# INFORMATION HANDOUT

**For Contract No.10-0W4304**

**At San Joaquin County at various locations in and near Manteca and Stockton from 0.2 mile south of Austin road to 0.1 mile north of Hammer lane overcrossing.**

**Identified by**
**Project ID-1000020607**

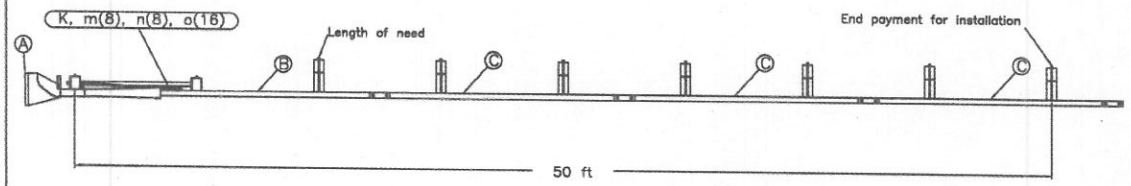
## MATERIALS INFORMATION

Manufacturer's Drawings for Alternative Flared Terminal Systems.

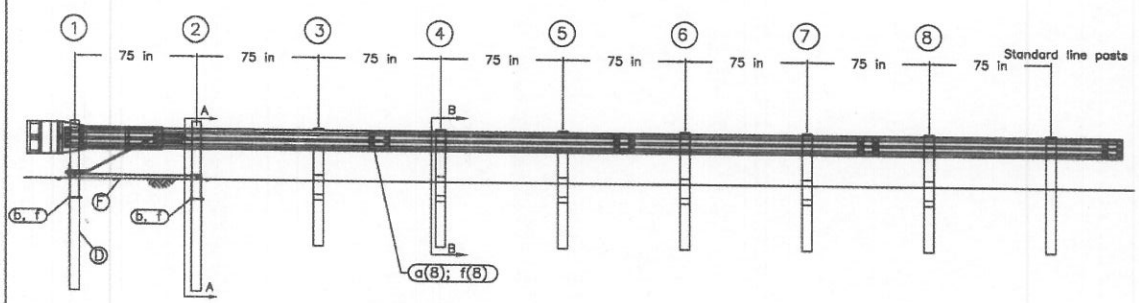
Manufacturer's Drawings for Alternative in-line Terminal Systems.

Water Source Information.

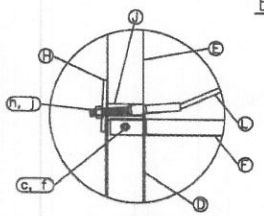
3 **REPLACED PER ADDENDUM No.3 DATED NOVEMBER 21, 2014**



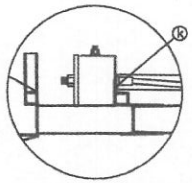

PLAN



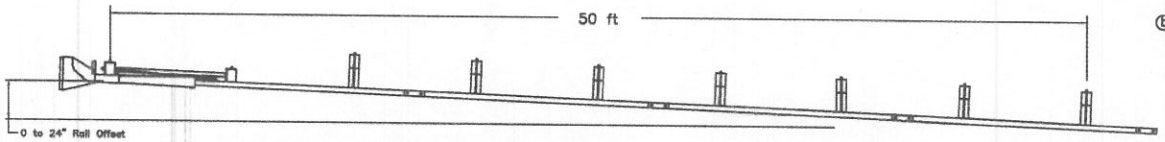

ELEVATION




POST #1 CONNECTION DETAIL




IMPACT HEAD CONNECTION DETAIL



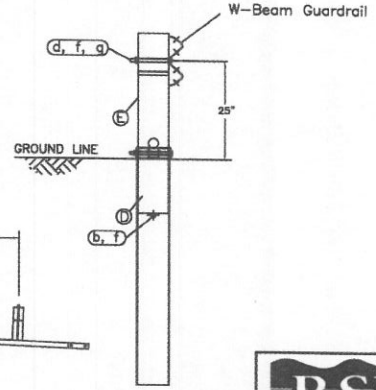

OPTIONAL FLARED INSTALLATION

25:1 maximum flare rate

GENERAL NOTES:

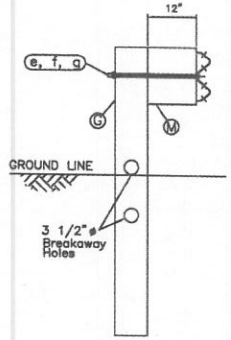
1. Breakaway posts are required with the SKT.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. The SKT can be flared at a rate of up to 25:1 to prevent the impact head from encroaching on the shoulder.
4. The foundation tubes shall not protrude more than 4" above the ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
5. When rock is encountered, a 12" Ø post hole, 20" into the rock surface may be used if approved by the engineer. Granular material will be placed in the bottom of the hole, approximately 2.5" deep to provide drainage. The first two posts can be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
6. 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.
7. A site evalution should be considered if there is less than 25' between the outlet side of the terminal and any adjacent driving lane.
8. The soil tubes may be driven with an approved driving head. They shall not be driven with the post in the tube.
9. The wood blockouts should be "toe-nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.

| ITEM | QTY | BILL OF MATERIALS | ITEM NO. |
|---|---|---|---|
| A | 1 | IMPACT HEAD | S3000 |
| B | 1 | W-BEAM GUARDRAIL END SECTION, 12 Ga. | S1303 MGS |
| C | 3 | W-BEAM GUARDRAIL, 12 Ga. | G1203 MGS |
| D | 2 | FOUNDATION TUBE | E731 |
| E | 2 | BCT WOOD POST | P650 MGS |
| F | 1 | GROUND STRUT | E780 |
| G | 6 | CRT WOOD POST | P671 MGS |
| H | 1 | BEARING PLATE | E750 |
| J | 1 | PIPE SLEEVE | E740 |
| K | 1 | CABLE ANCHOR BOX | S760 |
| L | 1 | BCT CABLE ANCHOR ASSEMBLY | E770 |
| M | 6 | MGS TIMBER BLOCKOUT OR EQUIV. | P818 |
| | | HARDWARE (ALL DIMENSIONS IN INCHES) | |
| a | 24 | 5/8ø x 1 1/4 SPLICE BOLT | B580122 |
| b | 2 | 5/8ø x 7 1/2 HEX BOLT | B580754 |
| c | 2 | 5/8ø x 10 HEX BOLT | B581004 |
| d | 1 | 5/8ø x 10 H.G.R. BOLT | B581002 |
| e | 6 | 5/8ø x 22 H.G.R. BOLT | B582202 |
| f | 35 | 5/8ø H.G.R. NUT | N050 |
| g | 7 | H.G.R. WASHER | W050 |
| h | 2 | 1 ANCHOR CABLE HEX NUT | N100 |
| j | 2 | 1 ANCHOR CABLE WASHER | W100 |
| k | 2 | 3/8 x 3 LAG SCREW | E350 |
| m | 8 | CABLE ANCHOR BOX SHOULDER BOLT | S858A |
| n | 8 | 1/2 A325 STRUCTURAL NUT | N055A |
| o | 16 | 1 1/16 OD x 9/16 ID A325 STR. WASHER | W050A |




SECTION A-A

Post #2




SECTION B-B

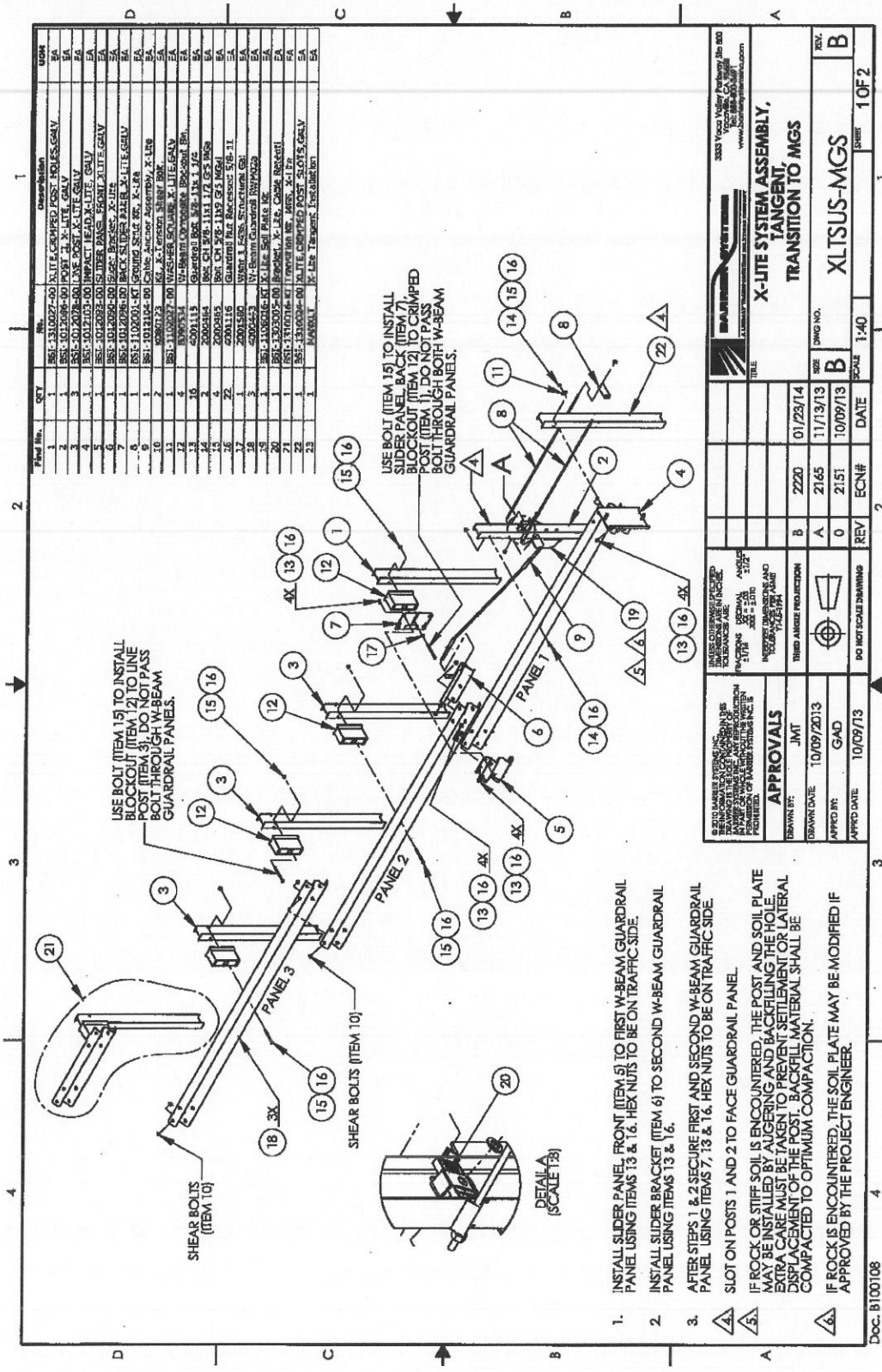
Posts 3 thru 8

RSI
Road Systems, Inc.
Big Spring, TX
Phone: 432-263-2435
or Phone: 330-348-0721

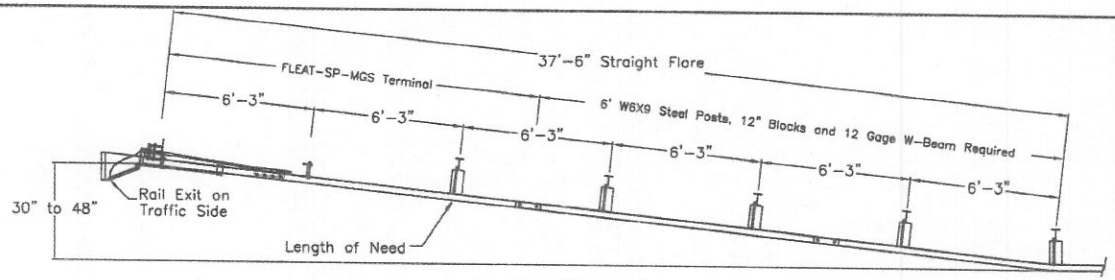
Sequential Kinking Terminal
SKT - Assembly
Midwest Guardrail System
Wood Post System

Sheet: A1
Date: 12/01/04
By: JRR
Drawing Name: SKT-MGS-W-US
Scale: NONE
Rev: 0

## Appendix A - System Configuration, 37' 6" MGS

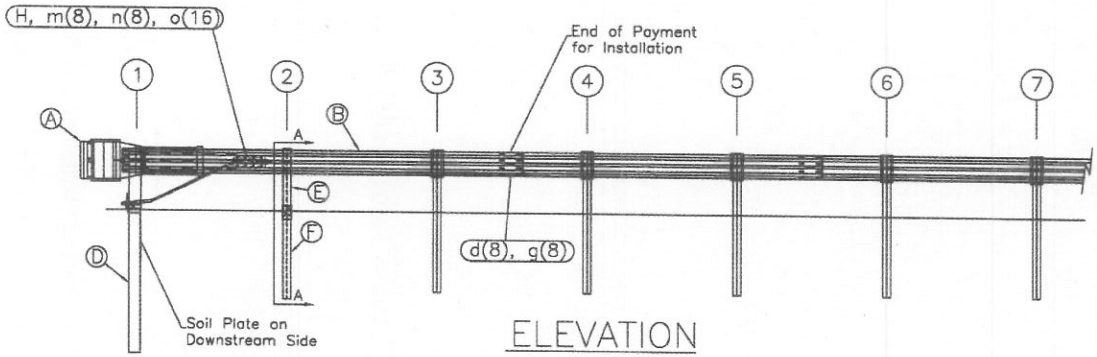



| Find No. | QTY | No. | Description | UOM |
|---|---|---|---|---|
| 1 | 1 | BSI-1310027-00 | X-LITE CRIMPED POST W/SLOTS,GALV | EA |
| 2 | 1 | BSI-1012096-00 | POST 2, X-LITE, GALV | EA |
| 3 | 3 | BSI-1012078-00 | LINE POST, X-LITE, GALV | EA |
| 4 | 1 | BSI-1012103-00 | IMPACT HEAD,X-LITE, GALV | EA |
| 5 | 1 | BSI-1012093-00 | SLIDER PANEL, FRONT, X-LITE,GALV | EA |
| 6 | 1 | BSI-1012090-00 | SLIDE Bracket, X-Lite | EA |
| 7 | 1 | BSI-1012095-00 | BACK SLIDER PANEL,X-LITE,GALV | EA |
| 8 | 1 | BSI-1102001-ST | Ground Strut Str, X-Lite | EA |
| 9 | 1 | BSI-1012104-00 | Cable Anchor Assembly, X-Lite | EA |
| 10 | 2 | 6080123 | 5/8 x 2" Tension Shear Bolt | EA |
| 11 | 1 | BSI-1102027-00 | WASHER SQUARE, X-LITE,GALV | EA |
| 12 | 4 | 8390534 | W-Beam Composite Blockout, Rect. | EA |
| 13 | 16 | 4091115 | Guardrail Bolt, 5/8"-11x 1 1/4 | EA |
| 14 | 2 | 2000384 | Bolt, CH 5/8"-11x1 1/2, GR 5, Mod | EA |
| 15 | 4 | 2000385 | Bolt, CH 5/8"-11x9 GR 5, Mod | EA |
| 16 | 22 | 4091116 | Guardrail Nut, Recessed 5/8-11 | EA |
| 17 | 1 | 2001580 | Washer, Flat, Structural, GR | EA |
| 18 | 3 | 4090423 | W-Beam Guardrail Splice | EA |
| 19 | 1 | BSI-1102016-ST | X-Lite Soil Plate Str | EA |
| 20 | 1 | BSI-1303005-00 | Bracket, X-Lite, Cable Retenti | EA |
| 21 | 1 | BSI-1310016-ST | Transition Str, MGS, X-LITE | EA |
| 22 | 1 | BSI-1310026-00 | X-LITE CRIMPED POST SLOTS,GALV | EA |
| 23 | 1 | NA/ALT | X-Lite Tangent Installation | EA |

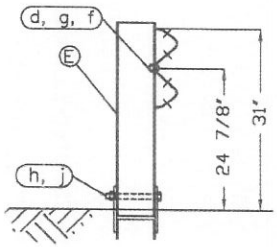



PLAN

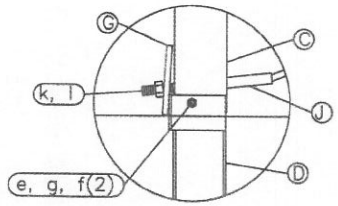
TRAFFIC



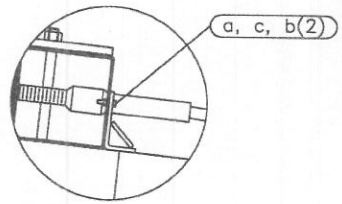

ELEVATION




SECTION A–A
Post #2




Post #1 Connection Detail




Impact Head Connection Detail

| ITEM | QTY | BILL OF MATERIALS | ITEM NO. |
|---|---|---|---|
| A | 1 | IMPACT HEAD | F3000 |
| B | 1 | W-BEAM GUARDRAIL END SECTION, 12 Ga. | MGS-SF1303 |
| C | 1 | FIRST POST TOP (6X6X¼" Tube) | TPHP1A |
| D | 1 | FIRST POST BOTTOM (6' W6X15) | TPHP1B |
| E | 1 | SECOND POST ASSEMBLY TOP | UHP2A |
| F | 1 | SECOND POST ASSEMBLY BOTTOM | HP3B |
| G | 1 | BEARING PLATE | E750 |
| H | 1 | CABLE ANCHOR BOX | S760 |
| J | 1 | BCT CABLE ANCHOR ASSEMBLY | E770 |
| | | | |
| | | 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 | 9 | 5/8 Dia. x 1 1/4 SPLICE BOLT (POST #2) | B580122 |
| e | 1 | 5/8 Dia. x 9 HEX BOLT GRD 5 | B580904A |
| f | 3 | 5/8 WASHER | W050 |
| g | 10 | 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 | CABLE ANCHOR BOX SHOULDER BOLT | SB58A |
| n | 8 | 1/2 A325 STRUCTURAL NUT | N055A |
| o | 16 | 1 1/16 OD x 9/16 ID A325 STR. WASHER | W050A |

GENERAL NOTES:
1. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
2. The lower sections of the Posts 1&2 shall not protrude more than 4 in above the ground (measured along a 5' cord). Site grading may be necessary to meet this 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. When competent rock is encountered, a 12" Ø post hole, 20 in. deep cored into the rock surface may be used if approved by the engineer for post 1. Granular material will be placed in the bottom of the hole, approximately 2.5" deep to provide drainage. The first post can be field cut to length, placed in the hole and backfilled with suitable backfill. The soil plate may be trimmed if required.
5. 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.


RSI
Road Systems, Inc.
Big Spring, TX
Phone: 432-263-2435
or Phone: 330-345-0721


# FLEAT-SP-MGS Terminal Midwest Guardrail System 31" Top of Rail

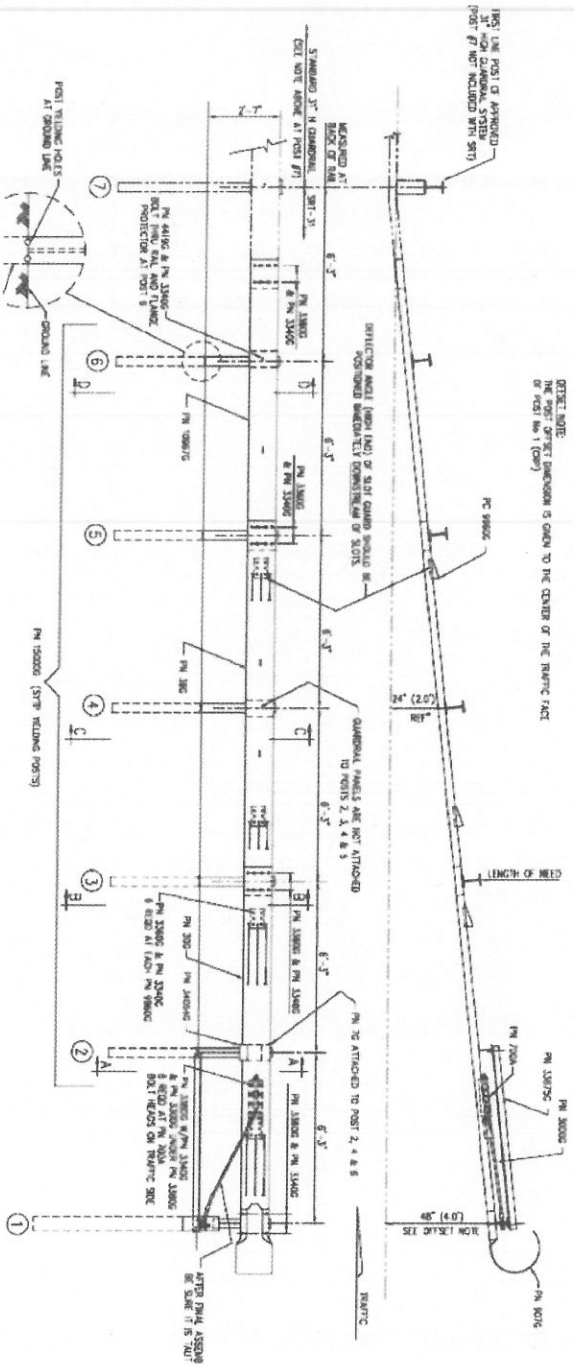
| Sheet: | Date: | By: |
|---|---|---|
| 1 | 02/24/10 | JRR |

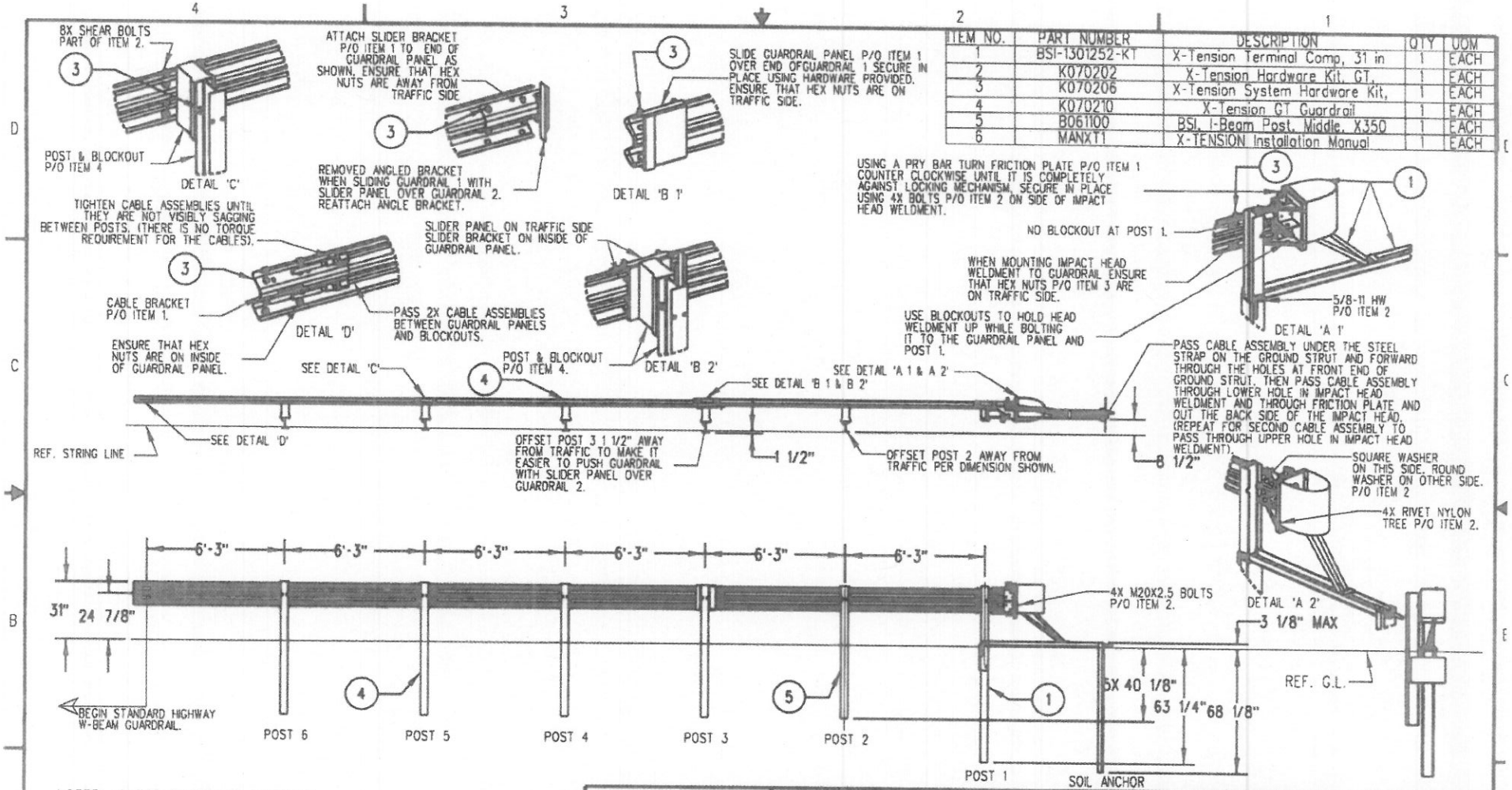
| Drawing Name: | Scale: | Rev: |
|---|---|---|
| FLT-SP-S-MGS | None | 0 |

# KNOW YOUR SRT™ -31 SYSTEM

## SRT™ -31 SYSTEM

**FOR SPECIFIC INSTALLATION, MAINTENANCE, OR REPAIR DETAILS, REFER TO THE STATE/SPECIFYING AGENCY'S STANDARD DRAWING(S) AND/OR TRINITY STANDARD LAYOUT DRAWINGS**






| ITEM NO. | PART NUMBER | DESCRIPTION | QTY | UOM |
|---|---|---|---|---|
| 1 | BSI-1301252-KT | X-Tension Terminal Comp, 31 in | 1 | EACH |
| 2 | K070202 | X-Tension Hardware Kit, GT, | 1 | EACH |
| 3 | K070206 | X-Tension System Hardware Kit, | 1 | EACH |
| 4 | K070210 | X-Tension GT Guardrail | 1 | EACH |
| 5 | B061100 | BSI, I-Beam Post, Middle, X350 | 1 | EACH |
| 6 | MANXT1 | X-TENSION Installation Manual | 1 | EACH |

NOTES: UNLESS OTHERWISE SPECIFIED.

1. SYSTEM TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
2. ONLY TIGHTEN THE CABLE ASSEMBLIES USING THE NUTS AT THE CABLE BRACKET (SEE DETAIL 'D'). DO NOT TIGHTEN THE CABLES AT THE FRONT OF THE GROUND ANCHOR.
3. WHEN DRIVING STEEL POST, ENSURE THAT A DRIVING CAP WITH TIMBER OR PLASTIC INSERT IS USED TO PREVENT DAMAGE TO THE GALVANIZING TO THE TOP OF THE POST.

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APPROVALS

| | |
|---|---|
| DRAWN BY: | NMV |
| DRAWN DATE: | 2/08/13 |
| APPRD BY: | JMT |
| APPRD DATE: | 2/08/13 |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS ±1/16, DECIMAL .XX ± .03, .XXX ± .010, ANGLES ±1/2. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-1994. THIRD ANGLE PROJECTION. DO NOT SCALE DRAWING.

| REV | ECN# | DATE |
|---|---|---|
| B | 2087 | 03/02/15 |
| A | 2022 | 2/08/13 |

LINDSAY TRANSPORTATION SOLUTIONS

BARRIER SYSTEMS INC.
3333 Vaca Valley Parkway Ste 800
Vacaville, CA 95688
Tel 866-900-3681
www.barriersystemsinc.com

TITLE: X-TENSION GUARDRAIL TERMINAL SYSTEM STEEL POST WITH COMPOSITE BLOCKOUT 31" RAIL HEIGHT

| SIZE | DWG NO. | REV. |
|---|---|---|
| B | XTGTSS5 | B |

SCALE 1:50 SHEET 1 OF 1

Doc. B100108

## Dahir, Khalid@DOT

**From:** Lawrence, Steve A@DOT
**Sent:** Tuesday, June 17, 2014 12:12 PM
**To:** Dahir, Khalid@DOT
**Cc:** Teczon, Pat L@DOT
**Subject:** FW: Fwd: Water Source for Project 10-0W4301

Hello Khalid,

Here is a water source for 10-0W4301. Let me know if you need anything else.

Thanks,


**Steve Lawrence**

1976 MLK Blvd.
Stockton, CA, 95205
Office Phone (209)948-7960
Fax (209)948-7036


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**From:** Antonio Tovar [mailto:Antonio.Tovar@stocktongov.com]
**Sent:** Tuesday, June 17, 2014 12:07 PM
**To:** Lawrence, Steve A@DOT
**Cc:** Sandi Norman
**Subject:** Re: Fwd: Water Source for Project 10-0W4301

Steve, within the City's service area, construction water at a fire hydant is available. At the appropriate time, please have your contractor report to the City's Permit Center for the permit and to make arrangements for the delivery of a water meter. The City does not have any non-potable water sources, and for areas outside the City service area (mostly central Stockton), please see the California Water Service Company.

Thanks.

- Tony T.

>>> Sandi Norman Thursday, June 12, 2014 9:08 AM >>>

>>> "Lawrence, Steve A@DOT" <steve.lawrence@dot.ca.gov> 6/12/2014 8:42 AM >>>
Hello Sandi,

Hope this is going to work. I can't believe I did that. lol

Thanks,
Steve Lawrence
1976 MLK Blvd.
Stockton, CA, 95205
Office Phone (209)948-7960
Fax (209)948-7036

From: Lawrence, Steve A@DOT
Sent: Wednesday, June 11, 2014 9:29 AM
To: 'sandi.norman@stockton.gov.com'
Cc: Teczon, Pat L@DOT
Subject: Water Source for Project 10-0W4301

Hello Sandi,

As per our phone conversation this morning, I am looking for 2 water sources for our project on Hwy 99 in the Stockton city limits. I'm looking for a Non-Potable and a Potable water source. We estimate that we will need about 15,000 gallons/day with a total of 415,000 gallons for the project. My question to you is, Can the city of Stockton supply the amount of water we need during construction from September 2014 Thru May 2015?
Thanks for your help.

Steve Lawrence
1976 MLK Blvd.
Stockton, CA, 95205
Office Phone (209)948-7960
Fax (209)948-7036