```
Minimum Program Steps Report
----------------------------

Location and SIN
----------------
DOT Number: 173891W
Milepost Number: M.P. 11.09
Site Name: CHICAGO, ILLINOIS

SIN: 762010010016 *

* Parameter is part of office check number calculation.

MCF and Template Selection
--------------------------
MCF Name: GCP-T6X-02-4.mcf
MCF Revision: 24
MCFCRC: 09FC363B

Template = 1D:3 Uni pairs (OCCN) *

* Parameter is part of office check number calculation.

Minimum Program Steps
---------------------
TEMPLATE:  module configuration
Track 5/RIO 2 Slot = RIO (OCCN) *
SSCC 1 Slot = Not Used (OCCN) *
SSCC 2 Slot = Not Used (OCCN) *

TEMPLATE:  track 1-Uni, Island
Track 1 : GCP Frequency = 430 Hz (Field,TCN)
Track 1 : Approach Distance = 2480 ft (Set in Field,TCN)
Track 1 : Prime Warning Time = 41 sec (OCCN) *
Track 1 : Prime UAX = IP (OCCN) *
Track 1 : Prime UAX Pickup = 15 sec (OCCN) *
Track 1 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 1 : Uni/Bi/Sim-Bidirnl = Sim. Bidirnl (OCCN) *
Track 1 : Isl Frequency = 4.0 kHz (Set in Field)
Track 1 : Island Distance = 157 ft (Set in Field,TCN)

TEMPLATE:  track 1 Daxes
Track 1 : Dax A Used = Yes (OCCN) *
Track 1 : Dax A Warning Time = 48 sec (OCCN) *
Track 1 : Dax A Offset Distance = 4040 ft (Set in Field)
Track 1 : Dax B Used = Yes (OCCN) *
Track 1 : Dax B Warning Time = 55 sec (OCCN) *
Track 1 : Dax B Offset Distance = 5411 ft (Set in Field)

TEMPLATE:  track 2-Uni,No Island
Track 2 : GCP Frequency = 285 Hz (Field,TCN)
Track 2 : Approach Distance = 2628 ft (Set in Field,TCN)
Track 2 : Prime Warning Time = 41 sec (OCCN) *
Track 2 : Prime UAX = IP (OCCN) *
Track 2 : Prime UAX Pickup = 15 sec (OCCN) *
Track 2 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 2 : Uni/Bi/Sim-Bidirnl = Sim. Bidirnl (OCCN) *

TEMPLATE:  track 2 Daxes
Track 2 : Dax A Used = Yes (OCCN) *
Track 2 : Dax A Warning Time = 27 sec (OCCN) *
Track 2 : Dax A Offset Distance = 1145 ft (Set in Field)
Track 2 : Dax B Used = Yes (OCCN) *
Track 2 : Dax B Warning Time = 54 sec (OCCN) *
Track 2 : Dax B Offset Distance = 2434 ft (Set in Field)
Track 2 : Dax C Used = Yes (OCCN) *
Track 2 : Dax C Warning Time = 54 sec (OCCN) *
Track 2 : Dax C Offset Distance = 3173 ft (Set in Field)

TEMPLATE:  track Anding
AND 2 Used = Yes (OCCN) *
AND 3 Used = Yes (OCCN) *

TEMPLATE:  AND 2
AND 2 Track 2 = Dax B (OCCN) *
AND 2 Enable Used = Yes (OCCN) *

TEMPLATE:  AND 3
AND 3 Track 2 = Dax C (OCCN) *
AND 3 Enable Used = Yes (OCCN) *

TEMPLATE:  OOS
OOS Control = OOS IPs (OCCN) *
T2 OOS Control = OOS Input 1 (OCCN) *

TEMPLATE:  OP assignment 1
OUT 1.1 = T1 Dax A (OCCN) *
OUT 2.1 = T2 Dax A (OCCN) *
OUT 2.2 = AND 2 (OCCN) *

TEMPLATE:  OP assignment 2
OUT 5.1 = T1 Dax B (OCCN) *
OUT 5.2 = AND 3 (OCCN) *
OUT 5.3 = AND 1 XR (OCCN) *

TEMPLATE:  IP assignment 1
IN 1.2 = Out Of Service IP 1 (OCCN) *
IN 2.1 = T2 Prime UAX (OCCN) *
IN 2.2 = AND 2 Enable (OCCN) *

TEMPLATE:  IP assignment 2
IN 5.1 = T1 Prime UAX (OCCN) *
IN 5.2 = AND 3 Enable (OCCN) *

ADVANCED:  site options
Daylight Savings = On (Set in Field)

* Parameter is part of office check number calculation.

Check Numbers
-------------
Office Check Number: 0C0007A1
Config. Check Number: 1028CF6B
(Based on MCF Revision 24)

Parameters not part of office check number calculation:

Track 1 : GCP Frequency = 430 Hz
Track 1 : Approach Distance = 2480 ft (Set in Field)
Track 1 : GCP Transmit Level = Medium (Set in Field)
Track 1 : Isl Frequency = 4.0 kHz
Track 1 : Island Distance = 157 ft (Set in Field)
Track 1 : Dax A Offset Distance = 4040 ft (Set in Field)
Track 1 : Dax B Offset Distance = 5411 ft (Set in Field)
Track 2 : GCP Frequency = 285 Hz
Track 2 : Approach Distance = 2628 ft (Set in Field)
Track 2 : GCP Transmit Level = Medium (Set in Field)
Track 2 : Dax A Offset Distance = 1145 ft (Set in Field)
Track 2 : Dax B Offset Distance = 2434 ft (Set in Field)
Track 2 : Dax C Offset Distance = 3173 ft (Set in Field)
Daylight Savings = On (Set in Field)

Comments
--------
<none>

Configuration Package File
--------------------------
Filename: HAR1109_173891W_B.pac
Path: H:\01-Xing\up110143\GCP Programs\M.P. 11.09\
Date/Time: 11/03/2012 8:35:08
```

NEW SHEET

Designed: 03/08/13
NAGLE CORRIDOR PROJECT. REPLACE DC CIRCUITS W/ CWT FROM M.P. 9.68 TO M.P. 12.45
Rec*: WO*: 11289
IS: DLD/JPW
/ /PRS/JTB

NOTE: Actual OFFSET and ISLAND distances must be verified by field personnel.

CIRCUIT MODIFICATIONS ARE NOT TO BE MADE WITHOUT AUTHORITY FROM THE OFFICE OF SIGNAL DESIGN

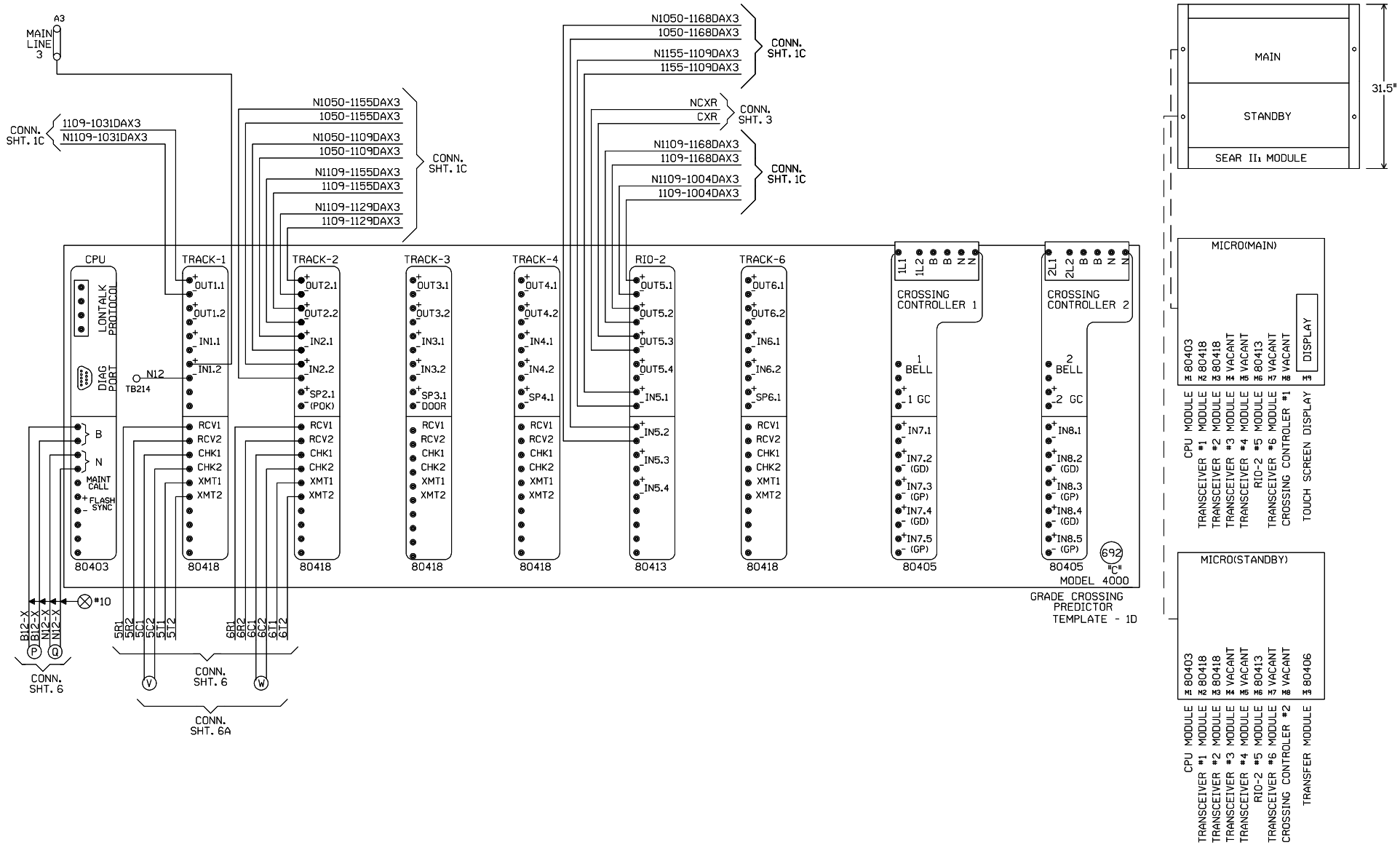
Date:	03/08/13
Des:	PRS
Chk:	DLD/JPW
AFE:	11289

UNION PACIFIC RAILROAD

CHICAGO, ILLINOIS
RAVEN AVENUE
HARVARD SUBDIVISION

Office of Sr AVP Engineering - Signal/TCO Omaha, Nebraska

Sh.:	4A
DOT	173891W
MP:	11.09
ID:	HAR1109.4AX



"Mf" FREQUENCY (HZ)	MAXIMUM TRANSMIT WIRE LENGTH (FEET)
86	100
114	125
156	150
211	200
285-970	250

NOTE:
EACH TRANSMITTER TO RAIL WIRE FROM XMT1 AND XMT2 MUST NOT EXCEED THE MAXIMUM LENGTH SPECIFIED IN THE TABLE SHOWN. THE RECEIVER WIRE LENGTH IS NOT CRITICAL. DOES NOT APPLY TO 6 TRACK WIRE APPLICATION.

NEW SHEET

Designed: 03/08/13
NAGLE CORRIDOR PROJECT. REPLACE DC CIRCUITS W/ CWT FROM M.P. 9.68 TO M.P. 12.45
Rec#: WO#: 11289
ISS: DLD/JPW
/ /PRS/JTB

MODIFICATION LEVEL	
Q. A. LAST LEVEL CHECKED	DU
LAST LEVEL MOD THIS TYPICAL	DU
LAST LEVEL BY DESIGNER	DU
CHANGED FROM TYPICAL?	Y

REV 01.24.11 4K 4TKB4GF.3

CIRCUIT MODIFICATIONS ARE NOT TO BE MADE WITHOUT AUTHORITY FROM THE OFFICE OF SIGNAL DESIGN

Date: 03/08/13
Des: PRS
Chk: DLD/JPW
AFE: 11289

UNION PACIFIC RAILROAD
CHICAGO, ILLINOIS
RAVEN AVENUE
HARVARD SUBDIVISION
Office of Sr AVP Engineering - Signal/TCO Omaha, Nebraska

Sh.: 5
DOT 173891W
MP: 11.09
ID: HAR1109.5X