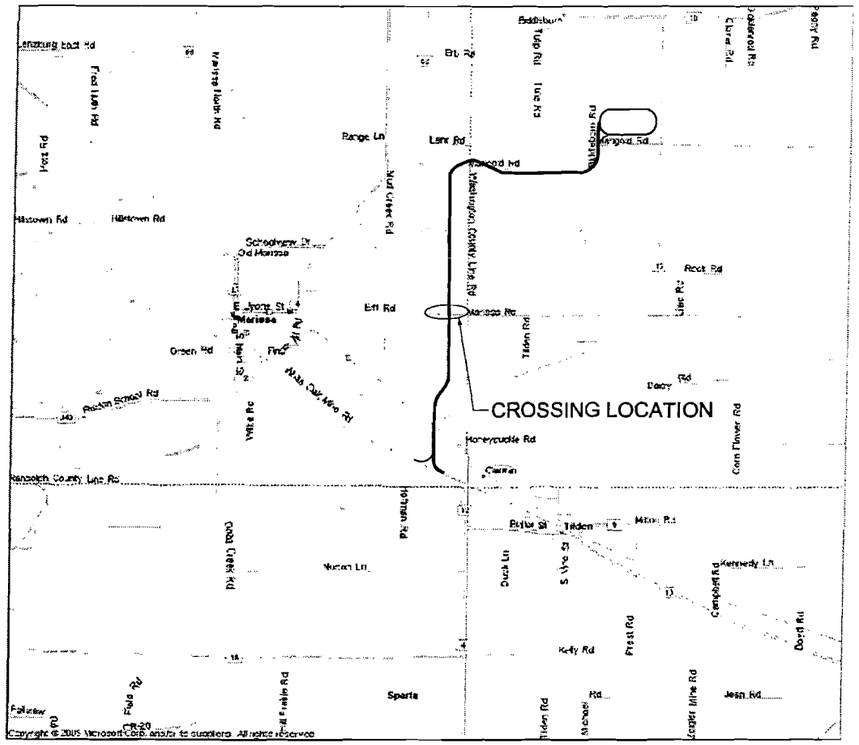
PRAIRIE STATE
Energy Campus

PRAIRIE STATE ENERGY CAMPUS



SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2 - 5	CROSSING EXHIBIT
1 - 10	SIGNAL EXHIBIT
1	DETOUR EXHIBIT

PROPOSED ROAD CROSSING
EIFF ROAD

ROAD CROSSING EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

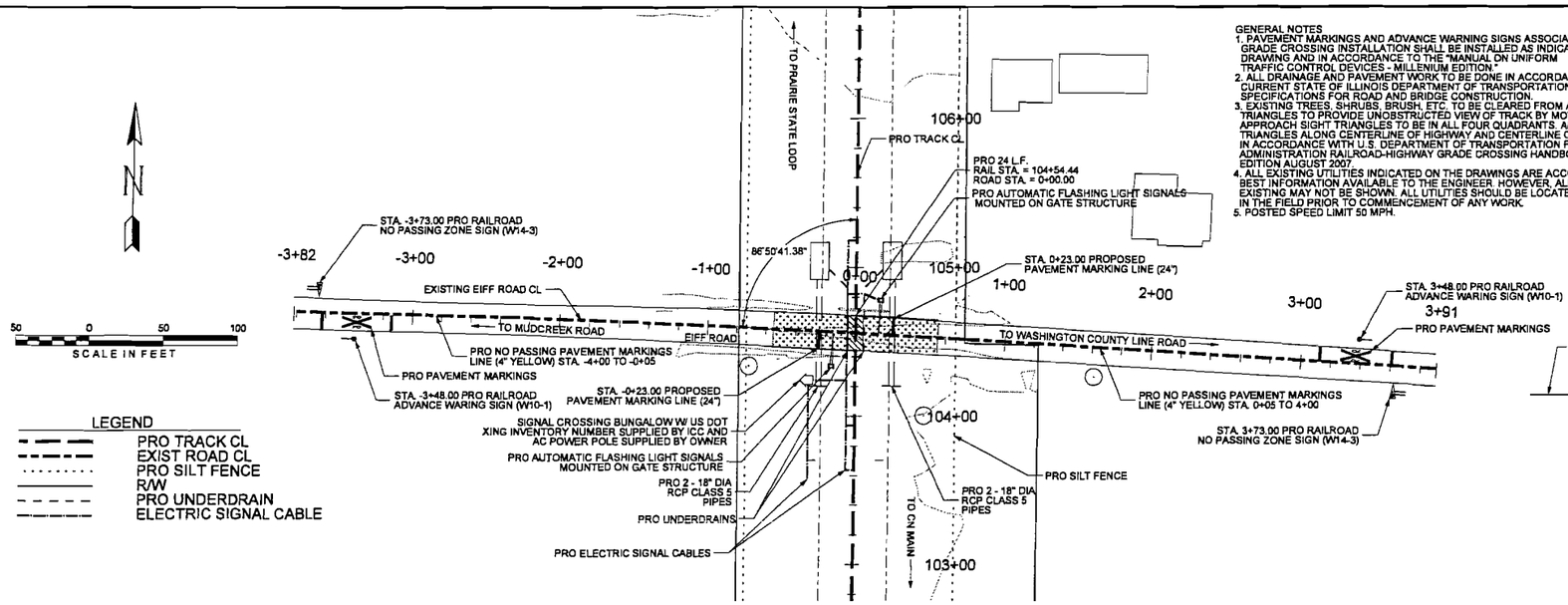
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	1 of 5

- ISSUED -
FOR CONSTRUCTION

COVER PAGE
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

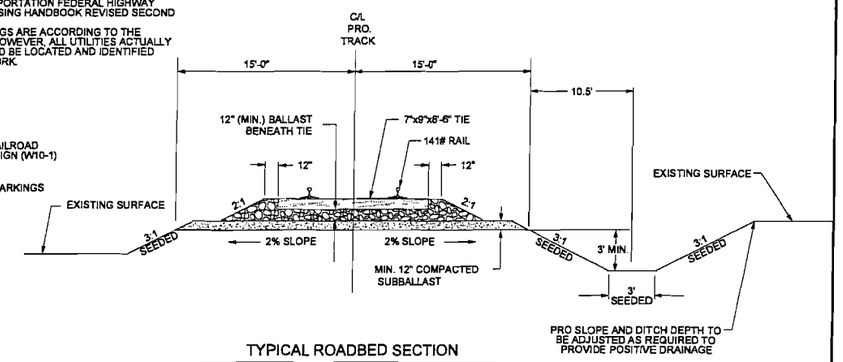
S:\8008\Railworks\Prairie State Energy Campus\Design\8034-1.dgn
JPG 7/18/2008 9:41:07 AM TITLE BLOCKS

GENERAL NOTES
1. PAVEMENT MARKINGS AND ADVANCE WARNING SIGNS ASSOCIATED WITH THE GRADE CROSSING INSTALLATION SHALL BE INSTALLED AS INDICATED ON THE DRAWING AND IN ACCORDANCE TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - MILLENIUM EDITION."
2. ALL DRAINAGE AND PAVEMENT WORK TO BE DONE IN ACCORDANCE WITH CURRENT STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. EXISTING TREES, SHRUBS, BRUSH, ETC. TO BE CLEARED FROM APPROACH SIGHT TRIANGLES TO PROVIDE UNOBSTRUCTED VIEW OF TRACK BY MOTORISTS. APPROACH SIGHT TRIANGLES TO BE IN ALL FOUR QUADRANTS. APPROACH SIGHT TRIANGLES ALONG CENTERLINE OF HIGHWAY AND CENTERLINE OF TRACK TO BE IN ACCORDANCE WITH U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION RAILROAD-HIGHWAY GRADE CROSSING HANDBOOK REVISED SECOND EDITION AUGUST 2007.
4. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. ALL UTILITIES SHOULD BE LOCATED AND IDENTIFIED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY WORK.
5. POSTED SPEED LIMIT 50 MPH.



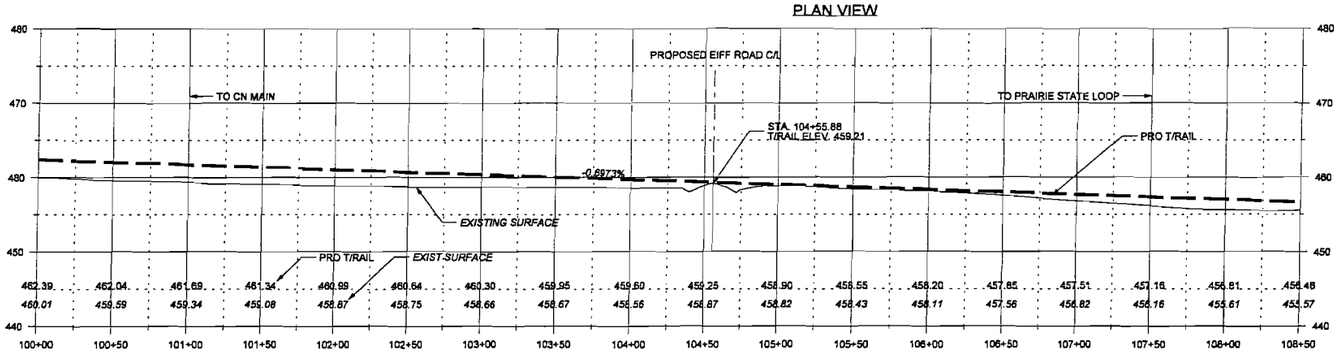
LEGEND
- PRO TRACK CL
- EXIST ROAD CL
- PRO SILT FENCE
- R/W
- PRO UNDERDRAIN
- ELECTRIC SIGNAL CABLE

PLAN VIEW

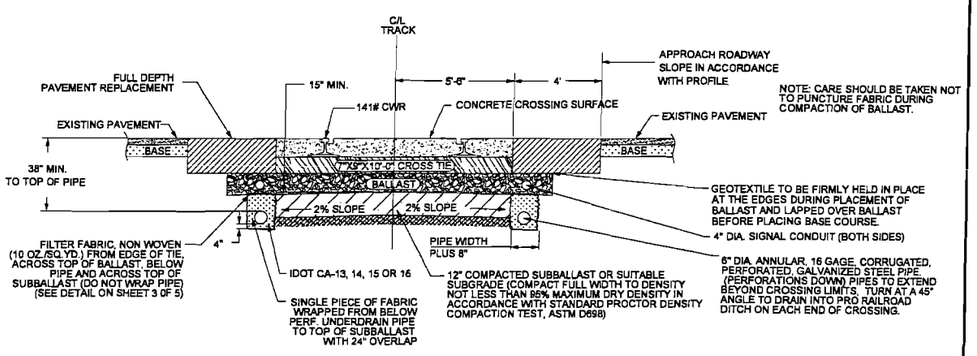


TYPICAL ROADBED SECTION

(NOT TO SCALE)

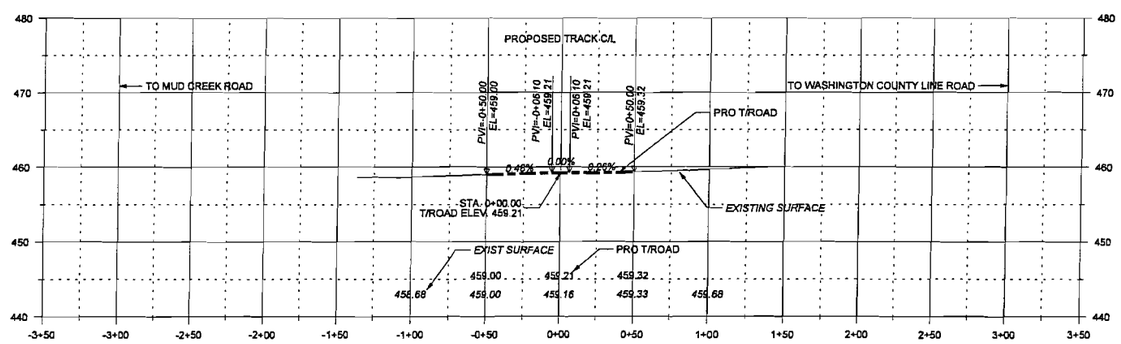


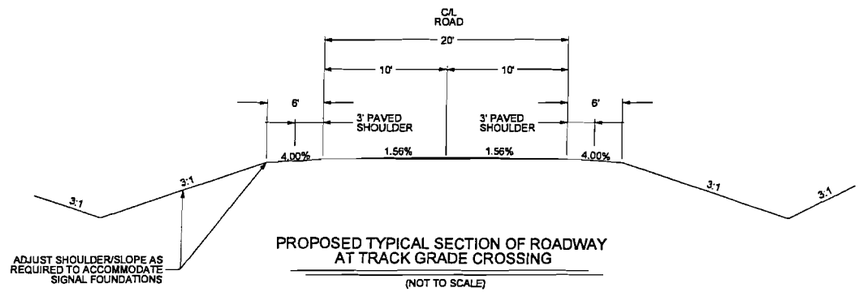
PRO TRACK STA. 104+54.44 = PRO ROAD STA. 0+00.00 = C/L ROAD CROSSING



TYPICAL SECTION THROUGH ROADWAY CROSSING

(NOT TO SCALE)





PROPOSED TYPICAL SECTION OF ROADWAY AT TRACK GRADE CROSSING

(NOT TO SCALE)

CROSSING EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	08034-1.dgn
Scale:	AS SHOWN	Drawing No.:	2 of 5

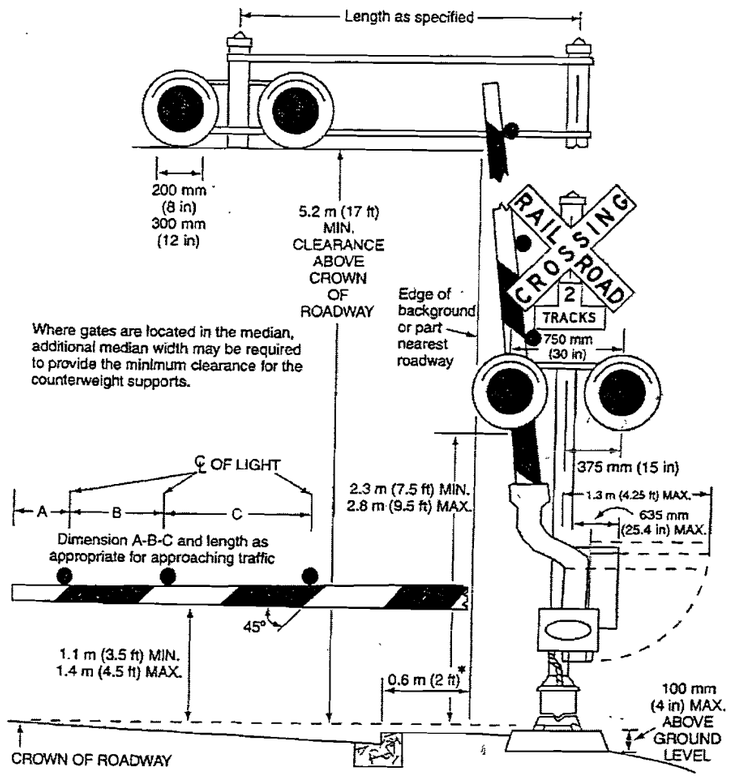
- ISSUED -
FOR CONSTRUCTION

LEAD TRACK CROSSING OF EIFF ROAD

EIFF ROAD
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

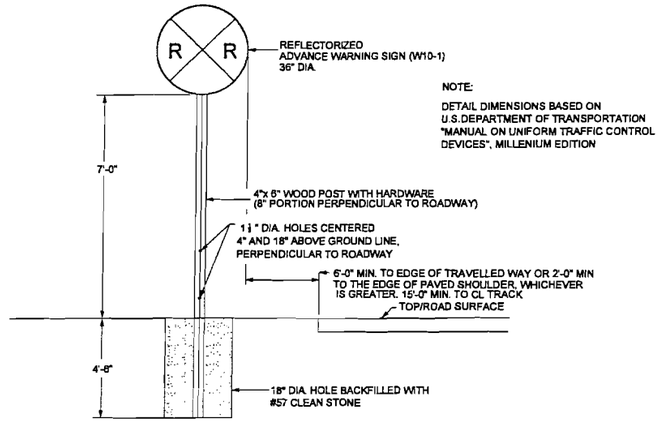
S:\2008\Railworks\Prairie State Energy Campus\Design\08034-1.dgn JPG 7/18/2008 10:08:06 PM Plan Sheet 3

Figure 8D-1. Composite Drawing of Active Traffic Control Devices for Highway-Rail Grade Crossings Showing Clearances



* For locating this reference line at other than curb section installation, see Section 8D.01.

NOTE:
1) * 6' MINIMUM FROM TRAVELED WAY WHEN NO CURB.
2) DETAIL ABOVE APPLYS TO GATE ONLY SIGNAL.

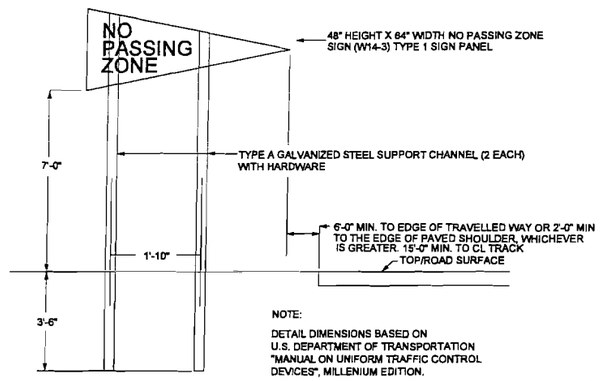


NOTE:

DETAIL DIMENSIONS BASED ON U.S.DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", MILLENIUM EDITION

ADVANCE WARNING SIGN DETAIL

(NOT TO SCALE)

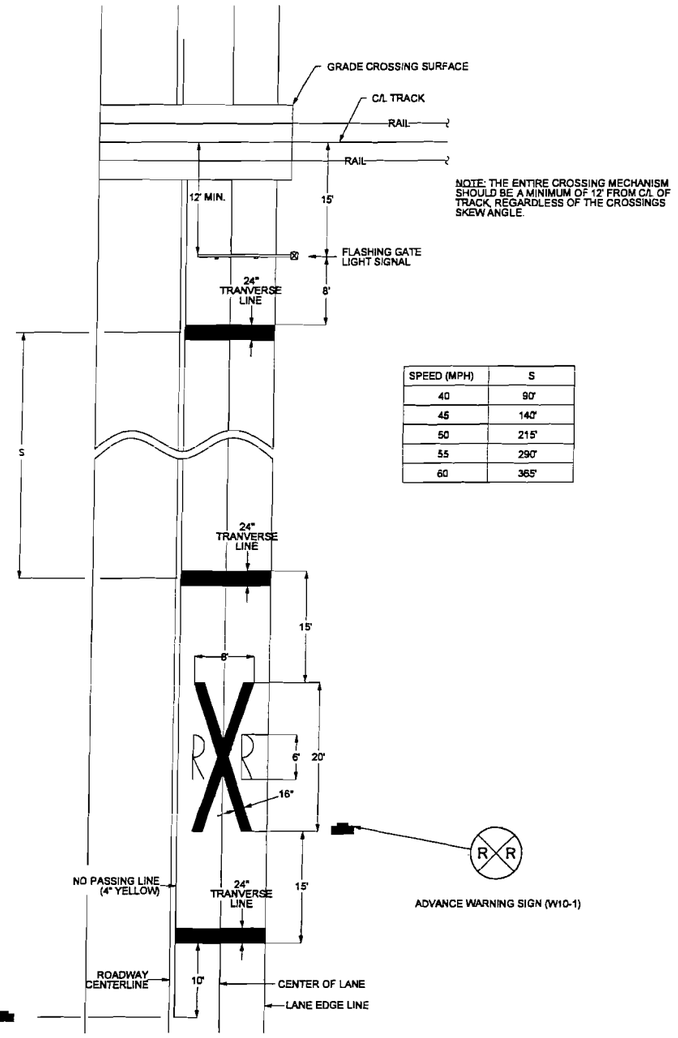


NOTE:

DETAIL DIMENSIONS BASED ON U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", MILLENIUM EDITION.

NO PASSING ZONE SIGN DETAIL

(NOT TO SCALE)



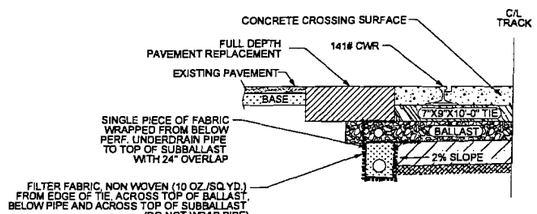
NOTE: THE ENTIRE CROSSING MECHANISM SHOULD BE A MINIMUM OF 12' FROM C/L OF TRACK, REGARDLESS OF THE CROSSINGS SKEW ANGLE.

SPEED (MPH)	S
40	90'
45	140'
50	215'
55	290'
60	365'

NOTE: THE MARKINGS ARE SYMMETRICAL ABOUT TRACK CENTERLINE.

PAVEMENT MARKING

(NOT TO SCALE)



NOTE: CARE SHOULD BE TAKEN NOT TO PUNCTURE FABRIC OURING COMPACTION OF BALLAST.

FILTER FABRIC DETAIL

(NOT TO SCALE)

CROSSING EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

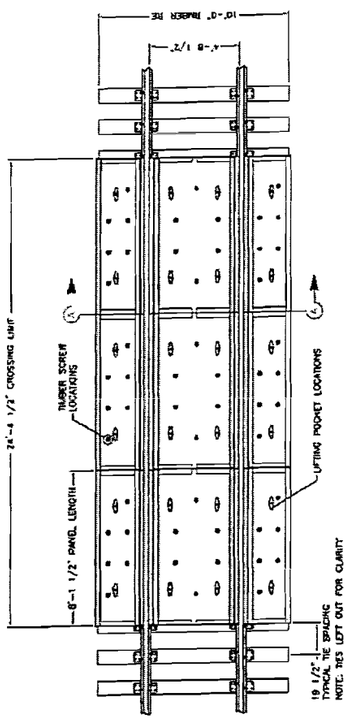
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	3 of 5

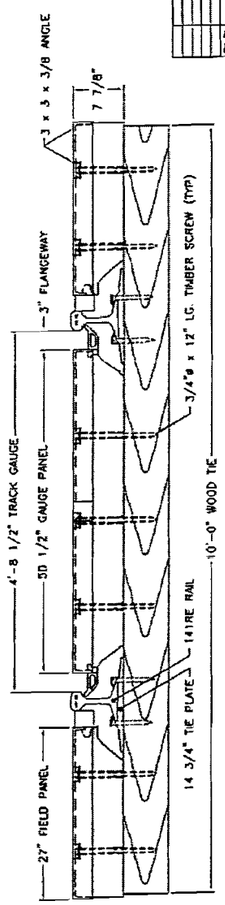
- ISSUED -
FOR CONSTRUCTION

MISCELLANEOUS DETAILS

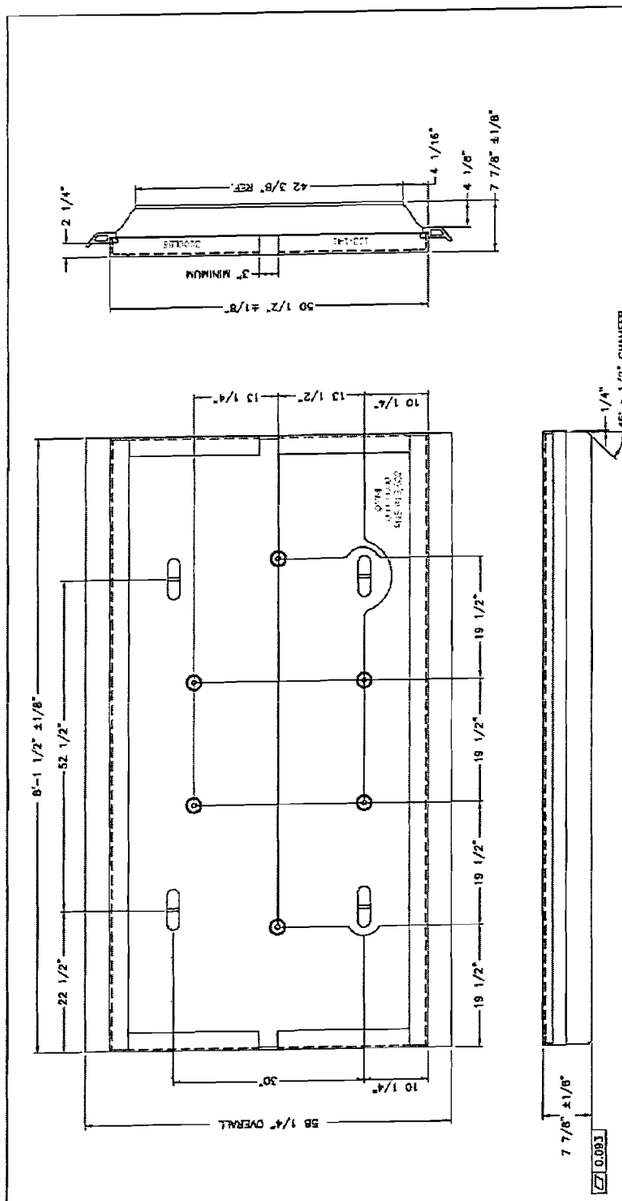
EIFF ROAD
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\2008\Railworks\Prairie State Energy Campus\Design\8034-1.dgn
JPG 7/18/2008 10:08:16 AM Detail





NOTE:
OMNI PANELS ARE BEVELED TO PROTECT AGAINST DRAGGING EQUIPMENT.



GENERAL NOTES, CONCRETE AND FABRICATION

1. COMPRESSIVE STRENGTH 5000 PSI AT 28 DAYS.
2. MAXIMUM WATER/CEMENT RATIO 0.44 (BY WEIGHT).
3. AIR ENTRAINMENT PERCENT 6.0% ± 1.0%.
4. DRIVING SURFACE TO HAVE A LIGHT BROOM FINISH; THE ADDITION OF WATER TO THE SURFACE DURING FINISHING IS NOT PERMITTED.
5. DRIVING SURFACE TO BE COATED WITH COAL-TAR SEALER.
6. ALL EXPOSED SURFACES OF STEEL ANGLES TO HAVE TWO COATS PRIMER.
7. LAG SCREW RELIEF TOLERANCE ±1/2" IN ANY DIRECTION.
8. LIFTING POCKET RELIEF LOCATION TOLERANCE ±1" IN ANY DIRECTION.
9. RUBBER LENGTH TOLERANCE: MUST BE WITHIN +0, -1/8" OF ADJACENT PANEL EDGE.
10. OUT OF SQUARE TOLERANCE 3/16" MEASURED ALONG DIAGONAL.
11. DESIGN TO MEET AASHTO HS20-44 LOADING SPECIFICATION.

GALV. LIFTING HOOK POCKET LOCATION

LAG SCREW RELIEF LOCATION

REFERENCE DRAWING
20-7153-02 STRUCTURAL STEEL & FRAMING ASSEMBLY

OMNI RESOURCES LLC
3811 Berthe AVEO, Houston, Texas 77063
CSX COMMON STANDARD GRADE CROSSING SYSTEM
77-50.5-8.125 LD. W/GALV. HOOKS FINISHED PRODUCT SPECIFICATION
Date 05-07-08 Dwn. CMC Scale 1=10
Dwg. No. 20-7895-00

THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY DATA OF OMNI PRODUCTS, INC., AND IS NOT FOR DISCLOSURE, IN WHOLE OR IN PART, TO ANY PERSON OR ENTITY OTHER THAN THOSE TO WHOM IT IS SUBMITTED, EXCEPT AS AUTHORIZED IN WRITING BY OMNI PRODUCTS, INC. © 2006

CROSSING EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

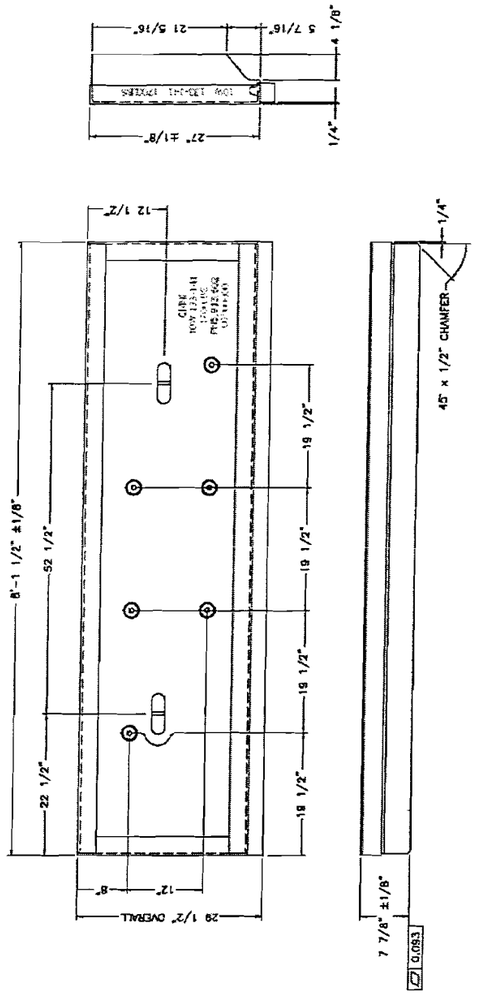
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	4 of 5

- ISSUED -
FOR CONSTRUCTION

CONCRETE GRADE CROSSING

EIFF ROAD
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8008\Vallmark\Prairie State Energy Campus\Chapter\08034-1.dgn
JPG 7/18/2008 10:04:32 AM Detail



GENERAL NOTES: CONCRETE AND FABRICATION

1. COMPRESSIVE STRENGTH 4000 PSI AT 28 DAYS.
2. MAXIMUM WATER/CEMENT RATIO 0.44 (BY WEIGHT).
3. AIR ENTRAINMENT PERCENT 6.0% ± 1.0%.
4. DRYING SURFACE TO HAVE A LIGHT BROOM FINISH. THE ADDITION OF WATER TO THE SURFACE DURING FINISHING IS NOT PERMITTED.
5. DRYING SURFACE TO BE COATED WITH CONA-SEAL SEALER.
6. ALL EXPOSED SURFACES OF STEEL ANGLES TO HAVE TWO COATS PRIMER.
7. LAG SCREW RELIEF TOLERANCE ±1/2" IN ANY DIRECTION.
8. LIFTING POCKET RELIEF LOCATION TOLERANCE ±1" IN ANY DIRECTION.
9. RUBBER LENGTH TOLERANCE: MUST BE WITHIN +0, -1/8" OF ADJACENT PANEL ENDS.
10. OUT OF SQUARE TOLERANCE 3/16" MEASURED ALONG DIAGONAL.
11. DESIGN TO MEET AASHTO HS20-44 LOADING SPECIFICATION.

GALV. LIFTING HOOK POCKET LOCATION

LAG SCREW RELIEF LOCATION

THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF OMNI PRODUCTS, INC. AND IS NOT TO BE COPIED, DISTRIBUTED, DISCLOSED, IN WHOLE OR IN PART, FOR ANY PURPOSE EXCEPT AS AUTHORIZED IN WRITING BY OMNI PRODUCTS, INC. © 2008

OMNI PRODUCTS, INC.
8111 SUTTON PLACE, ST. LOUIS, MISSOURI 63143

CSX COMMON STANDARD GRADE CROSSING SYSTEM

77-27-8.125" LD. W/GALV. HOOKS FINISHED PRODUCT SPECIFICATION

Date 08-07-08 By Chk Scale 1=5

Dwg. No. 20-7988-00

REFERENCE DRAWINGS
20-7043-01 STRUCTURAL STEEL & FRAMING ASSEMBLY

CROSSING EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

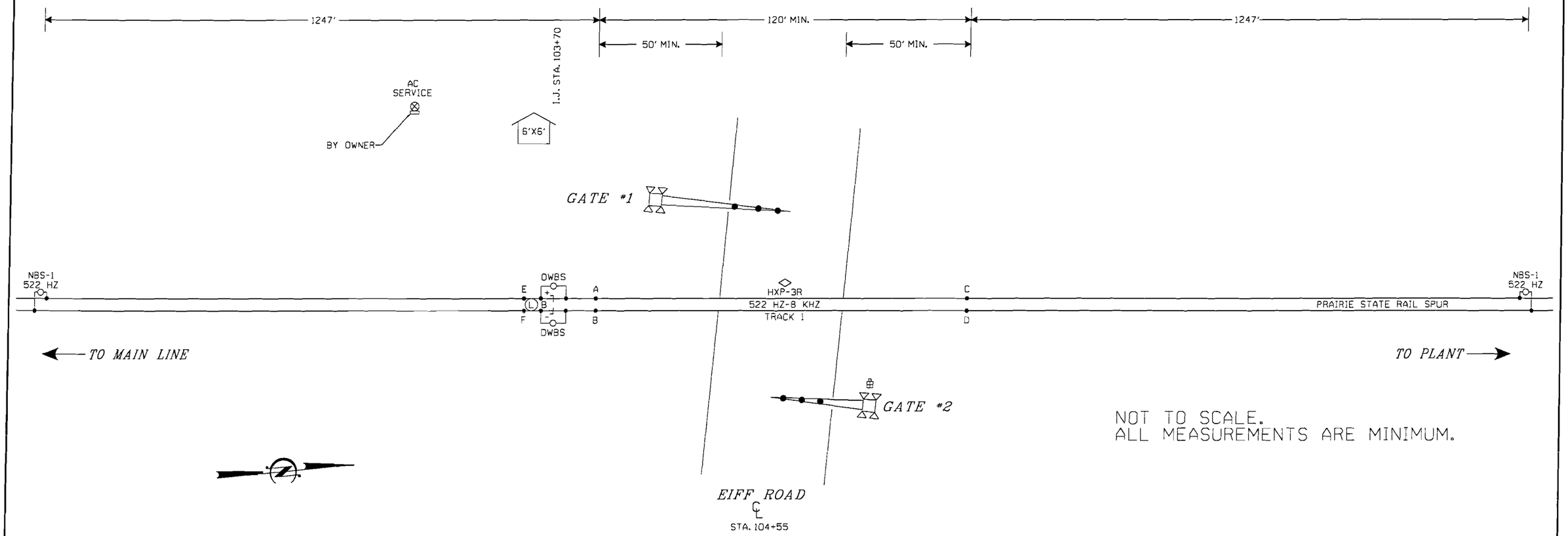
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	5 of 5

- ISSUED -
FOR CONSTRUCTION

CONCRETE GRADE CROSSING

EIFF ROAD
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railroads\Prairie State Energy Campus\Dwgs\0803-1.dgn
JPG 7/18/2008 10:39:35 AM Detail



NOT TO SCALE.
ALL MEASUREMENTS ARE MINIMUM.

NOTES:

1. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.
2. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
3. TRANSMITTER WIRE T1 AND T2 MUST BE RUN TO THE TRACK BUNGALOW SIDE OF CROSSING.
4. APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS.

LEGEND:

- -TEST TERMINAL
- -EQUALIZER
- -ARRESTER TO GROUND
- -TWISTED WIRE 2 TURNS PER FOOT
- -INSULATED NUT
- -BATTERY CHOKE
- NBS-1 -TERMINAL SHUNT

APPROACH CIRCUIT DISTANCE CALCULATION

	TRACK1
BASE WARNING TIME	30 SEC
PLUS TIME FOR CLEARANCE DISTANCE > 35'	0 SEC
EQUALS PLANNED WARNING TIME	30 SEC
PLUS TIME FOR EQUIPMENT RESPONSE	4 SEC
PLUS TIME FOR TRAFFIC PRE-EMPTION	0 SEC
EQUALS CIRCUIT APPROACH TIME	34 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED	25 MPH
TIMES RATIO OF FEET PER SECOND TO MILE PER HOUR	22/15
EQUALS APPROACH CIRCUIT DISTANCE WITH ANY FRACTIONAL VALUE INCREASED TO FULL UNIT	1247 FT

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

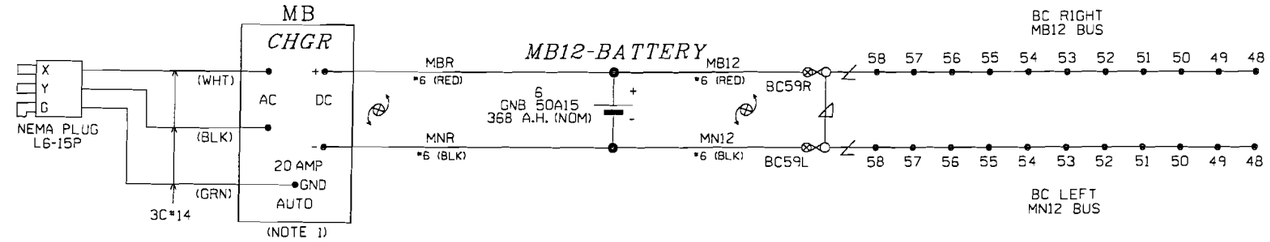
REV #	BY	DATE	DESCRIPTION

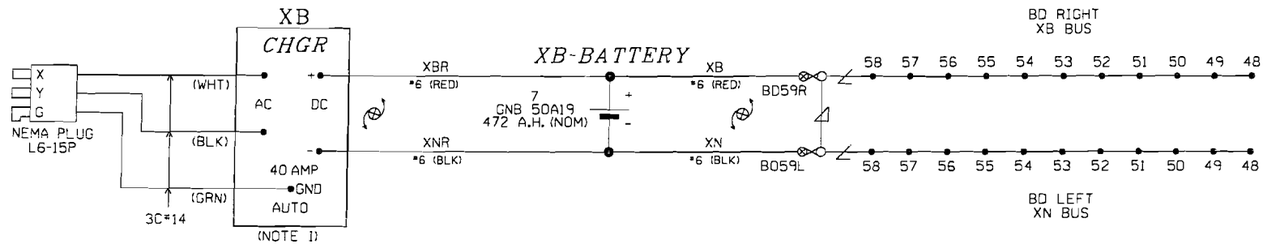
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	1 of 10

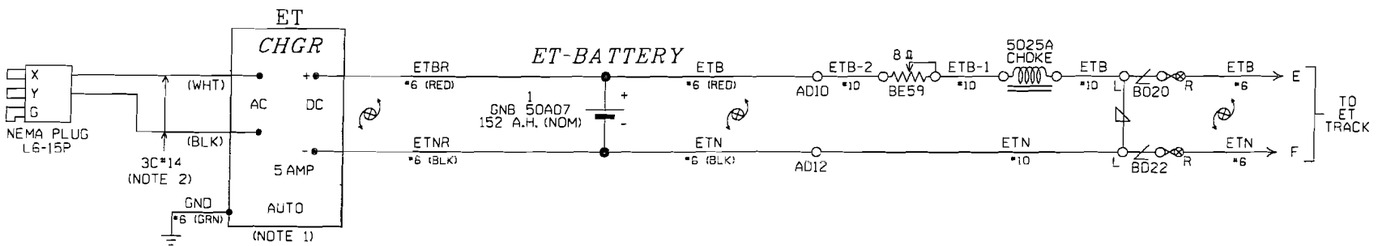
THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

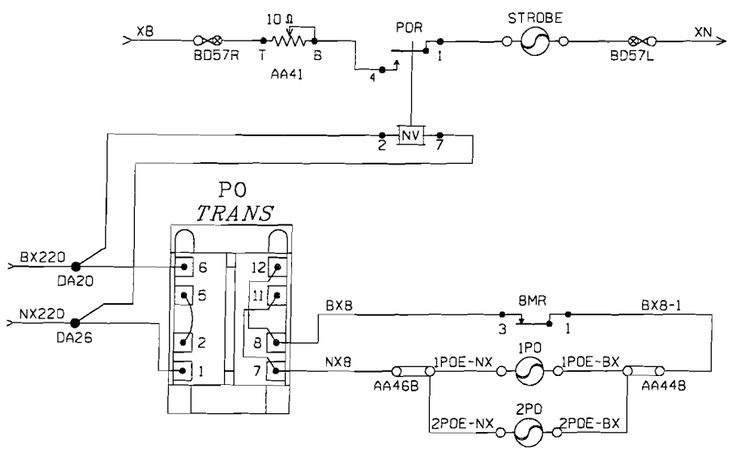
CROSSING TRACK PLAN
EIFF ROAD
LIVELY GROVE, ILLINOIS

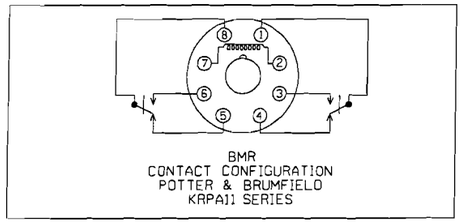
SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

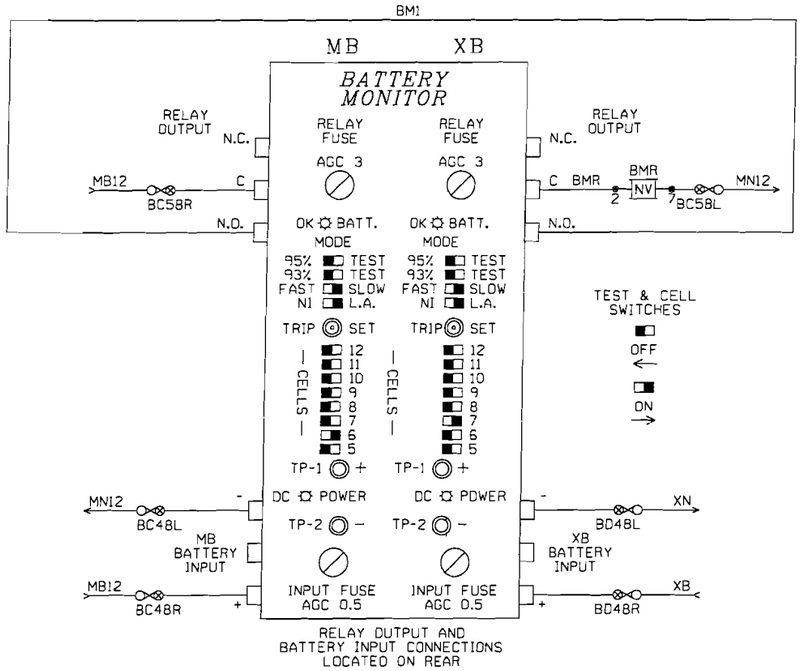












NOTES:
1. USE 240 VOLT SETTING.
2. GREEN GROUND CONDUCTOR IS NOT USED.

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

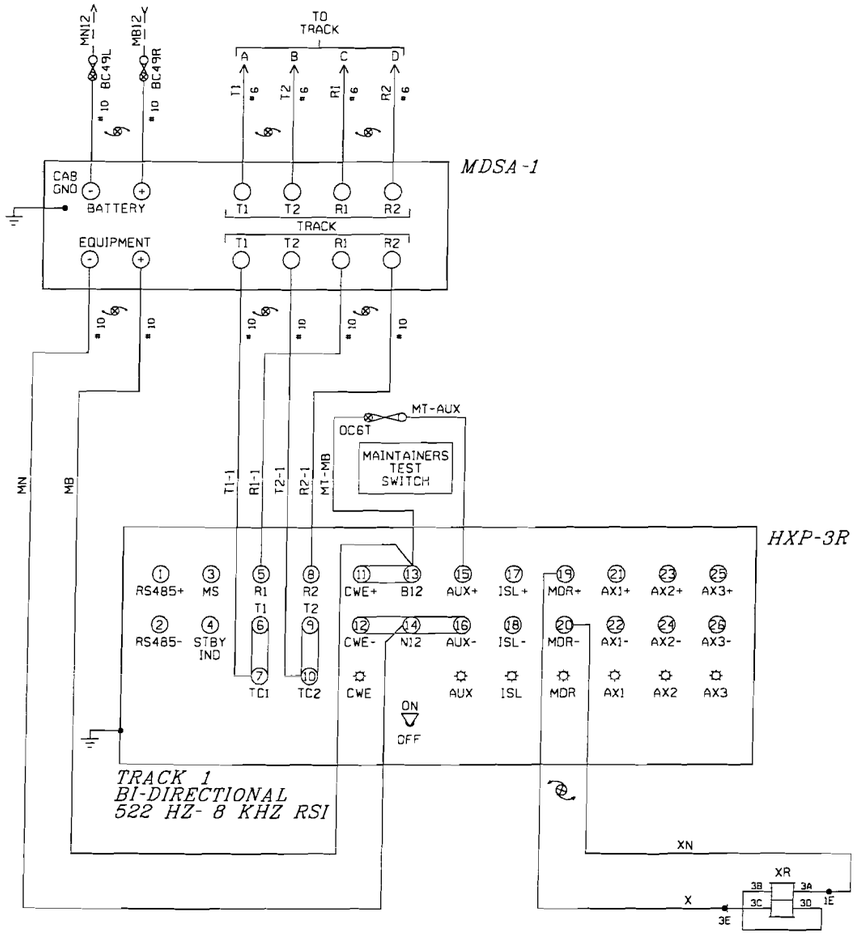
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	2 of 10

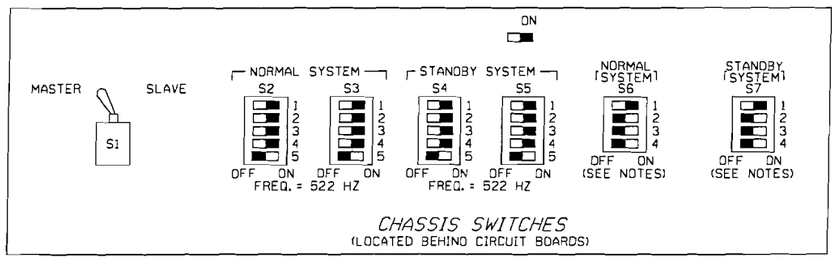
THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

BATTERY & PO CIRCUITS
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Design\8034-1.dgn
JPG 7/18/2008 10:09:25 AM Signal Detail EIFF ROAD





CHASSIS SWITCHES
(LOCATED BEHIND CIRCUIT BOARDS)

NOTES FOR S6 AND S7:

1) ACTUATOR 1 SELECTS NORMAL APPROACH WHEN SET TO ON POSITION.

2) WITH ACTUATOR 1 IN OFF POSITION ACTUATOR 2 SELECTS SHORT APPROACH WHEN OFF AND SELECTS VERY SHORT WHEN ON.

3) ACTUATOR 3 AND 4 RESERVED FOR FUTURE USE.

PROGRAM INFORMATION

PROGRAM VERSION 41.0 OR LATER

* = FIELD ADJUSTMENT TO BE MADE ACCORDING TO THE HXP-3 INSTRUCTION MANUAL.

HXP-3R ADJUSTMENTS

NO.	ADJUSTMENT NAME	TRACK 1
1	APP. LENGTH	1247'
2	WARNING TIME	30 SEC.
3	L1A	*
4	TC	*
5	MD RESTART	0

OPTION ADJUSTMENTS

NO.	ABBREVIATION	TRACK 1
1	TK-ENA	UP
2	TK FO	522 HZ
3	CW/MD	C
4	UNI-BI	b (81)
5	NBS-C	*
6	CWEWT	DL (80 SEC.)
7	LOS	DL (16 SEC.)
8	IJ-LOS	DL (5 SEC.)
9	BC	147 *
10	P-COMP	*
11	AX1	NA
12	AX2	NA
13	AX3	NA
17	MDR-AX	"dn"
	OF-TK 1 OR 2	DL (0)
	CJ-LOS	DL (0)
	PJ-DET	DL (15)
	PJ-RX	DL (15)
18	MD-TMR	DL (10)
19	MIN-WT	DL (0)
20	FS-DET	"dn"
	FS-RX	DL (0)
	FS-TM	DL (10)
21	POS-ST	"dn"
	POS-RX	DL (0)
	POS-TM	DL (0)
22	AR-TMR	"dn"
	AR-RX	DL (0)
	AR-TM	DL (10)
47	ATO-RX	UP
48	PF-ENA	"dn"

AX ADJUSTMENTS

NO.	ABBREVIATION	AX 1	AX 2	AX 3
1	TK-ASN			
2	OF-TK1			
3	WT			
4	MD-RST			
5	CW/MD			
6	CJ-LOS			
7	PJ-DET			
8	PJ-RX			
9	POS-ST			

CIRCUIT BOARD INFORMATION

SWITCH OR JUMPER	TRACK 1
RSI FAULT JUMPER	0
RSI-LOS JUMPER	1
TLM W1 JUMPER	PINS 1-2
TLM W2 JUMPER	PINS 1-2
TLM W3 JUMPER	PINS 2-3
TLM MINUTE TIMEOUT	5 MIN
RYD CW/MD	CW
TLM STANDBY/AUTO/NORMAL	AUTO

NOTE: DL= DEFAULT LEVEL
NA= NON APPLICABLE

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

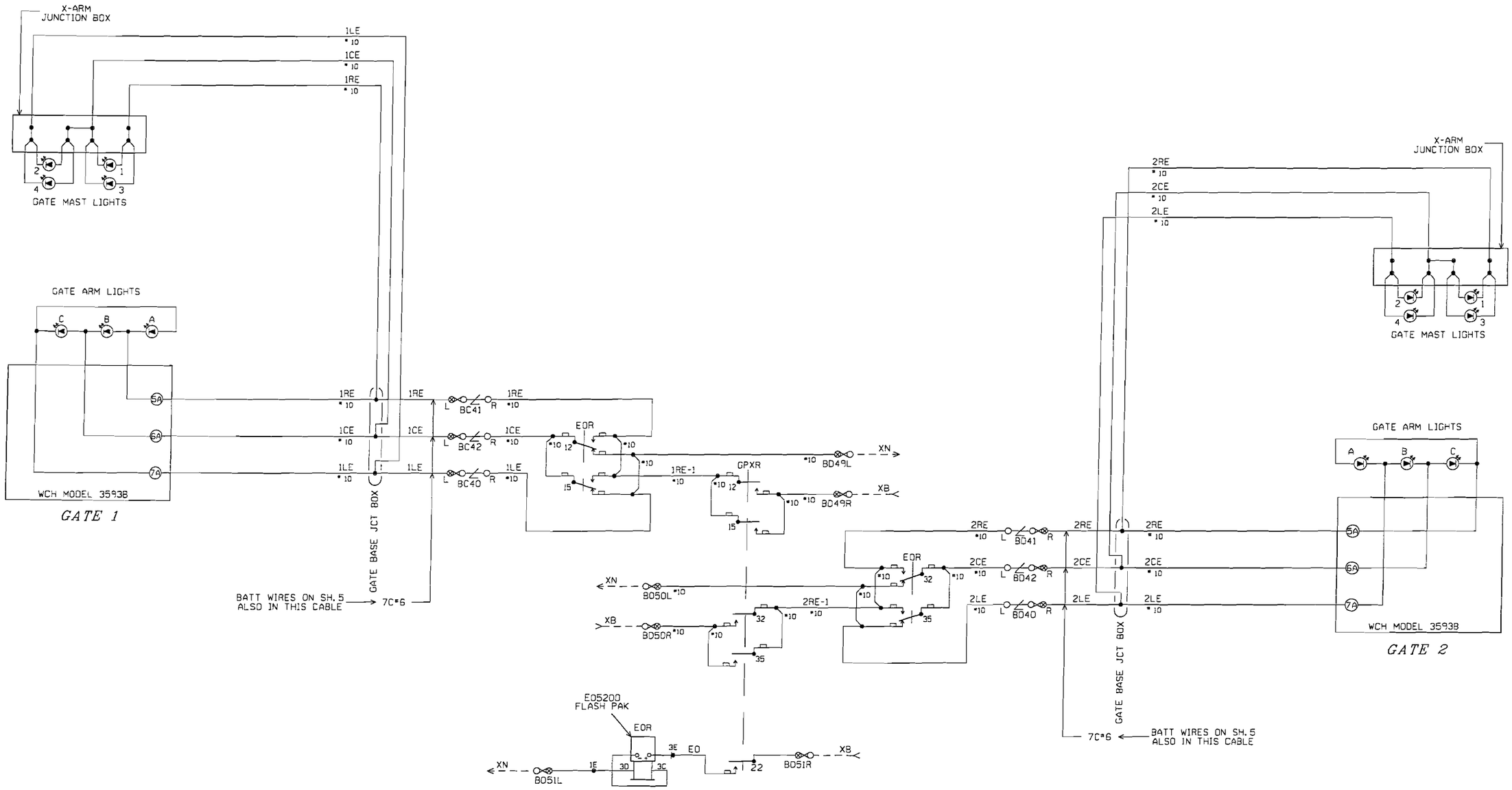
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	3 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

HXP-3R CIRCUITS
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Design\08034-1.dgn
JPG 7/18/2008 10:10:08 AM Signal Detail EIFF ROAD



NOTES:

1. = LED SIGNAL LAMP WITH 8.5 TO 16 VOLT WORKING VOLTAGE.

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

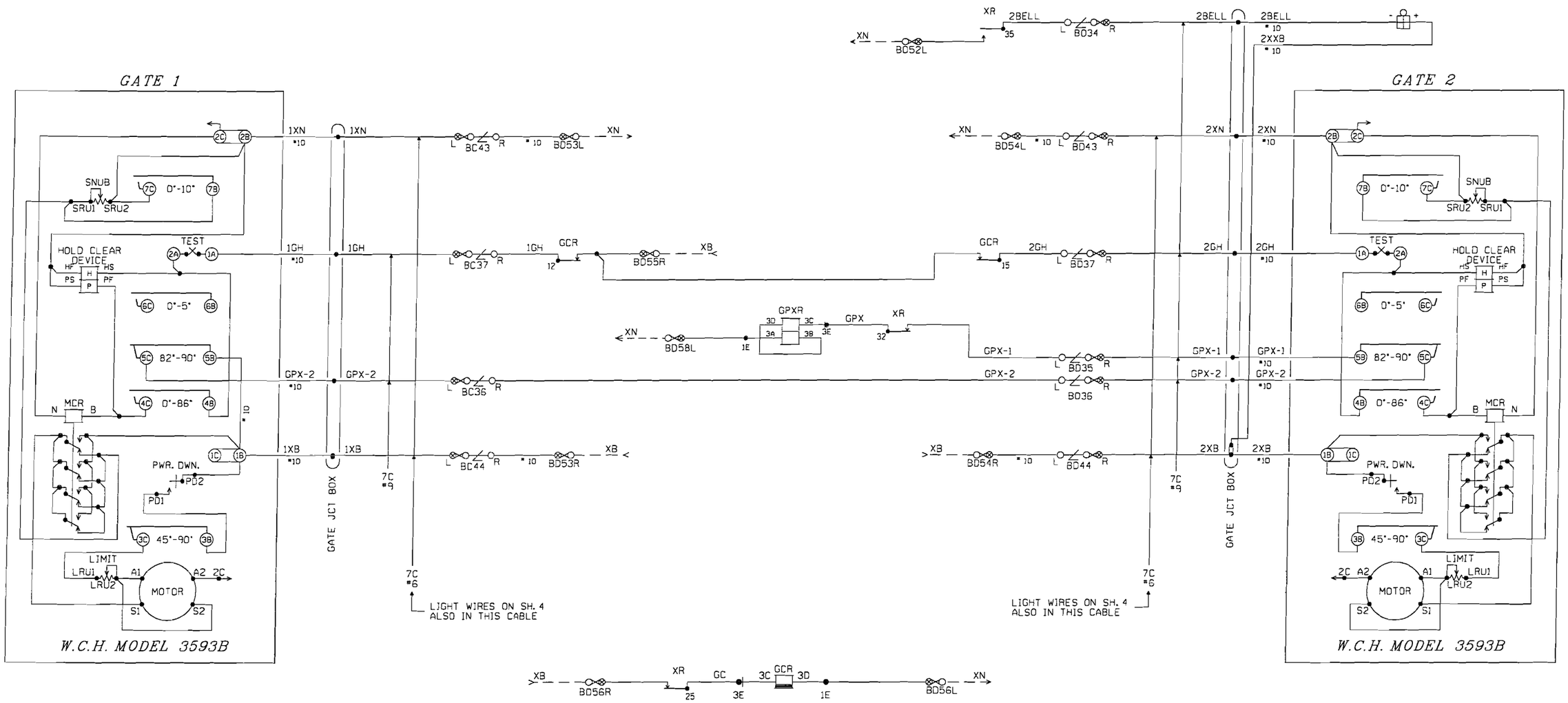
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	4 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

CROSSING LAMP CIRCUITS
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Design\08034-1.dgn
JPG 7/18/2008 10:11:04 AM Signal Detail EIFF ROAD



NOTES:

1. MAINTENANCE SWITCH NOT SHOWN.
2. GATE MECHS SHOWN IN CLEAR POSITION.

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

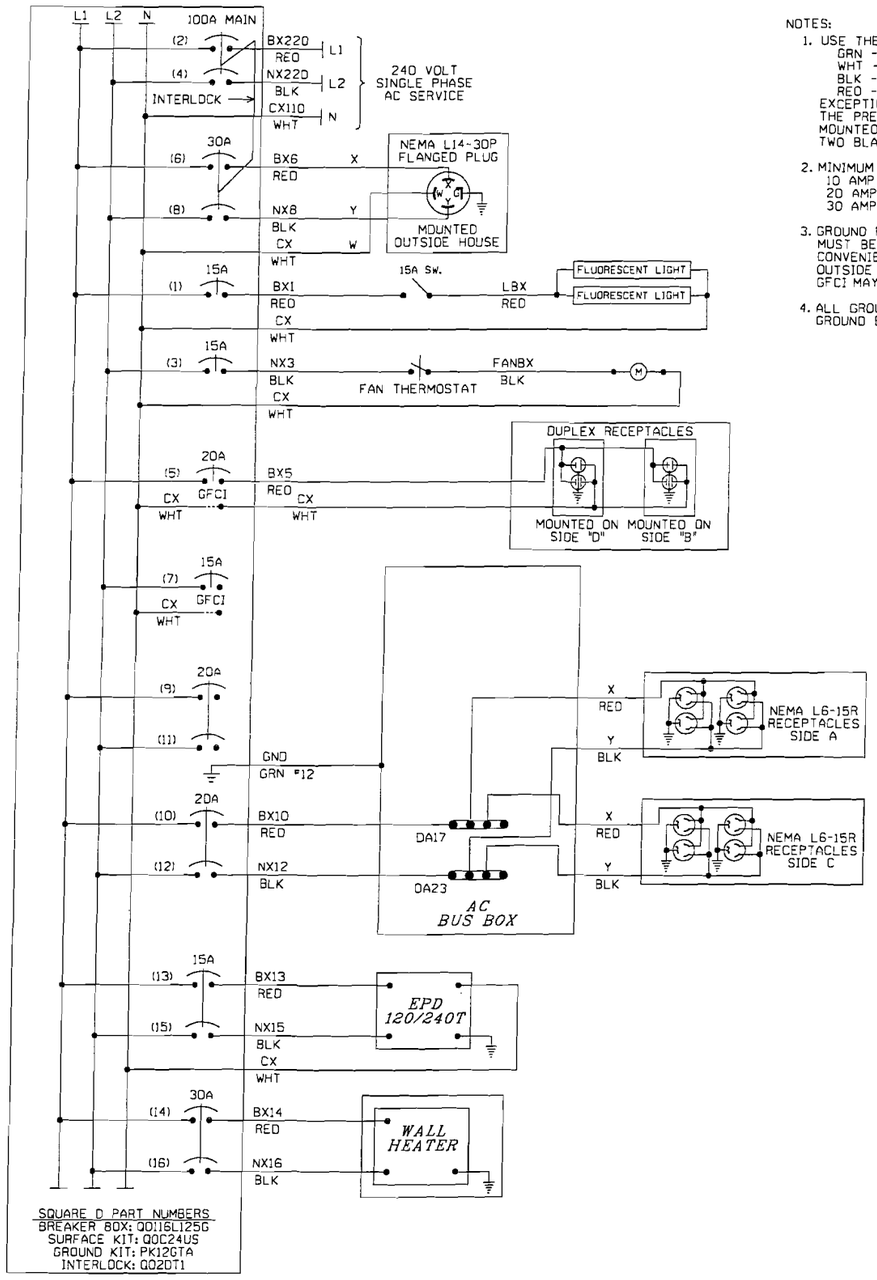
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	5 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

GATE MECHANISMS
EIFF ROAD
LIVELY GROVE, ILLINOIS

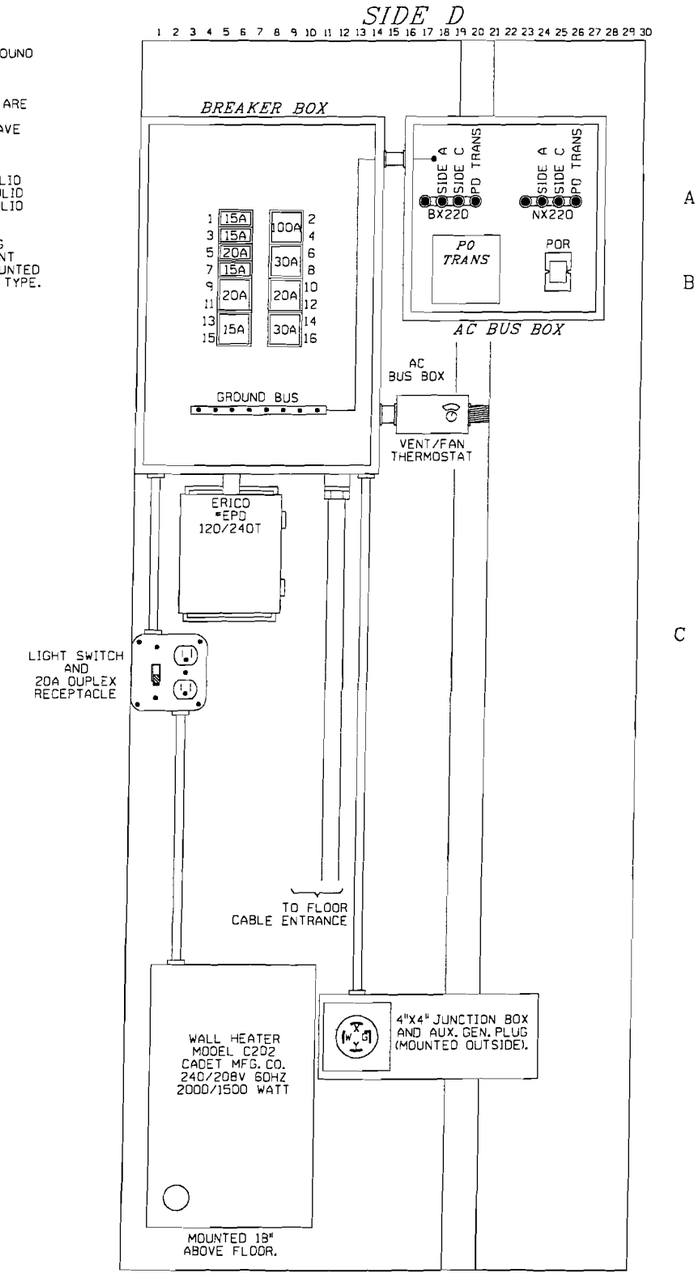
SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Design\08034-1.dgn
JPG 7/18/2008 10:14:43 AM Signal Details EIFF ROAD



NOTES:

1. USE THE FOLLOWING COLOR CODE:
   GRN - GREEN - SAFETY EQUIPMENT GROUND
   WHT - WHITE - CX110 (NEUTRAL)
   BLK - BLACK - NX220 (L2)
   RED - RED - BX220 (L1)
   EXCEPTIONS TO THE ABOVE COLOR CODE ARE THE PRE-WIRED, SEALED ARRESTOR UNITS MOUNTED ON THE BREAKER BOX WHICH HAVE TWO BLACK AND ONE WHITE WIRE EACH.
2. MINIMUM WIRE SIZE
   10 AMP - NO. 14 AWG THHN OR THWN SOLID
   20 AMP - NO. 12 AWG THHN OR THWN SOLID
   30 AMP - NO. 10 AWG THHN OR THWN SOLID
3. GROUND FAULT INTERRUPT (GFCI) MUST BE USED ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USED INSTEAD OF BREAKER TYPE.
4. ALL GROUND WIRES RUN TO BREAKER BOX GROUND BUS



SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

REV #	BY	DATE	DESCRIPTION

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

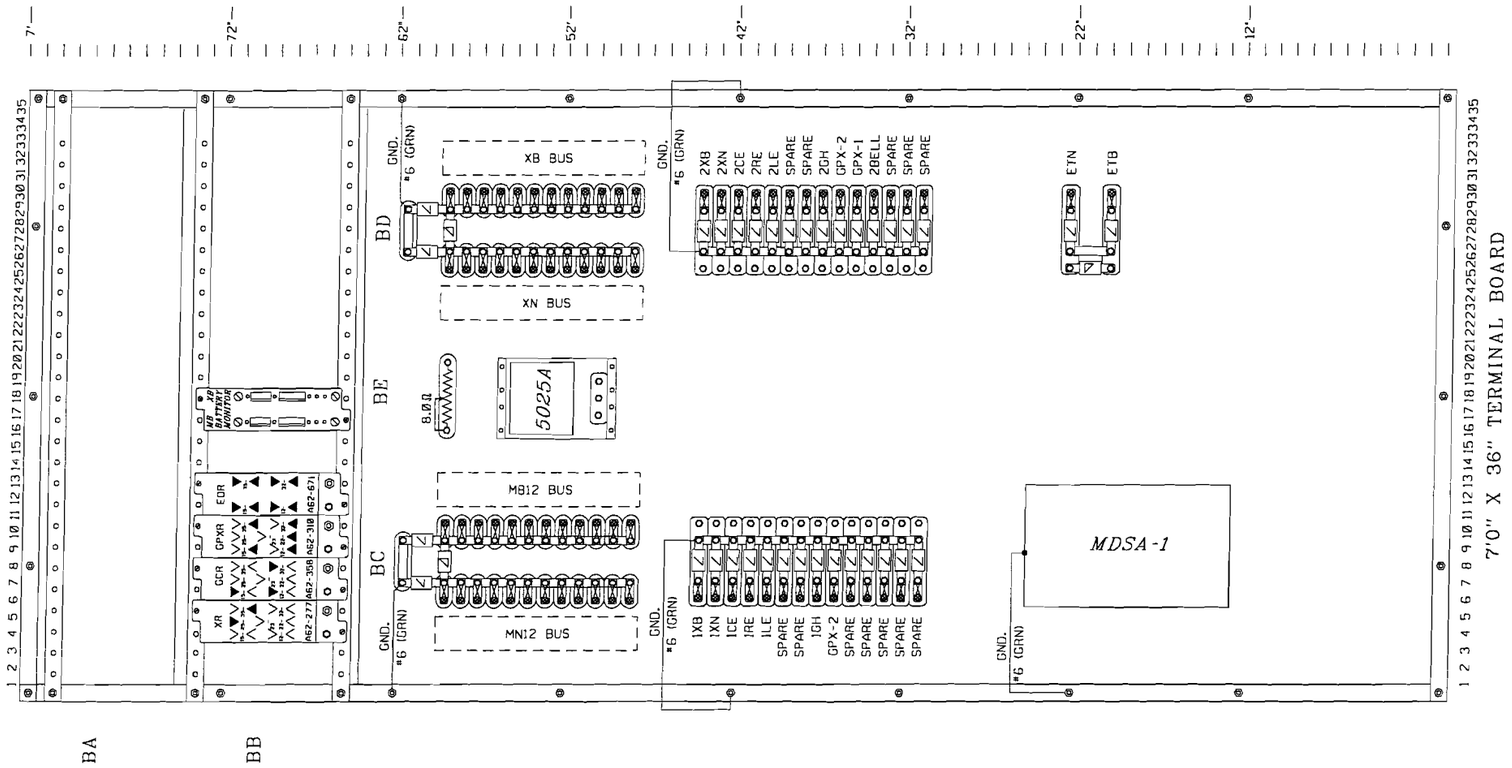
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	6 of 10

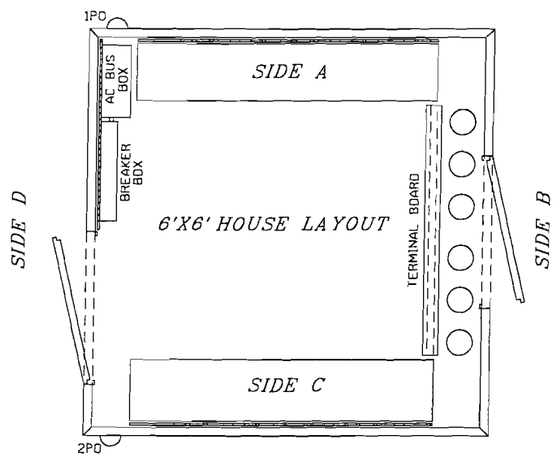
THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

AC POWER DISTRIBUTION
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000Railworks\Prairie State Energy Campus\Design\08034-1.dgn
JPG 7/18/2008 10:12:20 AM Signal Detail EIFF ROAD





BATTERY BUS DETAILS

ROW BC

MN12 BUS (LEFT)		MB12 BUS (RIGHT)
MB BATT(-)	59	MB BATT(+)
BMR 7	58	MB BMON C
	57	
	56	
	55	
	54	
	53	
	52	
	51	
	50	
MDSA-1 BATT(-)	49	MDSA-1 BATT(+)
MB BMON (-)	48	MB BMON (+)

ROW BD

XN BUS (LEFT)		XB BUS (RIGHT)
XB BATT(-)	59	XB BATT(+)
	58	
STROBE (-)	57	AA41T
GCR 1E	56	XR 26
	55	GCR 13
BD43L	54	BD44L
BC43R	53	BC44R
XR 34	52	
EOR 1E	51	GPXR 22
EDR 31	50	GPXR 31
EOR 11	49	GPXR 11
XB BMON (-)	48	XB BMON (+)

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

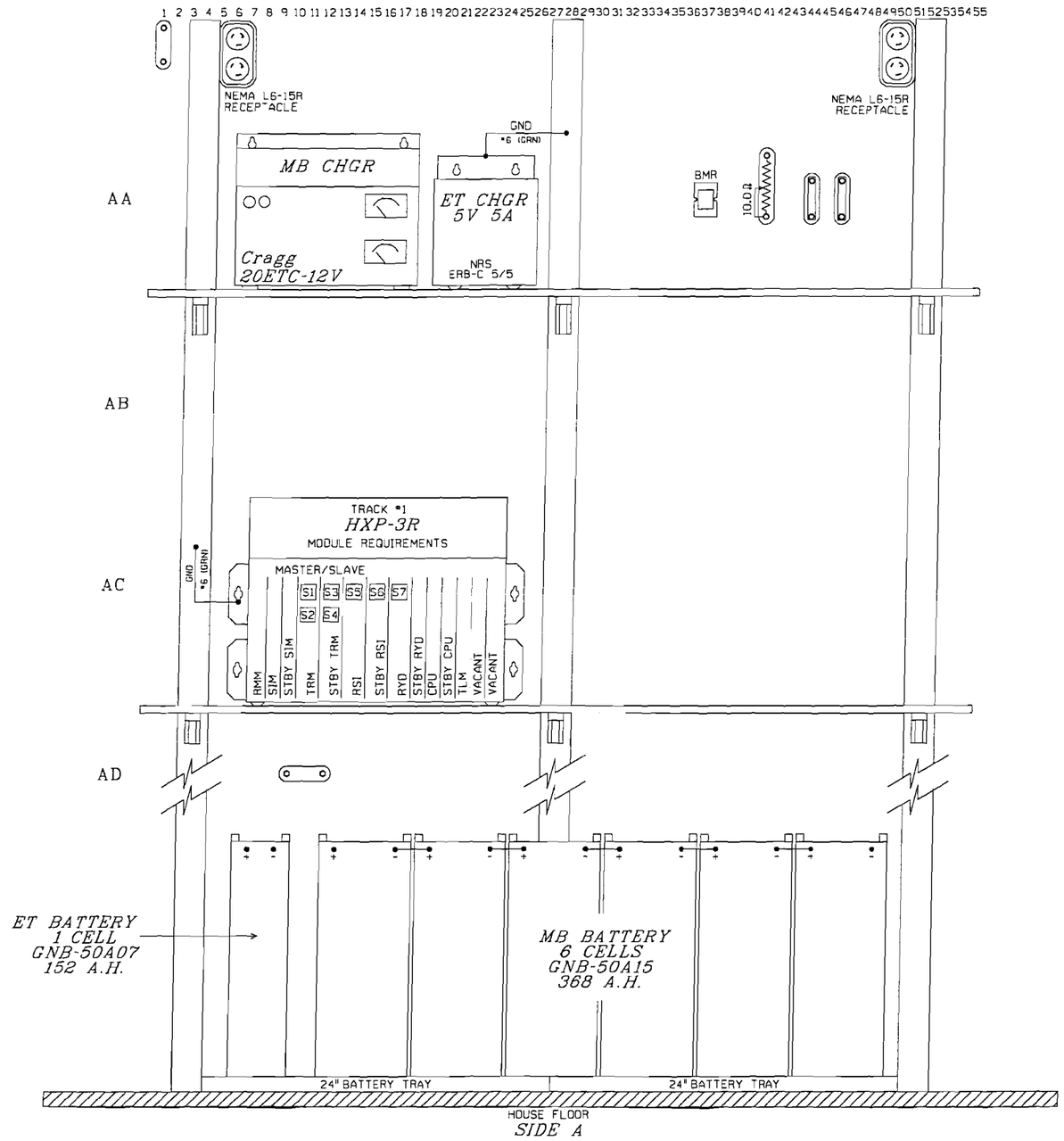
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	7 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

TERMINAL BOARD
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000s\Railworks\Prairie State Energy Campus\Design\8034-1.dgn
JPG 7-18-2008 8:14:23 PM Signal Detail EIFF ROAD



SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

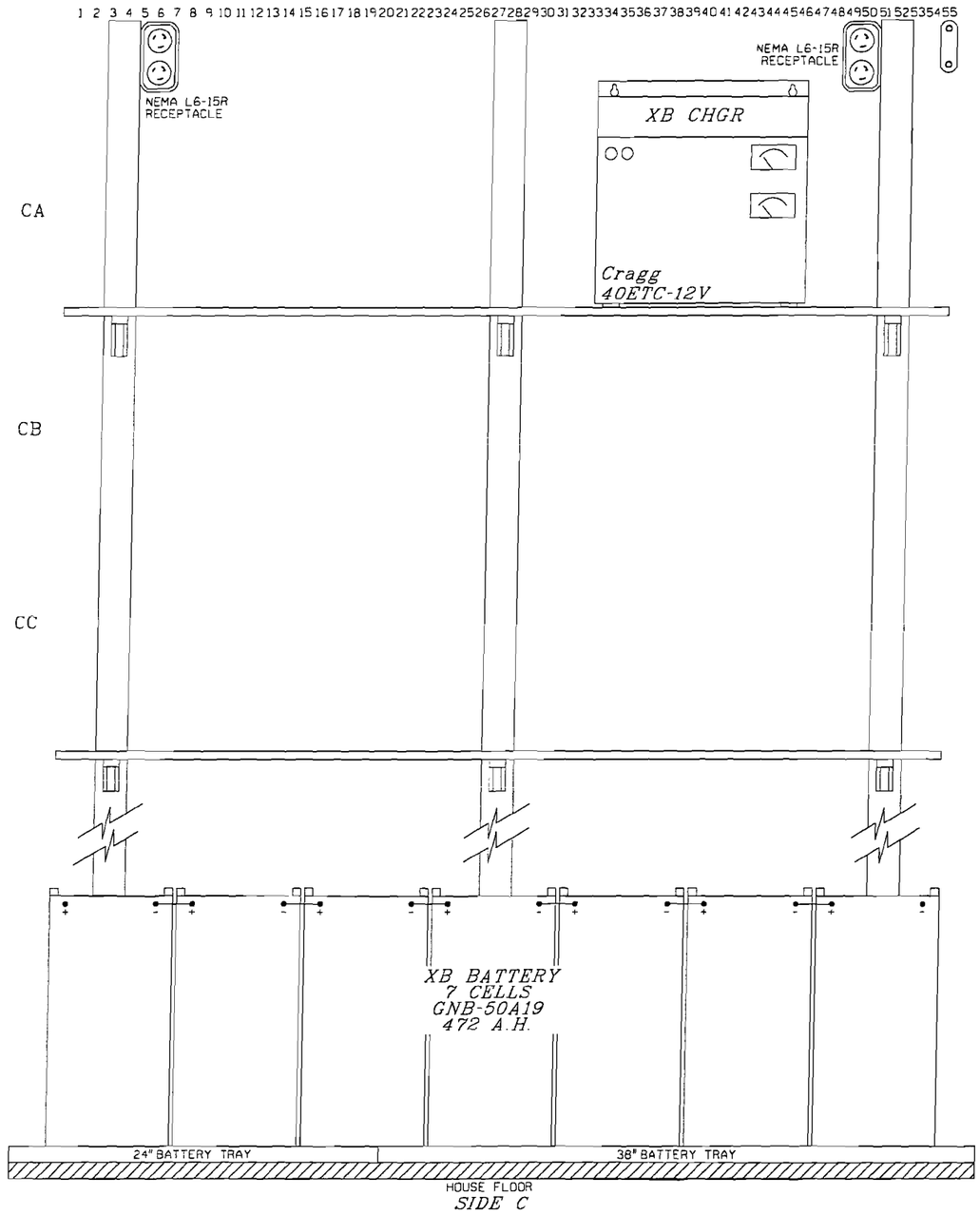
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	8 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

SIDE A HOUSE LAYOUT
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Design\08034.dgn
JPG 7/18/2008 10:32:08 AM Signal Detail EIFF ROAD



SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

REV #	BY	DATE	DESCRIPTION

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

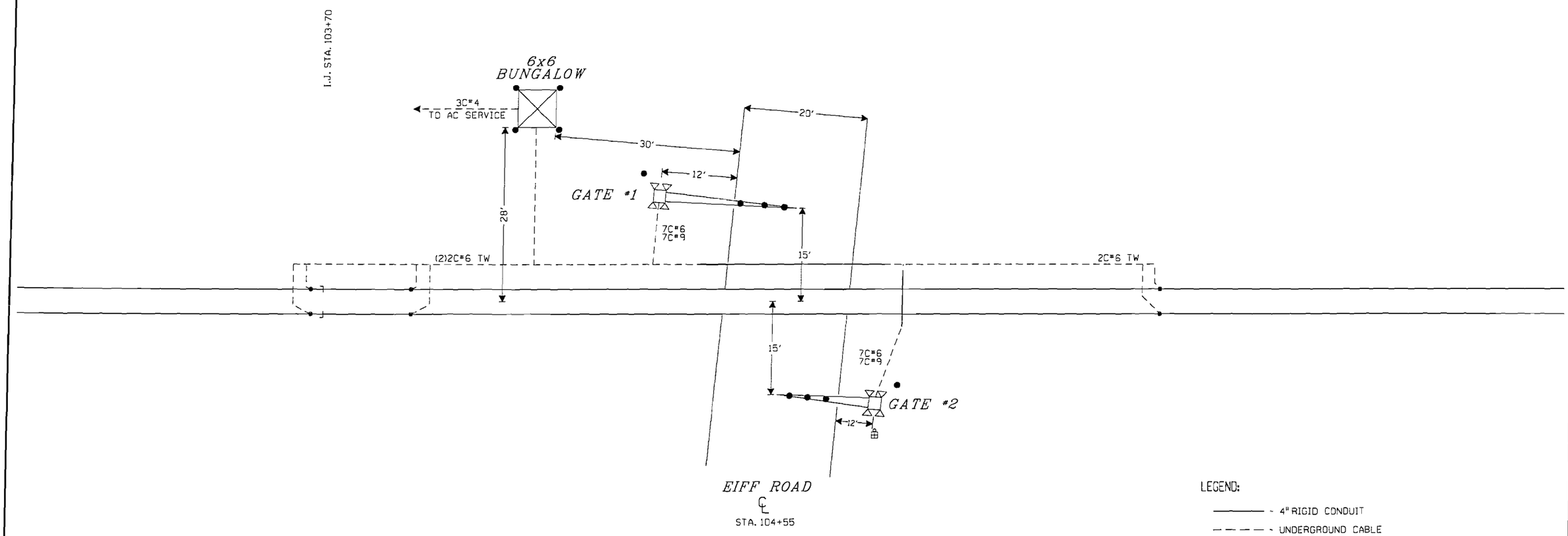
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	9 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

SIDE C HOUSE LAYOUT
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Design\8034-1.dgn
JPG 7/18/2008 10:15:41 AM Signal Detail EIFF ROAD



LEGEND:

- 4" RIGID CONDUIT
- UNDERGROUND CABLE
- GROUND ROD POINTS

SIGNAL EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

REV #	BY	DATE	DESCRIPTION

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

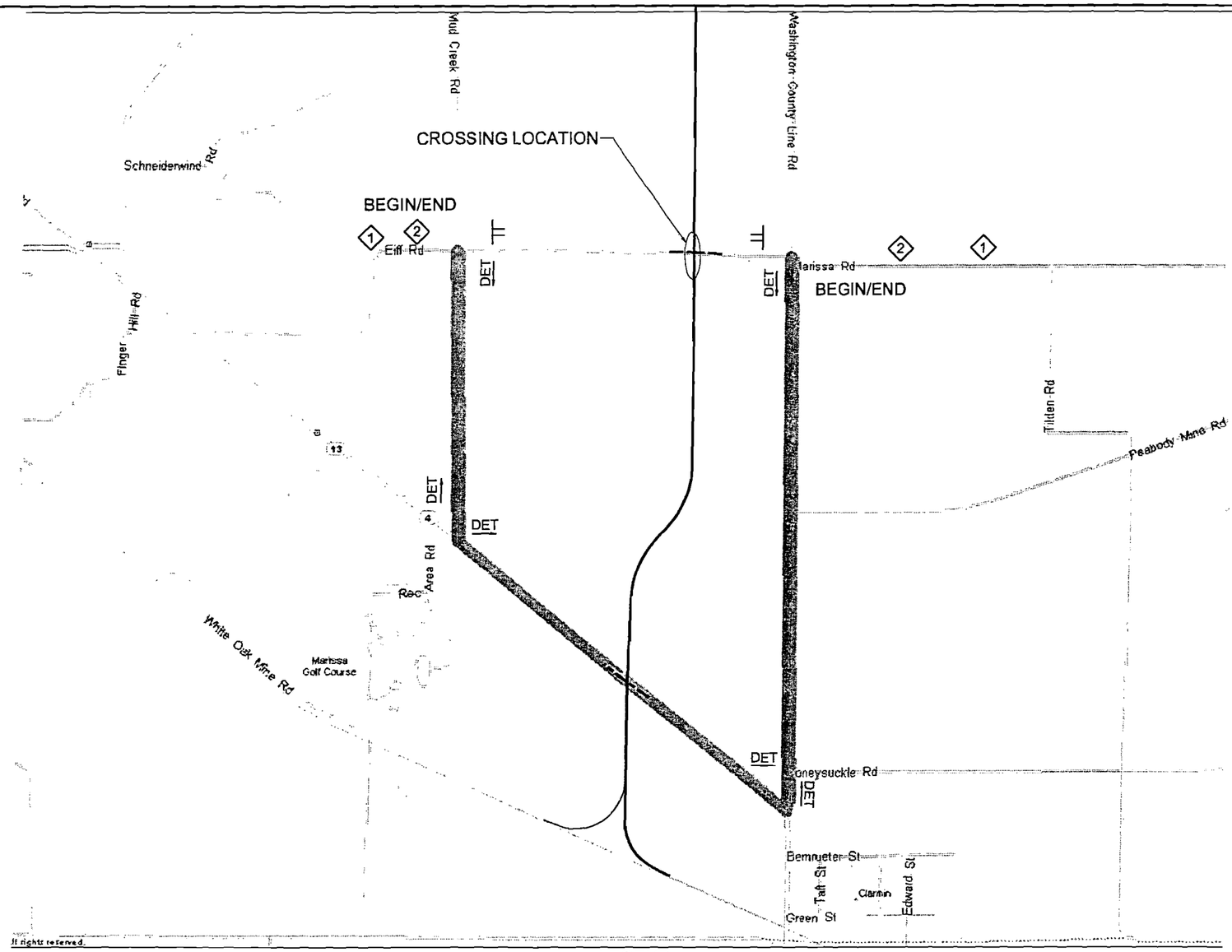
Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	10 of 10

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

CABLE & FOUNDATION PLAN
EIFF ROAD
LIVELY GROVE, ILLINOIS

SIGNAL DETAILS
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.

S:\8000\Railworks\Prairie State Energy Campus\Dwgs\08034-1.dgn
JPG 7/18/2008 10:14:17 AM Signal Detail EIFF ROAD



All rights reserved.

EQUIPMENT

2	TYPE III BARRICADE W/ LIGHT & RD CLOSED AHEAD LTO
4	TYPE III BARRICADE W/ LIGHT & RD CLOSED AHEAD
2	ROAD CLOSED AHEAD W/L
2	DETOUR AHEAD
6	DETOUR —/—

NOTE: THE RAIL WORK SHOWN IS NOT TO SCALE AND ONLY SHOWS AN APPROXIMATE CROSSING LOCATIONS

LEGEND

TT	TYPE III BARRICADE W/ LIGHT & RD CLOSED AHEAD LOCAL TRAFFIC ONLY
DET	DETOUR
DET	DETOUR
1	ROAD CLOSED AHEAD
2	DETOUR AHEAD

EIFF ROAD DETOUR MAP

DETOUR EXHIBIT

RailWorks Track Services®
4301 BRIDGETON INDUSTRIAL DR.
ST. LOUIS, MISSOURI 63044
(314) 291-2233 FAX (314) 291-2266

DESIGN NINE
11166 TESSON FERRY ROAD
SUITE 100
ST. LOUIS MO, 63123-6966
(314) 729-7600
ENGINEERING SERVICES FOR RAILROADS AND INDUSTRY

REV #	BY	DATE	DESCRIPTION

Drawn By:	JPG	Date:	07/18/2008
Checked By:	RSS/BER	CAD File:	8034-1.dgn
Scale:	NO SCALE	Drawing No.:	1 of 1

- ISSUED -
FOR CONSTRUCTION

DETOUR PROPOSAL
HIGHWAY TECHNOLOGIES

EIFF ROAD
MARISSA, ILLINOIS
TRACKAGE TO SERVE:
PRAIRIE STATE GENERATING CO., LLC.