECORD: JAMES WILKERSON, P.E. E. FE. 73667  
977 FILLMORE AVENUE, PIEDMONT, OR 97075 FL CA. 29792