Crescent Point
ENERGY CORP

MANSON BATTERY

LSD 16-04-13-28 W1M

TRUCK STATION METER BUILDING

CIVIL/STRUCTURAL DRAWING PACKAGE

ISSUED FOR CONSTRUCTION

2013.10.23

PREPARED BY

TRIDYNE PROJECTS
CORPORATION

TRIDYNE PROJECT #: 2012126

ISSUED FOR
CONSTRUCTION

OCT 2 4 2013

Crescent Point
ENERGY CORP

MANSON BATTERY 16-04-13-28 W1M - INITIAL CASE
TRUCK STATION METER BUILDING - CIVIL/STRUCTURAL DRAWING LIST
CRP-MNS-16-04-DL-005

ISSUED FOR
CONSTRUCTION
OCT 24 2013

DRAWING INDEX

DRAWING No.	TITLE	REV. No.
COVER PAGE	TRUCK STATION METER BUILDING – CIVIL/STRUCTURAL DRAWING PACKAGE	
CRP–MNS–16–04–DL–005	TRUCK STATION – METER BUILDING – MECHANICAL DRAWING LIST	
CRP–MNS–16–04–STR–001	MANSON BATTERY – STRUCTURAL STEEL – GENERAL NOTES	0
CRP–MNS–16–04–STR–620	MANSON BATTERY – TRUCK METERING PACKAGE – (BU–620) – SKID PLAN AND PIPE SUPPORT ELEVATIONS	0
CRP–MNS–16–04–STR–621	MANSON BATTERY – TRUCK METERING PACKAGE – (BU–620) – PIPE SUPPORT PLAN AND ELEVATIONS	0
CRP–MNS–16–04–STR–622	MANSON BATTERY – TRUCK METERING PACKAGE – (BU–620) – SECTIONS AND DETAILS	0
CRP–MNS–16–04–ARC–620	MANSON BATTERY – TRUCK METERING PACKAGE – (BU–620) – PLAN, ELEVATIONS & NOTES	0

DRAWING No.	TITLE	REV. No.

1. GENERAL

1.1. ALL THE CODES, STANDARDS AND SPECIFICATIONS LISTED SHALL BE THE LATEST EDITION, INCLUDING ADDENDA AND SUPPLEMENTS, IF ANY.

1.2. ALL ELEVATIONS AND COORDINATES ARE IN METERS, UNLESS NOTED OTHERWISE.

1.3. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE IN MILLIMETERS.

1.4. ALL STEEL SECTION DESIGNATIONS PER CANADIAN INSTITUTE OF STEEL CONSTRUCTION (CISC) HANDBOOK, LATEST EDITION.

1.5. DESIGN OF STEEL STRUCTURES SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA S16-09, "DESIGN OF STEEL STRUCTURES".

1.6. DETAILING, FABRICATION AND DELIVERY OF STEEL STRUCTURES SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA S16-09, "DESIGN OF STEEL STRUCTURES".

1.7. ERECTION OF STEEL STRUCTURES SHALL CONFORM TO CLIENT REQUIREMENTS.

1.8. ALL MEMBERS WITH THE WEB IN THE HORIZONTAL PLANE SHALL HAVE 10mm DIA (3/8") DRAIN HOLES AT 1500mm (5'-0") CENTERS ON THE CENTERLINE OF THE WEB FOR THE FULL LENGTH OF THE MEMBER, MINIMUM ONE HOLE.

1.9. FOR DISCREPANCY BETWEEN THESE NOTES, THE CONTRACT, DRAWINGS AND CLIENT STANDARDS, THE MOST STRINGENT SHALL APPLY.

1.10. DESIGN, FABRICATION AND HANDLING OF ALL STRUCTURAL STEEL SUPPORT SKIDS SHALL CONFORM TO CLIENT REQUIREMENTS.

1.11. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL COMPLY WITH OCCUPATIONAL HEALTH AND SAFETY CODE.

2. MATERIALS

UNLESS OTHERWISE SPECIFIED ON THE DESIGN DRAWINGS OR IN THE PROJECT DOCUMENTS, STRUCTURAL STEEL MATERIALS SHALL BE AS LISTED BELOW:

2.1. STRUCTURAL STEEL:

* CAN/CSA G40.20/G40.21-M, GRADE 350W FOR WWF & W SECTIONS.
* CAN/CSA G40.20/G40.21-M, GRADE 350WT, CATEGORY 4, STANDARD IMPACT TEST TEMPERATURE OF -45°C WITH A MINIMUM AVERAGE ABSORBED ENERGY OF 27J, WHEN WELDABLE NOTCH-TOUGH STRUCTURAL STEEL SECTIONS, PLATES OR FLATS ARE SPECIFIED ON THE DRAWINGS.
* CAN/CSA G40.20/G40.21-M, GRADE 300W FOR MISCELLANEOUS STEEL SHAPES, ANGLES, CHANNELS AND PLATES, INCLUDING GUSSET PLATES, BASE PLATES, STIFFENER PLATES, ETC.

2.2. HOLLOW STRUCTURAL SECTIONS (SQUARE, RECTANGULAR AND ROUND):

* CAN/CSA G40.20/G40.21-M, GRADE 350W, CLASS C, UNLESS NOTED ON THE DRAWINGS AS CLASS H.

2.3. FLOOR PLATES, GRATING, STAIRS, KICK PLATES, RAILINGS, AND MISCELLANEOUS STEEL:

* CAN/CSA G40.20/G40.21-M, GRADE 300W.

2.4. LIFTING LUG PLATES:

* CAN/CSA G40.20/G40.21-M, GRADE 350WT, CATEGORY 4, STANDARD IMPACT TEST TEMPERATURE OF -45°C WITH A MINIMUM AVERAGE ABSORBED ENERGY OF 27J.

2.5. STEEL PIPES AS STRUCTURAL MEMBERS:

* ASTM A53/A53M, TYPE E (WELDED) OR S (SEAMLESS), GRADE B.

2.6. HIGH STRENGTH BOLT ASSEMBLIES (BOLTS, NUTS AND WASHERS).

* ASTM A325, TYPE 1 GALVANIZED BOLTS, NUTS AND HARDENED WASHERS SHALL BE USED ON STRUCTURES/CONNECTIONS WHERE COATINGS ARE REQUIRED TO RESIST CORROSIVE ENVIRONMENTS.
* ASTM A325, TYPE 1 PLAIN (NON-GALVANIZED) BOLTS, NUTS AND HARDENED WASHERS SHALL BE USED ON STRUCTURES/CONNECTIONS WHERE COATINGS ARE NOT REQUIRED TO RESIST CORROSIVE ENVIRONMENTS.
* ASTM A490 BOLTS, NUTS AND HARDENED WASHERS MAY BE USED IN HEAVY CONNECTIONS. ASTM A490 BOLT ASSEMBLIES SHALL NOT BE GALVANIZED. THEY SHALL BE LEFT BLACK AND FIELD PAINTED IF REQUIRED TO MATCH THE COATINGS SYSTEM SPECIFIED FOR STRUCTURAL STEEL.

2.7. STANDARD BOLTS, NUTS AND WASHERS:

* ASTM A307, GRADE A BOLTS, NUTS AND WASHERS. PLAIN OR GALVANIZED ASSEMBLIES SHALL BE USED PER NOTE 2.6.

2.8. WELDING ELECTRODES:

* CSA W48.1-M, E49XX

2.9. WELDING FILLER METAL AND FLUX SHALL CONFORM TO THE FOLLOWING CSA W48 SERIES OF STANDARDS:

* CSA W48.1 SOLID MILD STEEL FILLER METALS FOR GAS SHIELDED ARC WELDING
* CSA W48.3 CARBON STEEL ELECTRODES FOR FLUX AND METAL CORED ARC WELDING
* CSA W48.4 BARE MILD STEEL ELECTRODES AND FLUXES FOR SUBMERGED-ARC WELDING
* CSA W48.5 MILD STEEL COVERED ARC WELDING ELECTRODES
* CSA W48.6 LOW ALLOY STEEL COVERED ARC WELDING ELECTRODES

2.10. MTO QUANTITIES SHOWN ON DESIGN DRAWINGS ARE FOR INFORMATION ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN MTO BASED ON LATEST DESIGN DRAWINGS.

3. CONNECTION DESIGNS

3.1. CONNECTION DESIGNS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CAN/CSA S16-09.

3.2. ALL FORCES AND MOMENTS, IF SHOWN ON THE DRAWINGS, ARE FACTORED VALUES UNLESS NOTED OTHERWISE. WHERE SLIP CRITICAL CONNECTIONS ARE INDICATED, FORCES AND MOMENTS DUE TO THE SPECIFIED LOADS ARE SHOWN ON THE DRAWINGS IN ADDITION TO THE FACTORED LOADS.

CONNECTION DESIGNS CONTINUED

3.3. CONNECTIONS SHALL BE DESIGNED FOR THE FOLLOWING LOAD CAPACITY, UNLESS NOTED OTHERWISE OR DETAILED ON THE DESIGN DRAWINGS:

* WHEN REACTIONS ARE NOT SHOWN ON THE DRAWINGS, SHEAR CONNECTIONS SHALL BE DESIGNED TO RESIST THE FACTORED REACTION FROM THE UNIFORM BEAM LOAD THAT WOULD CREATE A BENDING MOMENT EQUAL TO THE BENDING CAPACITY OF THE LATERALLY SUPPORTED SECTION. CAPACITY OF THE CONNECTIONS SHALL NOT BE LESS THAN 50% OF THE SHEAR CAPACITY OF THE MEMBER.
* MOMENT CONNECTIONS SHALL BE DESIGNED TO ACCOMMODATE THE MOMENTS AND FORCES INDICATED ON THE DRAWINGS.
* WHERE MOMENTS AND FORCES ARE NOT SHOWN ON THE DRAWINGS, MOMENT CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL BENDING CAPACITY OF THE WEAKEST MEMBER.
* BRACING SHALL BE CONNECTED FOR THE FORCES SHOWN ON THE DRAWINGS. WHERE FORCES ARE NOT GIVEN, BRACING MEMBER CONNECTIONS SHALL DEVELOP A MINIMUM 50% OF THE GROSS TENSION CAPACITY OF THE MEMBER.

3.4. BEAMS SHALL BE CONNECTED FOR A FACTORED AXIAL FORCE OF ±45kN IN ADDITION TO THE SHEAR, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

3.5. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL DOUBLE ANGLE BRACING SHALL BE INTERCONNECTED AT A SPACING NOT EXCEEDING 1200mm. INTERCONNECTION SHALL CONSIST OF FILLER PLATE WHEN THE ANGLES ARE NOT IN CONTACT, AND MINIMUM ONE 19mm DIAMETER A325 BOLT SNUG TIGHT.

3.6. GUSSET PLATES SHALL HAVE A MINIMUM THICKNESS OF 10mm.

4. WELDING

4.1. WELDING PROCEDURES, MATERIALS AND QUALITY STANDARDS SHALL CONFORM TO THE REQUIREMENTS OF CSA W59-M, "WELDED STEEL CONSTRUCTION (METAL ARC WELDING)".

4.2. ALL WELDING, WHETHER IN THE SHOP OR IN THE FIELD, SHALL BE PERFORMED BY A FABRICATOR AND/OR AN ERECTOR CERTIFIED TO CSA W47.1 (DIVISION 1 OR 2.1) "CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STRUCTURAL STEEL". WELDER'S CERTIFICATES TO BE SUPPLIED IF REQUESTED.

4.3. WELDING SYMBOLS SHALL CONFORM TO CSA W59 AND AWS STD A2.4.

4.4. WELDED CONNECTIONS SHALL HAVE A MINIMUM OF 6mm FILLET WELD UNLESS NOTED OTHERWISE.

4.5. PLUG AND SLOT WELDS SHALL NOT BE USED WHERE THE WELD IS SUBJECT TO LOAD.

4.6. ALL JOINTS AND SEAMS IN MATERIALS TO BE GALVANIZED SHALL HAVE ALL THE CREVICES COMPLETELY SEALED WITH NOT LESS THAN THE EQUIVALENT OF A 5mm FILLET WELD IN ADDITION TO THE STRUCTURAL WELDING SHOWN ON THE DRAWINGS.

4.7. ALL HOLLOW SECTIONS EXPOSED TO AN OUTDOOR OR CORROSIVE ENVIRONMENT SHALL HAVE THEIR OPEN ENDS CAPPED WITH A 6mm CAP PLATE AND SEAL WELDED ALL AROUND.

4.8. WHERE A STRUCTURE IS SUBJECT TO DYNAMIC LOADING, IT WILL BE SO INDICATED ON THE DRAWINGS AND WELDING SHALL CONFORM TO THE REQUIREMENTS OF CSA W59 CLAUSE 12 "DYNAMICALLY LOADED STRUCTURES".

5. BOLTING

5.1. BOLTS FOR CONNECTIONS AND RELATED DESIGN OF JOINTS SHALL CONFORM TO THE FOLLOWING:

ASTM A307: BOLTED JOINTS FOR LADDERS, HANDRAILS, POSTS, KICK PLATES, STAIR STRINGERS, REMOVABLE FLOOR AND PLATFORM MEMBERS, PURLINS AND GIRTS.
ASTM A325: ALL OTHER BOLTED JOINTS.
ASTM A490: MAY BE USED IN PLACE OF ASTM A325 BOLTS IN HEAVY CONNECTIONS.

5.2. UNLESS NOTED OTHERWISE ON THE DESIGN DRAWINGS, ALL CONNECTIONS USING HIGH-STRENGTH BOLTS (ASTM A325 AND ASTM A490) SHALL BE "BEARING TYPE" CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE.

5.3. "SLIP CRITICAL" CONNECTIONS SHALL BE USED WHERE VIBRATORY, DYNAMIC, OR REVERSAL LOADING OCCURS, AS NOTED ON THE DESIGN DRAWINGS.

5.4. IN GENERAL, HIGH-STRENGTH BOLTS SHALL BE 19mm OR 25mm IN DIAMETER, UNLESS LIMITED BY THE SIZE OF THE CONNECTED MEMBERS OR NOTED OTHERWISE ON THE DESIGN DRAWING.

5.5. THE MINIMUM NUMBER OF ROWS OF BOLTS FOR BEAM CONNECTIONS SHALL BE AS FOLLOWS:

BEAM SIZE	No OF ROWS OF BOLTS
W200, W250, W310	2
W360, W410, W460	3
W530, W610	4
W690, W760	5
W840, W920	6

NOTE: THIS TABLE IS APPLICABLE FOR CONNECTIONS WITH 1 OR MORE VERTICAL LINE OF BOLTS.

5.6. THE FOLLOWING MINIMUM NUMBER OF BOLTS SHALL BE USED FOR BRACING CONNECTIONS:

STRUCTURAL TEE BRACING: 4 BOLTS (FLANGE CONNECTED)
ANGLE BRACING: 2 BOLTS

5.7. ALL CROSS BRACING SHALL BE CONNECTED AT THE INTERSECTION POINTS.

5.8. ALL EQUIPMENT BOLT HOLES SHALL BE LOCATED WITHIN 1.6mm OF THEIR DESIGNED/DETAILED LOCATIONS.

5.9. ALL CONNECTION BOLTS WITHIN A MODULE SHALL BE PRETENSIONED TO AVOID BECOMING LOOSE DURING TRANSPORTATION.

5.10. ALL OTHER CONNECTIONS REQUIRING BOLTS TO BE PRETENSIONED ARE NOTED ON THE DRAWINGS.

5.11. ALL HIGH STRENGTH BOLTED CONNECTIONS REQUIRED TO BE PRETENSIONED SHALL BE INSTALLED BY THE "TURN OF THE NUT" METHOD.

6. FLOORING AND GRATING

6.1. OPEN FLOORING SHALL BE SERRATED GRATING, WITH MINIMUM BEARING BARS OF 32mm x 5mm SPACED AT 30mm CENTERS AND CROSS BARS SPACED AT 100mm CENTER TO CENTER, UNO.

6.2. UNLESS NOTED OTHERWISE IN THE DESIGN DRAWINGS, SOLID FLOORING SHALL BE CHECKERED PLATE WITH AN ELONGATED RAISED PATTERN IN ACCORDANCE WITH ASTM A786. MINIMUM PLATE THICKNESS SHALL BE 6mm.

6.3. ALL KICK PLATES SHALL BE 6mm THICK AND 150mm HIGH, UNLESS NOTED OTHERWISE.

6.4. ALL PENETRATIONS IN FLOORING LOCATED AND DIMENSIONED ON DESIGN DRAWINGS SHALL BE SHOP CUT AND BANDED. PENETRATIONS NOT DIMENSIONED SHALL BE CUT AND SUITABLY BANDED IN THE FIELD.

6.5. STAIR TREADS SHALL BE NON-SKID TYPE OF THE SAME MAKE AND TYPE AS THE ADJACENT GRATING AND SHALL BE COMPLETE WITH CHECKERED PLATE NOSING. STAIR TREADS SHALL BE WELDED TO STRINGERS, UNLESS NOTED OTHERWISE IN THE DESIGN DRAWINGS.

7. PROTECTIVE SURFACE COATING

7.1. UNLESS NOTED OTHERWISE IN THE PROJECT DOCUMENTS, COATING OF STRUCTURAL STEEL AND REPAIRS TO DAMAGED COATING AND GALVANIZING SHALL CONFORM TO CLIENT REQUIREMENTS.

7.2. SURFACES SPECIFIED AS GALVANIZED SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH CSA G164-M, "HOT-DIP GALVANIZING OF IRREGULAR SHAPE ARTICLES".

7.3. FOR BOLTS AND NUTS TO BE GALVANIZED, APPROPRIATE MEASURES, SUCH AS RE-TAPPING THE NUTS AFTER GALVANIZING, SHALL BE TAKEN TO ENSURE THAT THE BOLTS, NUTS AND HARDWARE FIT PROPERLY AFTER GALVANIZING.

7.4. ALL SHOP COATINGS SHALL BE EXCLUDED FROM AREAS WITHIN 50mm OF JOINTS TO BE FIELD-WELDED. COATINGS OTHER THAN THE CLASS A OR B COATINGS SPECIFIED IN CSA S16-09 SHALL BE EXCLUDED FROM AREAS WITHIN 50mm OF THE FAYING SURFACES FOR "SLIP-CRITICAL" BOLTED CONNECTIONS. THE FABRICATOR SHALL CERTIFY THE COATING CLASS AND SHOW IT ON THE SHOP DRAWINGS.

7.5. PRIME WITH ONE COAT OF RUSTEX #71029 OR APPROVED EQUIVALENT.

7.6. PAINT WITH TWO COATS OF INDUSTRIAL ENAMEL, COLOR AS PER CLIENT SPECIFICATIONS.

8. CLEANING OF STEEL SURFACES

8.1. COMMERCIAL BLAST CLEANING OF STEEL SURFACES TO CONFORM WITH SSPC-SP6, UNLESS NOTED OTHERWISE.

8.2. ALL BOLLARDS SHALL BE CLEANED OF MILL SCALE, RUST AND FOREIGN MATTER. SURFACE PREPARATION TO CONFORM WITH SSPC-SP3 PRIOR TO PAINTING.

9. TEMPORARY MEMBERS

9.1 TEMPORARY STEEL MEMBERS SHOWN ON DRAWINGS SHALL BE PAINTED IN FLUORESCENT ORANGE AND SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT IT CAN BE REMOVED AS DIRECTED BY THE ENGINEER.

10. WELD INSPECTION

10.1. FIRMS UNDERTAKING WELD INSPECTION SHALL BE CERTIFIED TO CSA W178.1 "CERTIFICATION OF WELDING INSPECTION ORGANIZATIONS". ALL WELDING INSPECTORS SHALL BE CERTIFIED TO CSA W178.2, "CERTIFICATION OF WELDING INSPECTORS" FOR THE RELEVANT CLASS OF INSPECTION. COPIES OF ALL SHOP, FIELD INSPECTION AND TEST REPORTS SHALL BE SUBMITTED WEEKLY BY THE INSPECTOR TO CLIENT ENGINEER.

10.2. 100% OF ALL WELDS SHALL BE VISUALLY INSPECTED BY THE FABRICATOR. IN ADDITION TO THE FABRICATOR'S INSPECTION REQUIREMENTS, A THIRD PARTY WELDING INSPECTION FIRM SHALL INSPECT 100% OF THE FIRST 10% OF THE WORK, USING NDT METHODS APPROPRIATE TO THE WELD TYPE AS OUTLINED IN NOTE 10.3, IN THE EVENT AN UNACCEPTABLE NUMBER OF WELDS FAIL TO MEET W59 QUALITY STANDARDS, ENGINEER MAY REQUEST ADDITIONAL NDT TESTING DURING THE WORK PROCESS.

10.3. NDT SHALL BE PERFORMED AS FOLLOWS:

* 100% OF GROOVE WELDS IN FLANGES AND WEBS OF SHOP SPLICED MEMBERS SHALL BE INSPECTED USING ULTRASONIC (UT) METHODS.
* 100% OF COMPLETE PENETRATION WELDS FOR LIFT LUGS SHALL BE INSPECTED USING ULTRASONIC (UT) METHODS.
* 100% OF COMPLETE PENETRATION WELDS DESIGNATED (UT) ON THE DRAWINGS SHALL BE INSPECTED USING ULTRASONIC METHODS IN ACCORDANCE WITH CSA W59.
* 100% OF COMPLETE PENETRATION WELDS DESIGNATED (RT) ON THE DRAWINGS SHALL BE INSPECTED USING RADIOGRAPHIC METHODS IN ACCORDANCE WITH CSA W59.
* 100% OF FILLET WELDS AND PARTIAL PENETRATION GROOVE WELDS DESIGNATED (MT) ON THE DRAWINGS SHALL BE TESTED USING MAGNETIC PARTICLE METHODS IN ACCORDANCE WITH CSA W59.

10.4. ACCEPTANCE STANDARDS FOR WELD DEFECTS SHALL BE IN ACCORDANCE WITH THE RELEVANT CLAUSES OF CSA W59 AS FOLLOWS:

* STATICALLY LOADED STRUCTURES CSA W59 CLAUSE 11.5.4
* DYNAMICALLY LOADED STRUCTURES CSA W59 CLAUSE 12.5.4

10.5. ALL WELDS WHICH DO NOT MEET THE ACCEPTANCE STANDARDS OF CSA W59 SHALL BE REPAIRED OR REMOVED AND REWELDED AND RETESTED, ALL AT CONTRACTOR'S COST.

11. ERECTION TOLERANCES

11.1. ERECTION TOLERANCES FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CAN/CSA S16-09.

11.2. ERECTION TOLERANCES FOR CRANES AND MONORAILS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CRANE MANUFACTURERS ASSOCIATION OF AMERICA.

12. FALL PROTECTION

12.1. SEE DESIGN DRAWINGS FOR REQUIREMENT.

ABBREVIATIONS

ADDL	ADDITIONAL	LG	LONG
AB	ANCHOR BOLT	LLH	LONG LEG HORIZONTAL
ALT	ALTERNATE	LLV	LONG LEG VERTICAL
@	AT	LP	LOW POINT
B/B	BACK TO BACK	MAX	MAXIMUM
B. PL	BASE PLATE	MH	MANHOLE
℄ OR BL	BAYLINE	MIN	MINIMUM
BM	BENCH MARK	MISC	MISCELLANEOUS
BTWN	BETWEEN	MC	MOMENT CONNECTION
BCD	BOLT CIRCLE DIAMETER	NC	NICKEL-CADMIUM
BH	BORE HOLE	NDT	NON-DESTRUCTIVE TESTING
B/S	BOTH SIDES	NF	NEAR FACE
BOT	BOTTOM	NS	NEAR SIDE
BLDG	BUILDING	NOM	NOMINAL
CB	CATCH BASIN	NTS	NOT TO SCALE
CS	CARBON STEEL	No	NUMBER
℄ OR CL	CENTERLINE	O/C	ON CENTER
C/C	CENTER TO CENTER	OPNG	OPENING
CHKD PL	CHECKERED PLATE	OPP	OPPOSITE
CJ	CONTROL JOINT	OD	OUTSIDE DIAMETER
CLR	CLEARANCE	PED	PEDESTAL
CO	CLEAN OUT	PS	PIPE SUPPORT
COJ	CONSTRUCTION JOINT	PL	PLATE
COL	COLUMN	PLATF	PLATFORM
CONC	CONCRETE	PLCS	PLACES
CONT	CONTINUOUS	PREFAB	PREFABRICATED
CTRD	CENTERED	PROJ	PROJECTION
C/W	COMPLETE WITH	R	RADIUS
DET	DETAIL	REF	REFERENCE
DIAG	DIAGONAL	REINF	REINFORCEMENT
DIA OR ⌀	DIAMETER	RC	REINFORCED CONCRETE
DIM	DIMENSION	R/W	REINFORCED WITH
DWG	DRAWING	REQD	REQUIRED
DN	DOWN	REV	REVISION
EA	EACH	RD	ROOF DRAIN
EF	EACH FACE	SECT	SECTION
EW	EACH WAY	SHT	SHEET
EL	ELEVATION	SIM	SIMILAR
EMBED	EMBEDDED	SPCS	SPACES
EQ	EQUAL	SPEC	SPECIFICATION
EQUIP	EQUIPMENT	SQ	SQUARE
EXIST or (E)	EXISTING	SS	STAINLESS STEEL
FF	FAR FACE	STD	STANDARD
FS	FAR SIDE	STIFF	STIFFENER
FIN	FINISH	STRUCT	STRUCTURAL
FLG	FLANGE	SUPPT	SUPPORT
FB	FLAT BAR	SYMM	SYMMETRICAL
FLR	FLOOR	THK	THICK
FD	FLOOR DRAIN	T & B	TOP AND BOTTOM
FTG	FOOTING	T.O.	TOP OF
FDN	FOUNDATION	TOC	TOP OF CONCRETE
GALV	GALVANIZED	TOG	TOP OF GRATING
GL	GRID LINE	TOS	TOP OF STEEL
GA	GAUGE	TYP	TYPICAL
GRTG	GRATING	U/G	UNDERGROUND
HR	HANDRAIL	U/S	UNDERSIDE
H & V	HEATING & VENTILATION	UNO	UNLESS NOTED OTHERWISE
HP	HIGH POINT	VERT	VERTICAL
HORIZ	HORIZONTAL	W/	WITH
IJ	ISOLATION JOINT	W/O	WITHOUT
INCL	INCLUDE OR INCLUSIVE	WWFAB	WELDED WIRE FABRIC
ID	INSIDE DIAMETER	WWM	WELDED WIRE MESH
INV	INVERT	WG	WALL GROOVE
KB	KNEE BRACE	WP	WORK POINT

ISSUED FOR CONSTRUCTION

OCT 24 2013

REFERENCE DRAWING	DESCRIPTION

PROVINCE OF MANITOBA — HAYDEN — Member 33881 — REGISTERED PROFESSIONAL ENGINEER — 23/10/13

STAMPS & PERMITS

APEGM — Certificate of Authorization — Tridyne Projects Corporation — No. 4854 Date:

PROJ. No.	REV.	REVISION DESCRIPTION	DATE	BY	CHK'D	APP'D
2012126	0	ISSUED FOR CONSTRUCTION	2013.10.23	FS	AA	

TRIDYNE PROJ. No.: 2012126
DATE: 2013.08.07
DRAWN BY: AA
CHECKED:
APPROVED:

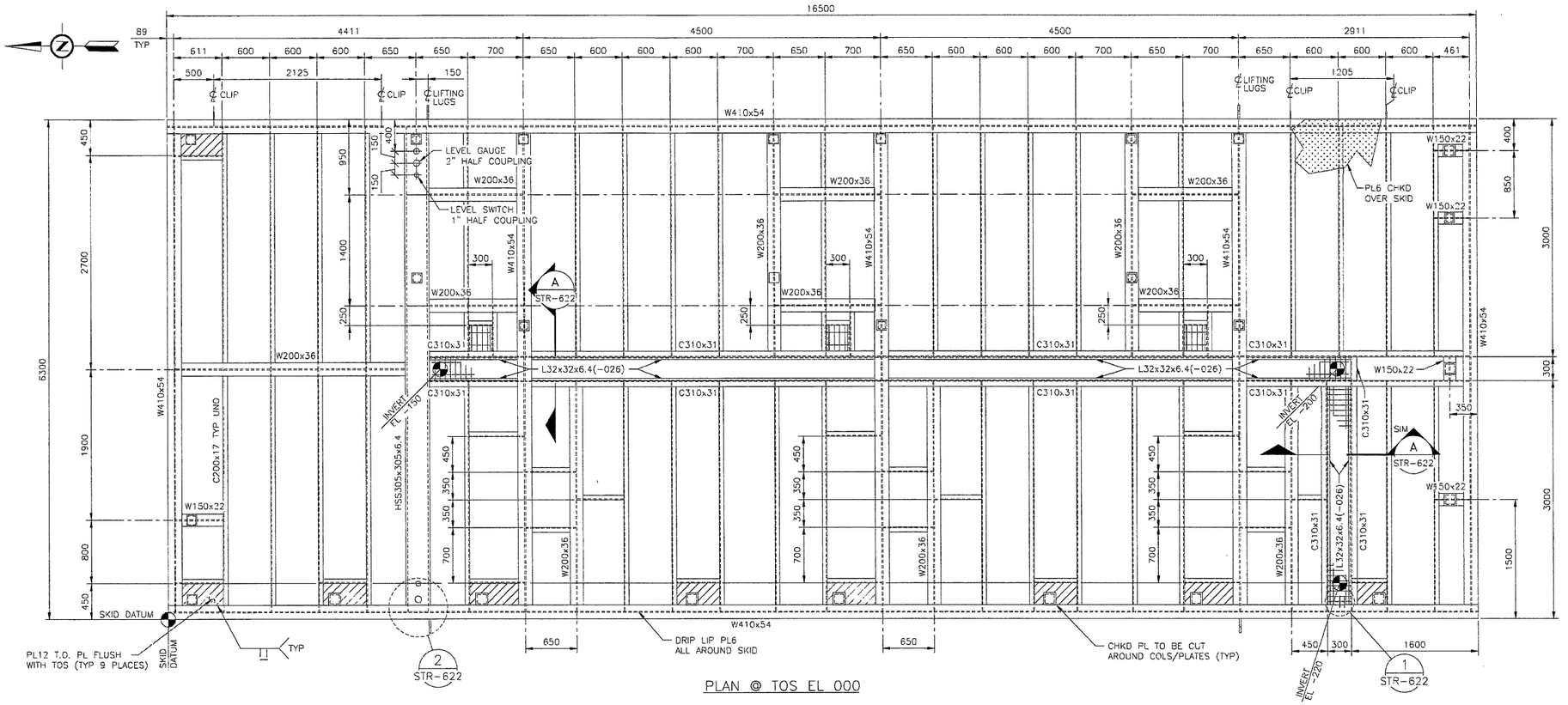
Crescent Point ENERGY CORP

TRIDYNE PROJECTS CORPORATION

MANSON 16-04 BATTERY
LSD: 16-04-13-28 W1M
MANSON BATTERY
STRUCTURAL STEEL GENERAL NOTES

SCALE (D-SIZE): NTS
DWG No.: CRP-MNS-16-04-STR-001
REV.: 0

Plot Date: Wednesday, 23 October 2013 3:51:42 PM File Name: X:\CRESCENT POINT\MANSON 16-04-13-28 W1M\CIVIL\STR\CRP-MNS-16-04-STR-001.DWG By: AA



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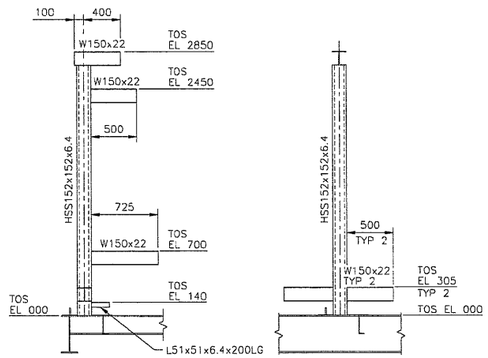
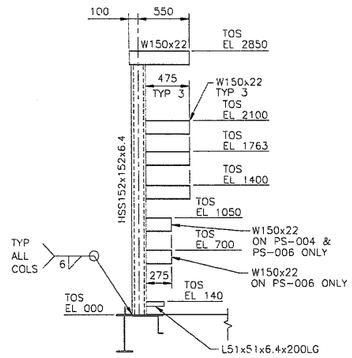
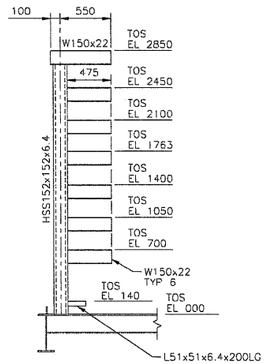


ELEVATION @ PS-001
PS-003 & PS-005
LOOKING NORTH

ELEVATION @ PS-001
PS-003 & PS-005
LOOKING EAST



ELEVATION @ PS-002
PS-004 & PS-006
LOOKING NORTH



ELEVATION @ PS-007
LOOKING NORTH

NOTES:

1. FOR STRUCTURAL STEEL GENERAL NOTES REFER TO DWG CRP-MNS-16-04-STR-001.
2. SKID FRAMING TO BE OF SOLID WELDED CONSTRUCTION, 6mm CONTINUOUS FILLET WELDS. COPE ALL FRAMING MEMBERS INTO ONE ANOTHER. ALL WELDS TO BE GROUND FLUSH ON BOTTOM OF SKID.
3. CHECKER PLATE FLOOR TO BE WELDED IN POSITION AS REQUIRED, WITH 4 mm FILLET WELDS, FULL SEAL WELD (INSIDE SKID ONLY). UNDERSIDE TO BE STITCH WELDED 25mm/300mm.
4. FABRICATOR TO PROVIDE ALL INTERMEDIATE FRAMING MEMBERS REQUIRED TO ELIMINATE OR MINIMIZE CHECKER PLATE DEFLECTION
5. FABRICATOR SHALL BE RESPONSIBLE FOR ACCURATE PLACEMENT OF MEMBERS FOR SUPPORT AND INSTALLATION OF EQUIPMENT
6. FABRICATOR TO CONFIRM ALL BOLT HOLE LOCATIONS.
7. FABRICATOR TO PROVIDE ADEQUATE SUPPORT FOR ALL PIPING AND EQUIPMENT USING GOOD PIPING PRACTICES & STANDARDS
8. EQUIPMENT TO BE BOLTED OR WELDED INTO POSITION AS REQUIRED (CONFIRM ALL LOCATIONS WITH TECHNICAL DRAWINGS).
9. UNDERSIDE OF SKID TO BE INSULATED WITH 100 mm THICK OF FIRE RETARDANT POLYURETHANE INSULATION. ENSURE INSULATION IS SPRAYED ON THE INSIDE SURFACE OF ALL PERIMETER SKID MEMBERS & AROUND ALL INTERIOR SKID MEMBERS. DO NOT ALLOW INSULATION TO PROTRUDE BELOW UNDERSIDE OF SKID.
10. TOS FLUSH UNO.

ISSUED FOR CONSTRUCTION

OCT 24 2013

0 300 600 1200 1800 2400 3000 mm

SCALE 1:30

REFERENCE DRAWING	DESCRIPTION

STAMPS & PERMITS

PROVINCE OF MANITOBA — HAYDEN Member 33881 — REGISTERED PROFESSIONAL ENGINEER — Oct 23/13

APEGM Certificate of Authorization Tridyne Projects Corporation No. 4854 Date :

PROJ. No.	REV	REVISION DESCRIPTION	DATE	BY	CHK'D	APP'D
2012126	0	ISSUED FOR CONSTRUCTION	2013.10.23	FS	AA	

TRIDYNE PROJ. No.: 2012126
DATE: 2013.08.07
DRAWN BY: AA
CHECKED:
APPROVED:

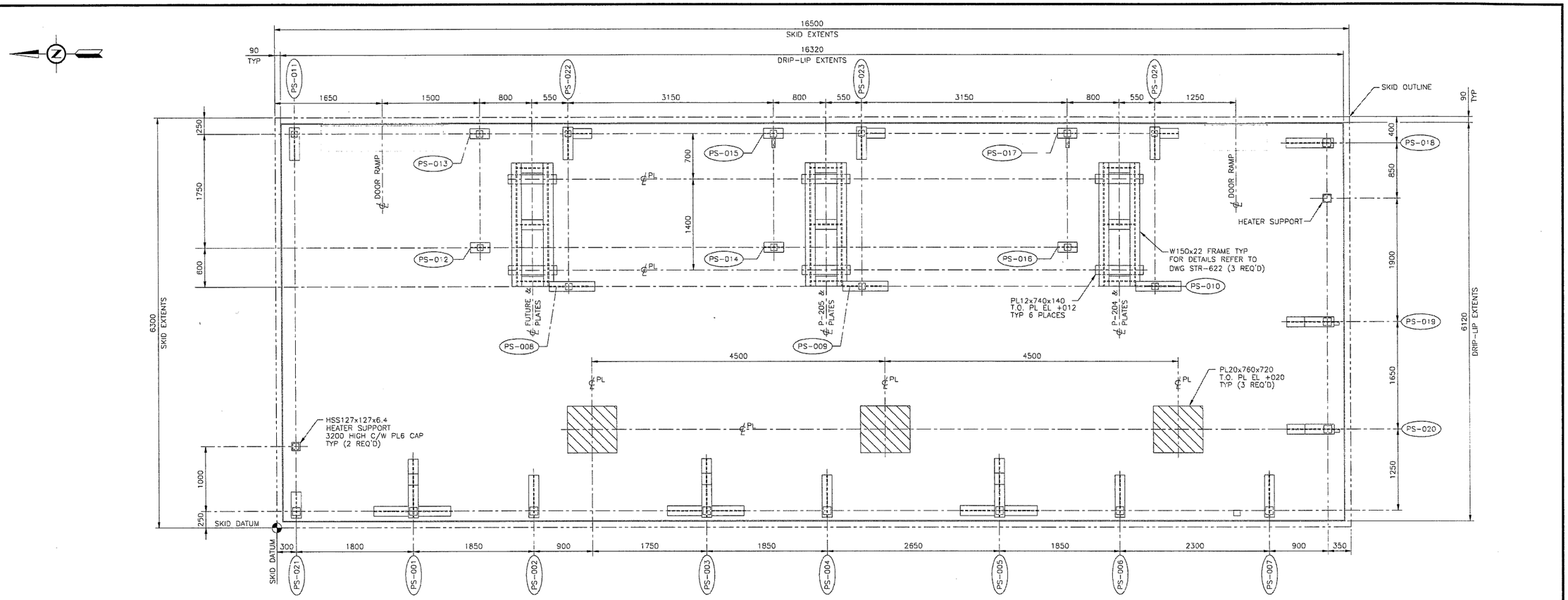
Crescent Point ENERGY CORP

TRIDYNE PROJECTS CORPORATION

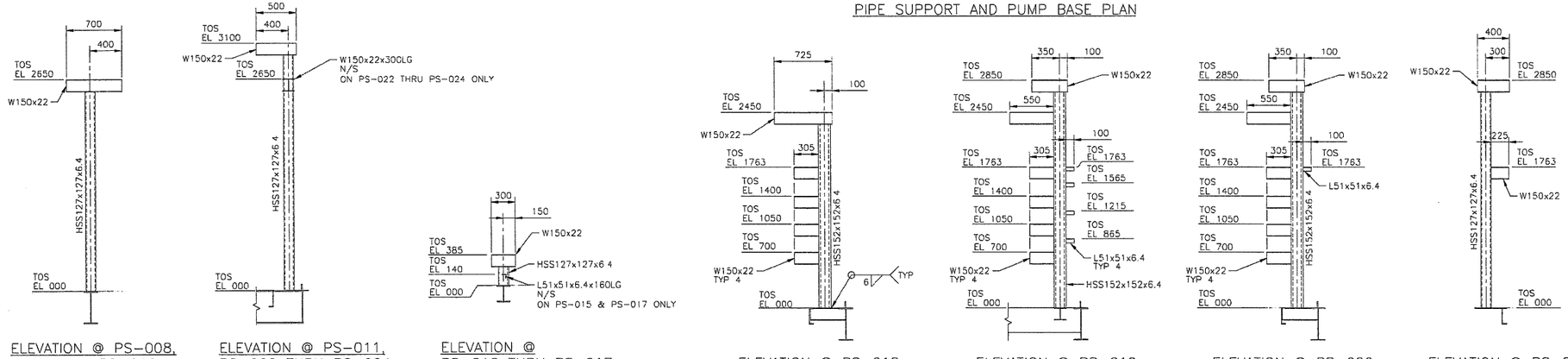
MANSON 16-04 BATTERY
LSD: 16-04-13-28 W1M
MANSON BATTERY
TRUCK METERING PACKAGE
(BU-620)
SKID PLAN AND PIPE SUPPORT ELEVATIONS

SCALE (D-SIZE): 1:30
DWG No.: CRP-MNS-16-04-STR-620
REV: 0

Plot Date: Wednesday, 23 October 2013 4:14:18 PM File Name: X:\CRESCENT POINT\MANSON 16-04-13-28 W1M\CIVIL\STR\CRP-MNS-16-04-STR-620.DWG By: AA



PIPE SUPPORT AND PUMP BASE PLAN



ELEVATION @ PS-008, PS-009 & PS-010
LOOKING EAST

ELEVATION @ PS-011, PS-022 THRU PS-024
LOOKING NORTH

ELEVATION @ PS-012 THRU PS-017
LOOKING EAST

ELEVATION @ PS-018
LOOKING EAST

ELEVATION @ PS-019
LOOKING EAST

ELEVATION @ PS-020
LOOKING EAST

ELEVATION @ PS-021
LOOKING NORTH

ISSUED FOR CONSTRUCTION

OCT 24 2013

0 300 600 1200 1800 2400 3000 mm
SCALE 1:30

REFERENCE DRAWING	DESCRIPTION

PROVINCE OF MANITOBA
HAYDEN
Member
33881
REGISTERED PROFESSIONAL ENGINEER
Oct 23/13

APEGM
Certificate of Authorization
Tridyne Projects Corporation
No. 4854 Date :

STAMPS & PERMITS

PROJ. No.	REV.	REVISION DESCRIPTION	DATE	BY	CHK'D	APP'D
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TRIDYNE PROJ. No.: 2012126
DATE: 2013.08.07
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CHECKED:
APPROVED:

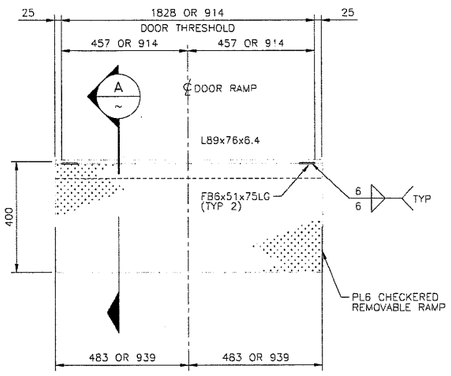
Crescent Point
ENERGY CORP

TRIDYNE PROJECTS
CORPORATION

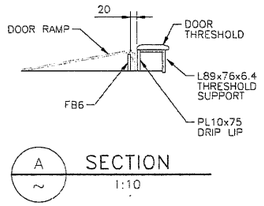
MANSON 16-04 BATTERY
LSD: 16-04-13-28 W1M
MANSON BATTERY
TRUCK METERING PACKAGE
(BU-620)
PIPE SUPPORT PLAN AND ELEVATIONS

SCALE (D-SIZE): 1:30 UNO
DWG No.: CRP-MNS-16-04-STR-621
REV: 0

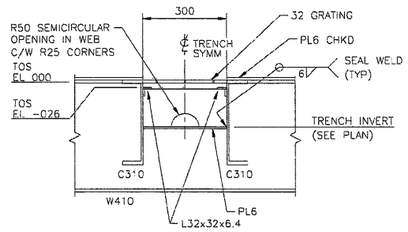
Plot Date: Wednesday, 23 October 2013 4:15:32 PM File Name: K:\CRESCENT POINT\MANSON 16-04-13-28 W1M\CIVIL\STR\CRP-MNS-16-04-STR-621.DWG By: AA



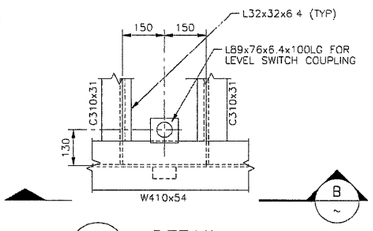
TYP REMOVABLE RAMP DETAIL
SCALE 1:10



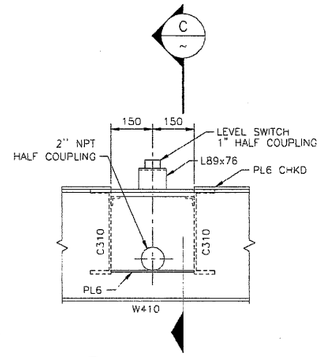
A ~ SECTION 1:10



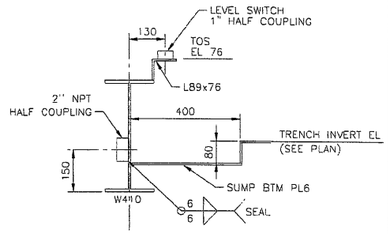
A ~ SECTION STR-620 1:10



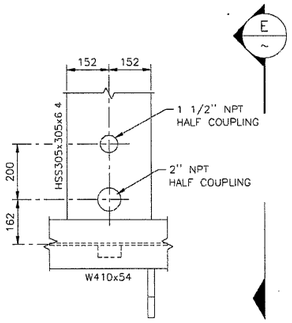
1 DETAIL STR-620 1:10



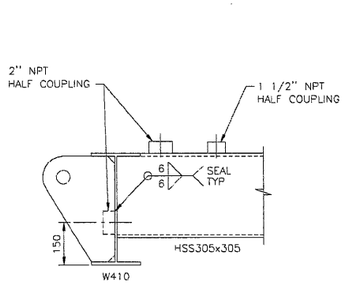
B ~ SECTION 1:10



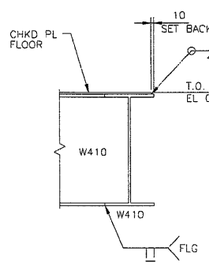
C ~ SECTION 1:10



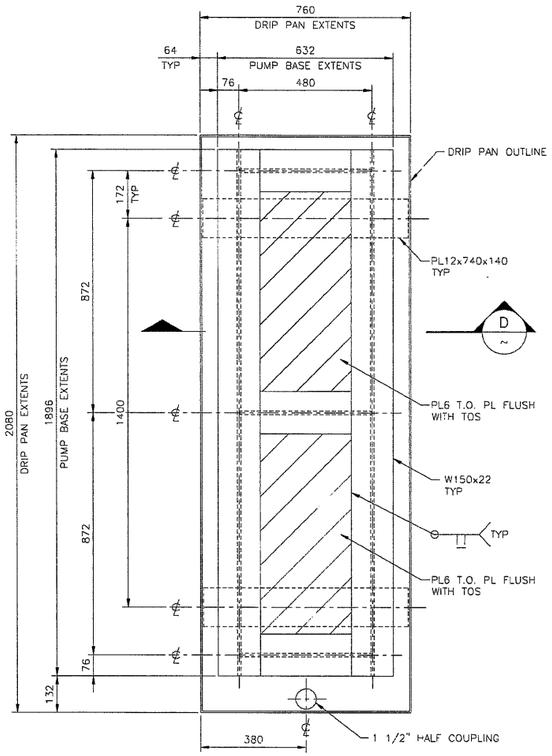
2 DETAIL STR-620 1:10



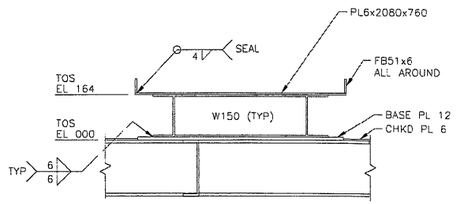
E ~ SECTION 1:10



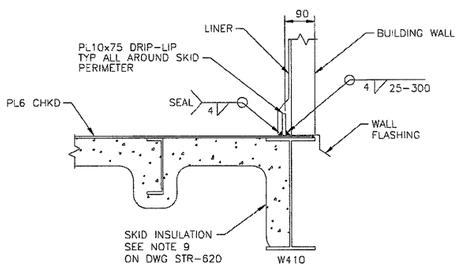
TYPICAL SECTION
SCALE 1:10



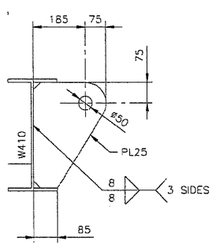
PUMP BASE PLAN @ TOS EL +164 (TYP)
SCALE 1:10
(3 REQ'D)



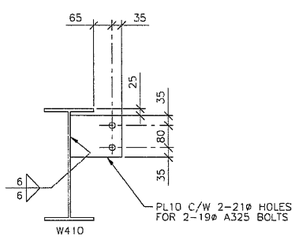
D ~ SECTION 1:10



DRIP LIP DETAIL
NTS



TYPICAL LIFTING LUG DETAIL
SCALE 1:10



TYPICAL PLATFORM CLIP DETAIL
SCALE 1:10

ISSUED FOR CONSTRUCTION
OCT 24 2013

0 100 200 400 600 800 1000 mm
SCALE 1:10

0 300 600 1200 1800 2400 3000 mm
SCALE 1.30

Plot Date: Wednesday, 23 October 2013 4:17:51 PM File Name: X:\CRESCENT POINT\MANSON 16-04-13-28 W1M\CIVIL\STR\CRP-MNS-16-04-STR-622.DWG By: AA

REFERENCE DRAWING	DESCRIPTION

PROVINCE OF MANITOBA — HAYDEN Member 33881 — REGISTERED PROFESSIONAL ENGINEER — Oct 23/13

APEGM Certificate of Authorization Tridyne Projects Corporation No. 4854 Date: _____

STAMPS & PERMITS

PROJ. No.	REV.	REVISION DESCRIPTION	DATE	BY	CHK'D	APP'D
2012126	0	ISSUED FOR CONSTRUCTION	2013.10.23	FS	AA	

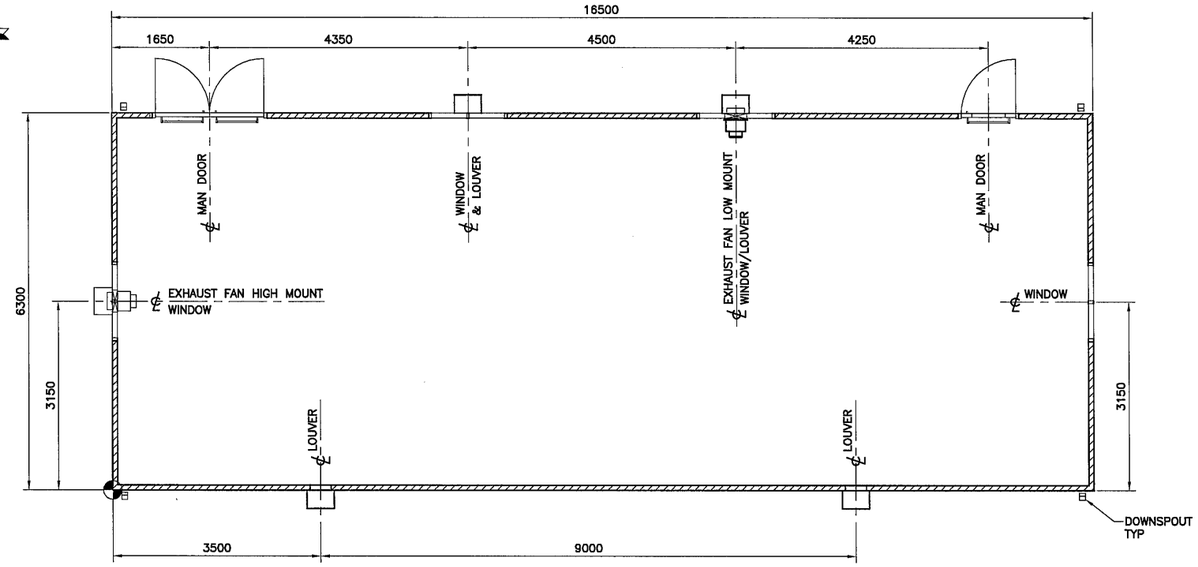
TRIDYNE PROJ. No.: 2012126
DATE: 2013 08 07
DRAWN BY: AA
CHECKED:
APPROVED:

Crescent Point ENERGY CORP

TRIDYNE PROJECTS CORPORATION

MANSON 16-04 BATTERY
LSD: 16-04-13-28 W1M
MANSON BATTERY
TRUCK METERING PACKAGE
(BU-620)
SECTIONS AND DETAILS

SCALE (D-SIZE):	DWG No.:	REV
1:30 UNO	CRP-MNS-16-04-STR-622	0



TRUCK METERING BUILDING BU-620 PLAN

NOTE:

CABLE TRAY, PIPE AND EQUIPMENT PENETRATION LOCATIONS TO BE CONFIRMED BY SHOP. WEATHER PROOF AS REQD (BY BUILDING SUPPLIER).

GENERAL BUILDING NOTES:

1. SELF FRAMED BUILDING. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN NATIONAL BUILDING CODE.
2. EXTERIOR WALL AND ROOF PANELS SHALL BE 22 GA. INTERIOR WALL AND CEILING PANELS SHALL BE 24 GA. FLUTED ALUMINUM.
3. EXTERIOR WALL INSULATION SHALL BE R12 FIBERGLASS MIN., ROOF INSULATION SHALL BE BE R20 FIBERGLASS MIN., WITH 6 MIL P.E. VAPOUR BARRIER.
4. WINDOWS SHALL BE 1220mm x 914mm, DOUBLE GLAZED, INDUSTRIAL HORIZONTAL SLIDING c/w BUG SCREEN AND LOCK SET.
5. EXTERNAL DOORS – SINGLE DOOR: 915mm x 2135mm x 18 GA. STEEL, INSULATED HOLLOW CORE, REINFORCED c/w FRAME, HINGES, LOCKS, PANIC HARDWARE, CHECK CHAIN, HYDRAULIC CLOSURE, WEATHER STRIPPING, INDUSTRIAL WIRE GLASS WINDOW AND CANOPY (AS SHOWN).
6. WEIGHTED LOUVRES – 305mm x 457mm c/w BIRDSCREEN.
7. EXHAUST FANS – ONE HIGH MOUNT, ONE LOW MOUNT, 6 ACPH TOTAL.
8. BUILDING SUPPLIER SHALL SUPPLY AND INSTALL EAVESTROUGHS WITH FOUR DOWNSPOUTS ON EAVE SIDE OF BUILDING, ADD ICE-RAKES ON ROOF AS SHOWN.
9. PROVIDE CUT-OUTS, FLASHING AND CAULKING FOR ALL PIPES, EQUIPMENT, VENTILATIONS.
10. BUILDING CONTRACTOR SHALL PROVIDE PROFESSIONAL ENGINEER STAMPED DRAWINGS FOR CONSTRUCTION ISSUE.

BUILDING COLOURS

EXTERIOR WALLS:
REGENT GREY (QC-1730)

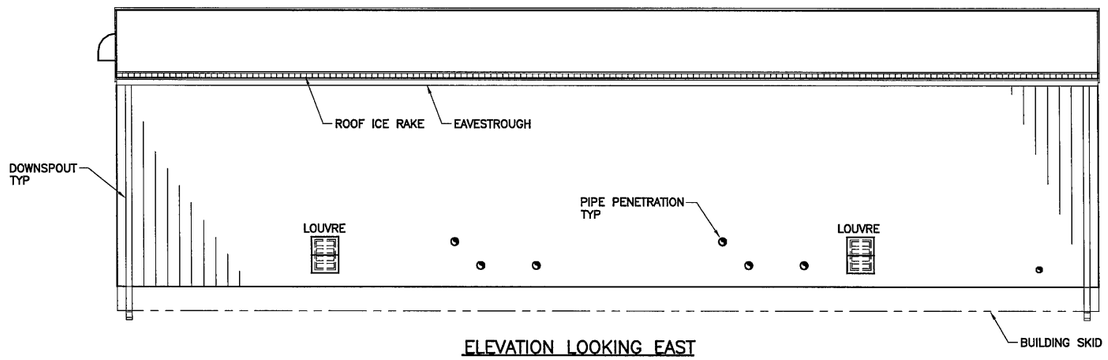
INTERIOR WALLS:
FLUTED ALUMINUM LINER (WHITE)

ROOF, TRIM, DOORS, FRAMES, GABLE FLASHINGS ETC.
DARK RED (QC-8250)

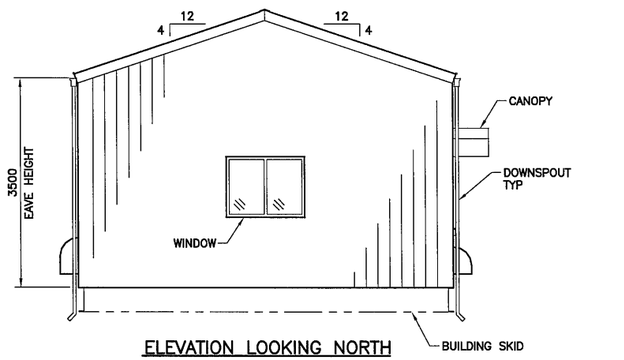
FIELD CONFIRM ALL DIMENSIONS & ELEVATIONS PRIOR TO FABRICATION.

ISSUED FOR CONSTRUCTION

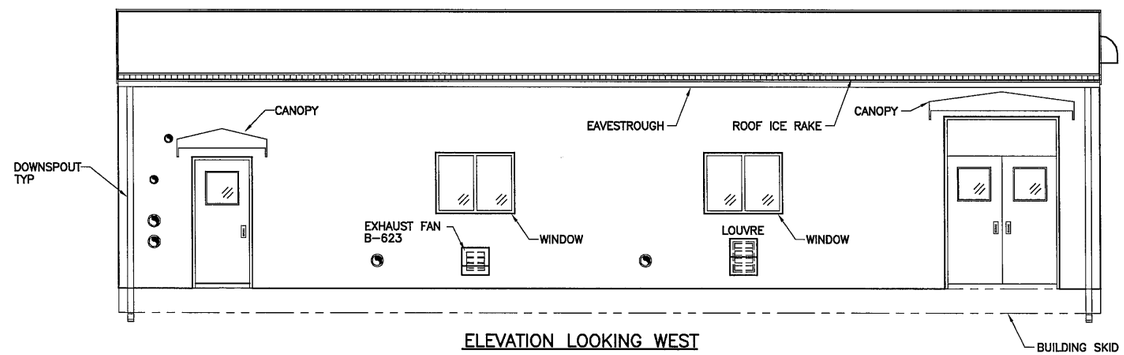
OCT 24 2013



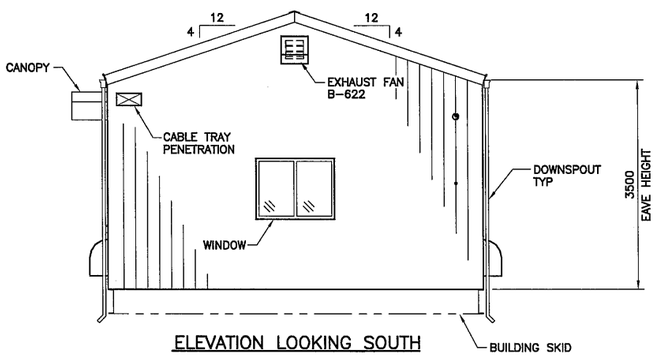
ELEVATION LOOKING EAST



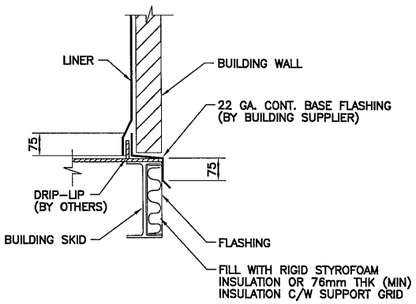
ELEVATION LOOKING NORTH



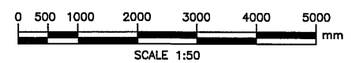
ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH



TYPICAL WALL FLASHING DETAIL
NTS



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2012126	0	ISSUED FOR CONSTRUCTION	2013.10.23	FS	AA	

TRIDYNE PROJ. No.: 2012126
DATE: 2013.08.07
DRAWN BY: AA
CHECKED:
APPROVED:

Crescent Point ENERGY CORP

TRIDYNE PROJECTS CORPORATION

MANSON 16-04 BATTERY
LSD: 16-04-13-28 W1M
MANSON BATTERY
TRUCK METERING BUILDING
(BU-620)
PLAN, ELEVATIONS & NOTES

SCALE (D-SIZE): 1:50 UNO
DWG No.: CRP-MNS-16-04-ARC-620
REV. 0

Plot Date: Wednesday, 23 October 2013 11:36:42 AM File Name: X:\CRESCENT POINT\MANSON 16-04-13-28 W1M\CIVIL\ARC\CRP-MNS-16-04-ARC-620.DWG By: AA