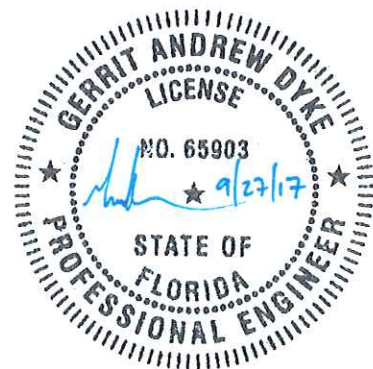


X-TENSION, PARALLEL, 31"

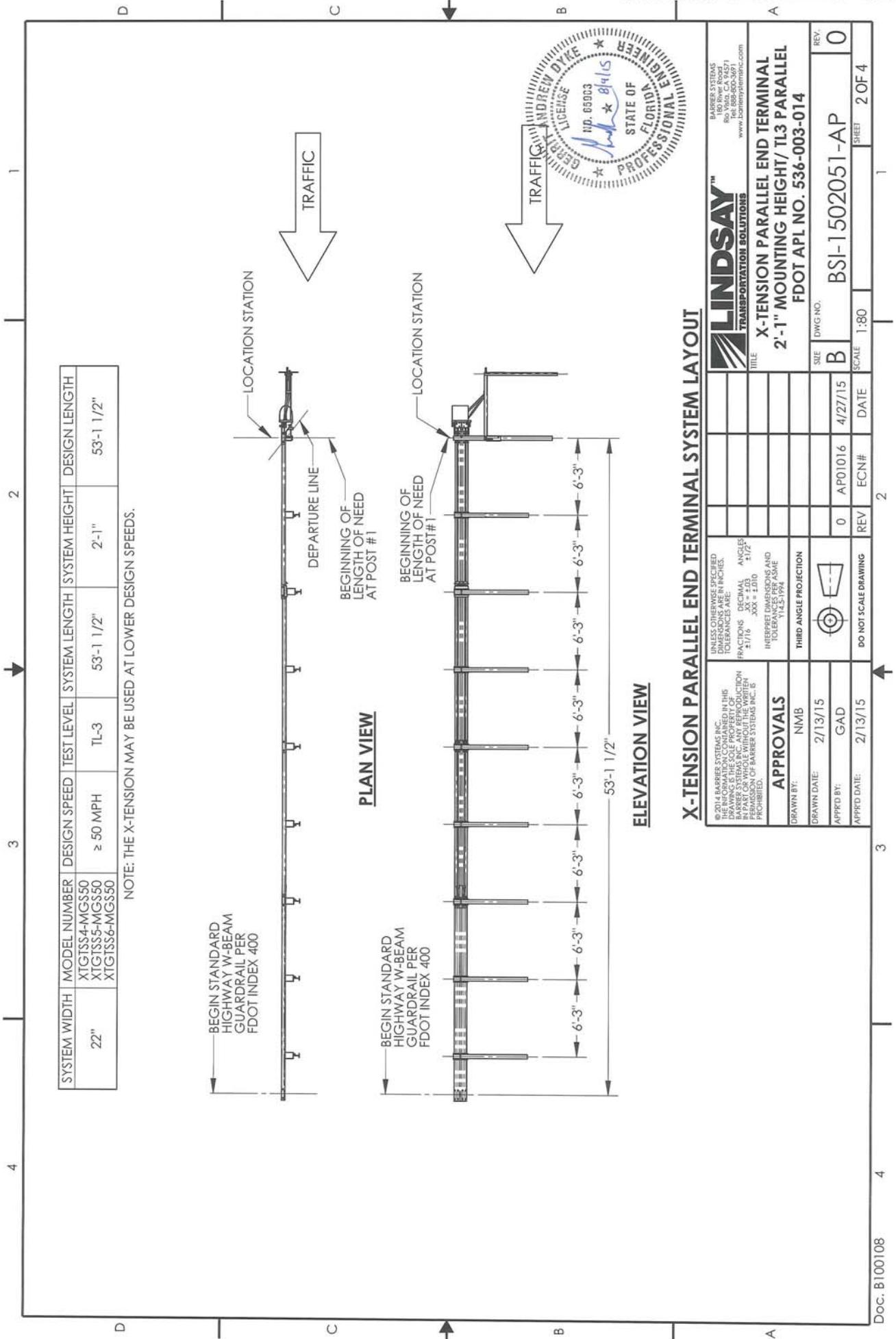
DRAWING INDEX

SHEET NO.	DESCRIPTION
1 OF 4	GENERAL NOTES
2 OF 4	X-TENSION GUARDRAIL END TERMINAL, PARALLEL SYSTEM LAYOUT
3 OF 4	X-TENSION GUARDRAIL END TERMINAL, PARALLEL SYSTEM DETAILS
4 OF 4	BILL OF MATERIALS

1. THE GUARDRAIL END ANCHORAGE SYSTEM REPRESENTED ON THIS APPROVED PRODUCT LIST (APL) IS A PROPRIETARY DESIGN BY BARRIER SYSTEMS, INC (BSI) AND MARKETED UNDER THE TRADE NAME X-TENSION.
2. THIS DRAWING IS SUFFICIENT FOR PLAN DETAILS FOR THE X-TENSION PARALLEL END TERMINAL WHEN INSTALLED IN CONNECTION WITH SHOULDER GUARDRAIL, AND PRECLUDES THE REQUIREMENT FOR SHOP DRAWING SUBMITTALS UNLESS THE PLANS OTHERWISE CALL FOR SUCH SUBMITTALS. THE X-TENSION PARALLEL END TERMINAL SHALL BE ASSEMBLED IN ACCORDANCE WITH THE MANUFACTURER'S DETAILED DRAWINGS, PROCEDURES, AND SPECIFICATIONS.
3. THE X-TENSION END TERMINAL IS AVAILABLE IN TIMBER AND STEEL POST CONFIGURATIONS. FOR STEEL POST CONFIGURATIONS: POST 1 IS A SPECIAL 2 PART YIELDING POST; POST 2 IS A SPECIAL YIELDING POST; POSTS 3-9 ARE STANDARD STEEL POSTS. FOR TIMBER POST CONFIGURATIONS: POST 1 IS A SPECIAL 2 PART YIELDING POST; POST 2-9 ARE TIMBER CRT POSTS.
4. THE X-TENSION IS A RE-DIRECTIVE, NON-GATING END TERMINAL INTENDED FOR USE AS AN APPROACH END TREATMENT FOR SHOULDER GUARDRAIL. THE LENGTH OF NEED POINT IS LOCATED AT THE FIRST POST (SEE DRAWING). THE EFFECTIVE LENGTH OF THE X-TENSION IS 53'-1 1/2". THE X-TENSION PARALLEL CAN BE OFFSET UP TO 2'.
5. FOR DETAILS ON SHOULDER GRADING AROUND END TREATMENTS, MISCELLANEOUS ASPHALT PAVEMENT AND PAY LIMITS, SEE INDEX 400.
6. THE X-TENSION SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR GUARDRAIL, END ANCHORAGE ASSEMBLY (PARALLEL), EA.
7. SITE CONDITIONS: IF THE FRONT OF A SIDEWALK OR SHARED USE PATH IS LOCATED 4' OR LESS FROM BEHIND THE BACK OF THE X-TENSION POSTS, ONLY THE WOOD POST SYSTEM MAY BE USED.
8. REGARDING THE ORIENTATION OF PANEL LAP SPLICES, INSTALL THE X-TENSION SYSTEM AS SHOWN IN THE DRAWINGS, REGARDLESS OF THE DIRECTION OF TRAFFIC IN THE ADJACENT LANES (I.E. PANEL LAPPING MAY NOT BE IN THE DIRECTION OF TRAFFIC UNDER SOME CONDITIONS).
9. FOR THE X-TENSION SYSTEM TO FUNCTION PROPERLY, I.E. TELESCOPE TO ABSORB ENERGY, THE GUARDRAIL PANELS WITHIN THE END TERMINAL MUST BE PROPERLY LAPPED STARTING FROM THE TERMINAL HEAD; FIRST PANEL IS LAPPED ON TOP OF START OF SECOND PANEL, SECOND PANEL IS LAPPED OVER TOP OF THIRD PANEL.



<small>© 2014 BARRIER SYSTEMS INC. THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BARRIER SYSTEMS INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF BARRIER SYSTEMS INC. IS PROHIBITED.</small>		<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS ±1/16 DECIMAL .XX = ±.03 ANGLES ±1/2° .XXX = ±.010</small>				<small>BARRIER SYSTEMS 180 River Road Rio Vista, CA 94571 Tel: 888-800-3691 www.barriersystemsinc.com</small>						
APPROVALS		<small>INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-1994</small>		TITLE X-TENSION PARALLEL END TERMINAL 2'-1" MOUNTING HEIGHT/ TL3 PARALLEL FDOT APL NO. 536-003-014		SIZE B		DWG NO. BSI-1502051-AP		REV. 2		
DRAWN BY: NMB DRAWN DATE: 2/13/15 APPR'D BY: GAD APPR'D DATE: 2/13/15	THIRD ANGLE PROJECTION 	2 1 0	ADDED NOTES 8&9 ADD NOTE TO SHT 4 AP01016	9/26/17 9/24/15 2/13/15	SCALE NTS	SHEET 1 OF 4						
<small>DO NOT SCALE DRAWING</small>		REV	ECN#	DATE	SCALE NTS		SHEET 1 OF 4					



SYSTEM WIDTH	MODEL NUMBER	DESIGN SPEED	TEST LEVEL	SYSTEM LENGTH	SYSTEM HEIGHT	DESIGN LENGTH
22"	XTGSS4-MGSS50	≥ 50 MPH	TL-3	53'-1 1/2"	2'-1"	53'-1 1/2"
	XTGSS5-MGSS50					
	XTGSS6-MGSS50					

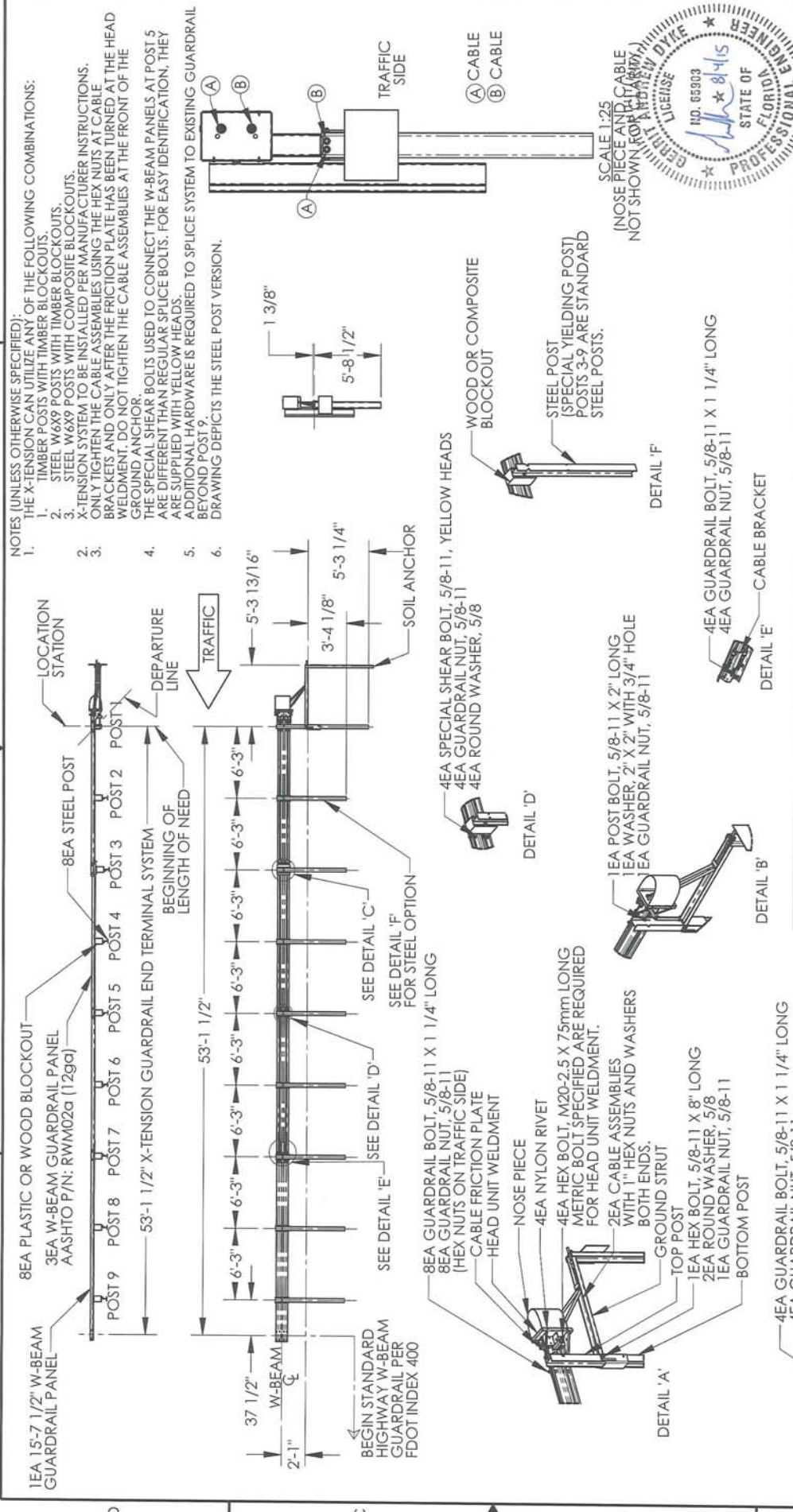
NOTE: THE X-TENSION MAY BE USED AT LOWER DESIGN SPEEDS.

ELEVATION VIEW

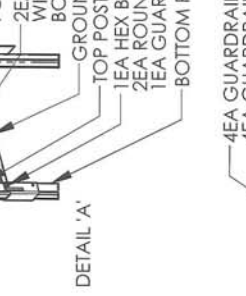
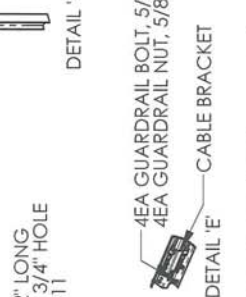
X-TENSION PARALLEL END TERMINAL SYSTEM LAYOUT

		BARRIER SYSTEMS 150 Alvarz Road Fort Lauderdale, FL 33304 Tel: 888-900-2671 www.barriersystems.com	
TITLE: X-TENSION PARALLEL END TERMINAL 2'-1" MOUNTING HEIGHT/ TL3 PARALLEL FDOT APL NO. 536-003-014			
SIZE	DWG. NO.	REV.	
B	BSI-1502051-AP	0	
SCALE	DATE	ECN#	REV
1:80	4/27/15	0	AP01016
DO NOT SCALE DRAWING		DO NOT SCALE DRAWING	
APPROVALS DRAWN BY: NMB APP'D DATE: 2/13/15 APP'D BY: GAD APP'D DATE: 2/13/15		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. FRACTIONS: DECIMALS: ANGLES: 21/16 .XXX = 1.010 1/2	
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-1994		THIRD ANGLE PROJECTION	





- NOTES (UNLESS OTHERWISE SPECIFIED):
- THE X-TENSION CAN UTILIZE ANY OF THE FOLLOWING COMBINATIONS:
 - TIMBER POSTS WITH TIMBER BLOCKOUTS.
 - STEEL W6X9 POSTS WITH TIMBER BLOCKOUTS.
 - STEEL W6X9 POSTS WITH COMPOSITE BLOCKOUTS.
 - X-TENSION SYSTEM TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS.
 - ONLY TIGHTEN THE CABLE ASSEMBLIES USING THE HEX NUTS AT CABLE BRACKETS AND ONLY AFTER THE FRICTION PLATE HAS BEEN TURNED AT THE HEAD WELDMENT. DO NOT TIGHTEN THE CABLE ASSEMBLIES AT THE FRONT OF THE GROUND ANCHOR.
 - THE SPECIAL SHEAR BOLTS USED TO CONNECT THE W-BEAM PANELS AT POST 5 ARE DIFFERENT THAN REGULAR SPICE BOLTS. FOR EASY IDENTIFICATION, THEY ARE SUPPLIED WITH YELLOW HEADS.
 - ADDITIONAL HARDWARE IS REQUIRED TO SPICE SYSTEM TO EXISTING GUARDRAIL BEYOND POST 9.
 - DRAWING DEPICTS THE STEEL POST VERSION.



LINDSAY
TRANSPORTATION SOLUTIONS

11000 BAYVIEW BLVD
SUITE 100
DALLAS, TEXAS 75244
TEL: 800-900-2871
WWW.BONNIESYSTEMS.COM

TITLE: **X-TENSION PARALLEL END TERMINAL**
2'-1" MOUNTING HEIGHT/ TL3 PARALLEL
FDOT APL NO. 536-003-014

SIZE: B
DWG NO.: BSI-1502051-AP
REV: 0

SCALE: 1:100
SHEET: 3 OF 4

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
FRACTIONS: DECIMAL ANGLES: 1/16 3/16 1/2
TOLERANCES PER ASME Y14.5-1994

APPROVALS
DRAWN BY: NMB
DATE: 2/13/15
APPROVED BY: GAD
DATE: 2/13/15

DO NOT SCALE DRAWING

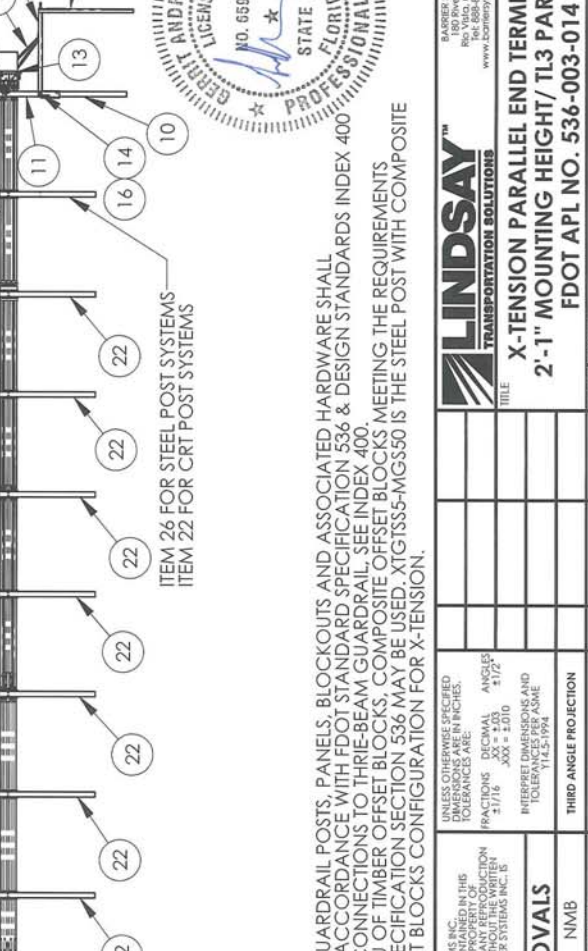
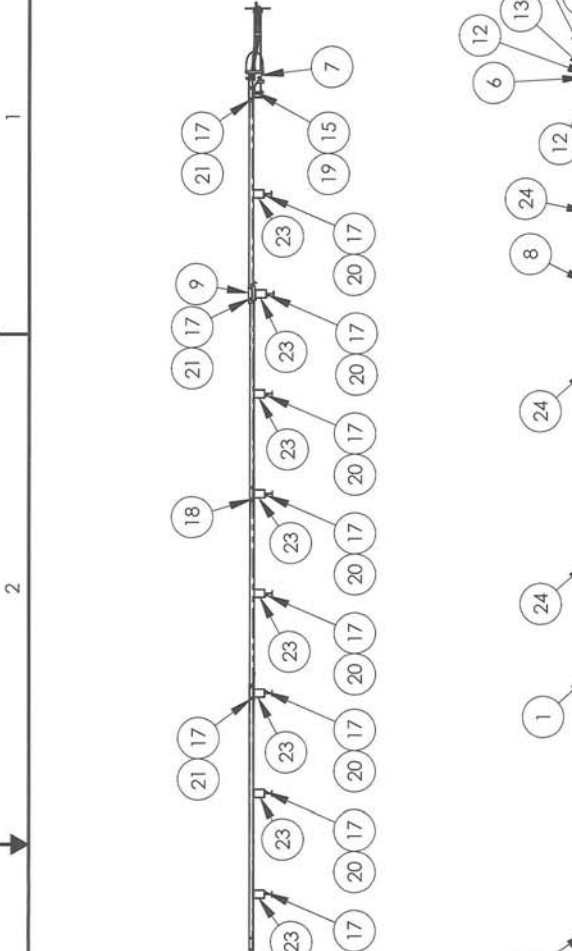
REV: 0
ECN#: APO1016
DATE: 2/17/14

XTGTS54-MG550: STEEL POST WITH TIMBER BLOCKOUTS

Item	Part No.	Description	Spec
1	B061083	Cable Bracket Weldment	X-TENSION
2	B061094	Ground Strut Weldment	X-TENSION
3	B061104	Soil Anchor Weldment	X-TENSION
4	B061109	Cable Assembly	X-TENSION
5	B071001	Nose Piece	X-TENSION
6	B061058	Cable Friction Plate, Head Unit	X-TENSION
7	B061072	Head Unit Weldment	X-TENSION
8	B061079	SLIDER BRACKET WELDMENT	X-TENSION
9	B061088	Slider Panel Weldment, W-Beam	X-TENSION
10	B061098	Bottom Post Weldment	X-TENSION
11	BSI-1009044-00	I-Beam Post, Top, Post #1	X-TENSION
12	2001615	Hex Bolt, M20-2.5x75mm	X-TENSION
13	4002305	Nylon Rivet	FDOT
14	2001717	Hex Bolt, 5/8-11 x 8"	FDOT
15	2000302	Bolt, 5/8-11 x 2", Mgal	FDOT
16	2001636	Washer, 5/8"	FDOT
17	4001116	Guardrail Nut, 5/8-11"	FDOT
18	K080123	Special Shear Bolt w/ nut & washer	X-TENSION
19	BSI-1102027-00	Washer, 2" x 2" w/ 3/4" hole	FDOT
20	2001636	Bolt, 5/8-11 x 10", Mgal	FDOT
21	4001115	Splice Bolt, 5/8-11 x 1 1/4"	FDOT
22	BSI-1012078-00	Wide Flange Guardrail Post	FDOT
23	4002337	W-Beam Timber Blockout	FDOT
24	4000443	W-Beam Guardrail	FDOT
25	BSI-1410067-00	Panel, 15ft 7.5 in. Galv, X-Tension	X-TENSION
26	B061100	I-Beam Post, Middle	X-TENSION

XTGTS64-MG550: TIMBER POST WITH TIMBER BLOCKOUTS

Item	Part No.	Description	Spec
1	B061083	Cable Bracket Weldment	X-TENSION
2	B061094	Ground Strut Weldment	X-TENSION
3	B061104	Soil Anchor Weldment	X-TENSION
4	B061109	Cable Assembly	X-TENSION
5	B071001	Nose Piece	X-TENSION
6	B061058	Cable Friction Plate, Head Unit	X-TENSION
7	B061072	Head Unit Weldment	X-TENSION
8	B061079	Slider Bracket Weldment	X-TENSION
9	B061088	Slider Panel Weldment	X-TENSION
10	B061098	Bottom Post Weldment	X-TENSION
11	BSI-1009044-	I-Beam Post, Top, Post #1	X-TENSION
12	2001615	Hex Bolt, M20-2.5x75mm	X-TENSION
13	4002305	Nylon Rivet	X-TENSION
14	2001717	Hex Bolt, 5/8-11 x 8"	FDOT
15	2000302	Bolt, 5/8-11 x 2", Mgal	FDOT
16	2001636	Washer, 5/8"	FDOT
17	4001116	Guardrail Nut, 5/8-11"	FDOT
18	K080123	Special Shear Bolt w/ nut &	X-TENSION
19	BSI-1102027-	Washer, 2" x 2" w/ 3/4" hole	FDOT
20	2001656	Post Bolt, 5/8-11 x 18"	FDOT
21	4001115	Splice Bolt, 5/8-11 x 1 1/4"	FDOT
22	4002335	CRT Timber Post PDE09	FDOT
23	4002336	W-Beam Timber Blockout PDB01a	FDOT
24	4000443	W-Beam Guardrail	FDOT
25	BSI-1410067-	Panel, 15ft 7.5 in. Galv, X-Tension	X-TENSION
26	4002056	Washer, 5/8"	FDOT



NOTES:
 1. ALL GUARDRAIL POSTS, PANELS, BLOCKOUTS AND ASSOCIATED HARDWARE SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 536 & DESIGN STANDARDS INDEX 400 FOR CONNECTIONS TO THREE-BEAM GUARDRAIL, SEE INDEX 400.
 2. IN LIEU OF TIMBER OFFSET BLOCKS, COMPOSITE OFFSET BLOCKS MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 536 MAY BE USED. XTGTS55-MG550 IS THE STEEL POST WITH COMPOSITE OFFSET BLOCKS CONFIGURATION FOR X-TENSION.
 3.

LINDSAY
 TRANSPORTATION SOLUTIONS

180 River Road
 Fort Lauderdale, FL 33304
 Tel: 888-800-3871
 www.lindsaytrans.com

TITLE: X-TENSION PARALLEL END TERMINAL
 2'-1" MOUNTING HEIGHT/ TL3 PARALLEL
 FDOT APL NO. 536-003-014

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. FRACTIONS DECIMAL ANGLES 3/16 .003 1/32 5/16 .008 1/16 1/8 .010 1/4 .015 3/8 .020 1/2 .030 5/8 .040 3/4 .050 7/8 .060 1 .070 1 1/8 .080 1 1/4 .090 1 1/2 .100 1 3/4 .125 1 3/4 .150 1 3/4 .175 1 3/4 .200 1 3/4 .250 1 3/4 .300 1 3/4 .350 1 3/4 .400 1 3/4 .450 1 3/4 .500 1 3/4 .550 1 3/4 .600 1 3/4 .650 1 3/4 .700 1 3/4 .750 1 3/4 .800 1 3/4 .850 1 3/4 .900 1 3/4 .950 1 3/4 1.000 1 3/4

APPROVALS: NMB 2/13/15 GAD 2/13/15

DO NOT SCALE DRAWING

REV: 0
 BSI-1502051-AP
 4 OF 4