

EXCAVATION & BACKFILL:

- UNLESS SPECIFICALLY NOTED OTHERWISE REMOVE ALL FILL MATERIALS, DELETERIOUS SOILS AND ORGANICS IN AREAS REQUIRING GRANULAR BASE MATERIALS. COMPACT SUBGRADE TO 95% STANDARD PROCTOR DENSITY. SUB-EXCAVATE AND REPAIR ALL AREA EXHIBITING UNSUITABLE DEFLECTIONS.
- GRANULAR BASE TO BE PLACED ON GRADE SHALL BE COMPACTED TO 98% STANDARD PROCTOR DENSITY IN MAXIMUM 150mm LIFTS.
- DO NOT COMPACT FROZEN BACKFILL OR PLACE ON FROZEN SUBGRADE.
- SUB-GRADE, SUB-BASE AND BASE COURSE MATERIALS AND CONSTRUCTION METHODS SHALL BE AS PER CITY OF WINNIPEG SPECIFICATION CW3110, UNLESS NOTED.

REINFORCING STEEL:

- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18-09 (R2014), GRADE TO BE 400 MPa.
- REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
- SUBMIT SHOP DRAWINGS WHICH CLEARLY INDICATE BAR SIZES, SPACINGS, LOCATIONS & QUANTITIES OF REINFORCING STEEL, BENDING & CUTTING SCHEDULES, SUPPORTING & SPACING DEVICES, ETC. FOR REVIEW PRIOR TO FABRICATION. DETAIL, FABRICATE AND PLACE REINFORCING IN ACCORDANCE WITH CSA A23.1-09, CSA A23.3-09 AND ACI SP-08 (2004) UNLESS NOTED. LAP STEEL 35 BAR DIAMETERS (MINIMUM) UNLESS NOTED.
- LAP BEAM AND STRUCTURAL SLAB TOP REINFORCING AT CENTER SPAN, AND BOTTOM STEEL AT SUPPORTS.
- TIE, SUPPORT AND SPACE ALL REINFORCING STEEL WITH PROPER APPROVED DEVICES DESIGNED FOR USE IN REINFORCED CONCRETE, TO PREVENT DISPLACEMENT OF REINFORCING AND ENSURE SPECIFIED CONCRETE COVER.
- PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

C.I.P. PILES	75mm
PILECAPS	75mm
SLAB-ON-GRADE (TOP)	50mm
SLAB-ON-GRADE (BOTTOM)	50mm

CONCRETE:

- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA A23.1-09. SEE BELOW FOR MIX REQUIREMENTS.
- ADMIXTURES SHALL NOT BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE DESIGN ENGINEER. CALCIUM CHLORIDE SHALL NOT BE USED.
- MIX WATER SHALL BE POTABLE.
- DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CANCSA-S289.1-09. ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
- CONCRETE FINISHING SHALL MEET THE REQUIREMENTS OF CSA A23.1-09.
- FORM RELEASE AGENT SHALL BE BIODEGRADABLE, NON-STAINING AND NON-VOLATILE.
- DURING ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
- PLACE AND SECURE ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO PLACING CONCRETE. CO-ORDINATE WITH ALL TRADES FOR EMBEDDING OF ALL OTHER, CONDUIT, SERVICES, BLOCKING, ETC.
- LOCATE AND FABRICATE ALL CONSTRUCTION JOINTS, CONTROL JOINTS AND EXPANSION JOINTS AS DETAILED ON THE DRAWINGS. JOINTS NOT SHOWN SHALL BE APPROVED BY THE DESIGN ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE.
- ALL EXPOSED CORNERS TO HAVE 25mm CHAMFER FILLET UNLESS NOTED.
- THE CONCRETE SUPPLIER SHALL BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1-09.
- THE CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.
- CONCRETE STRENGTH TESTS SHALL BE ARRANGED BY THE CONTRACTOR. PROVIDE ONE SET OF TEST CYLINDERS IN ACCORDANCE WITH CSA A23.1-09 FOR EVERY 50 CUBIC METERS OF CONCRETE PLACED AND A MINIMUM OF ONE SET PER STRUCTURAL COMPONENT.

CONCRETE MIX DESIGNS:

CONCRETE MIX DESIGN SHALL BE PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

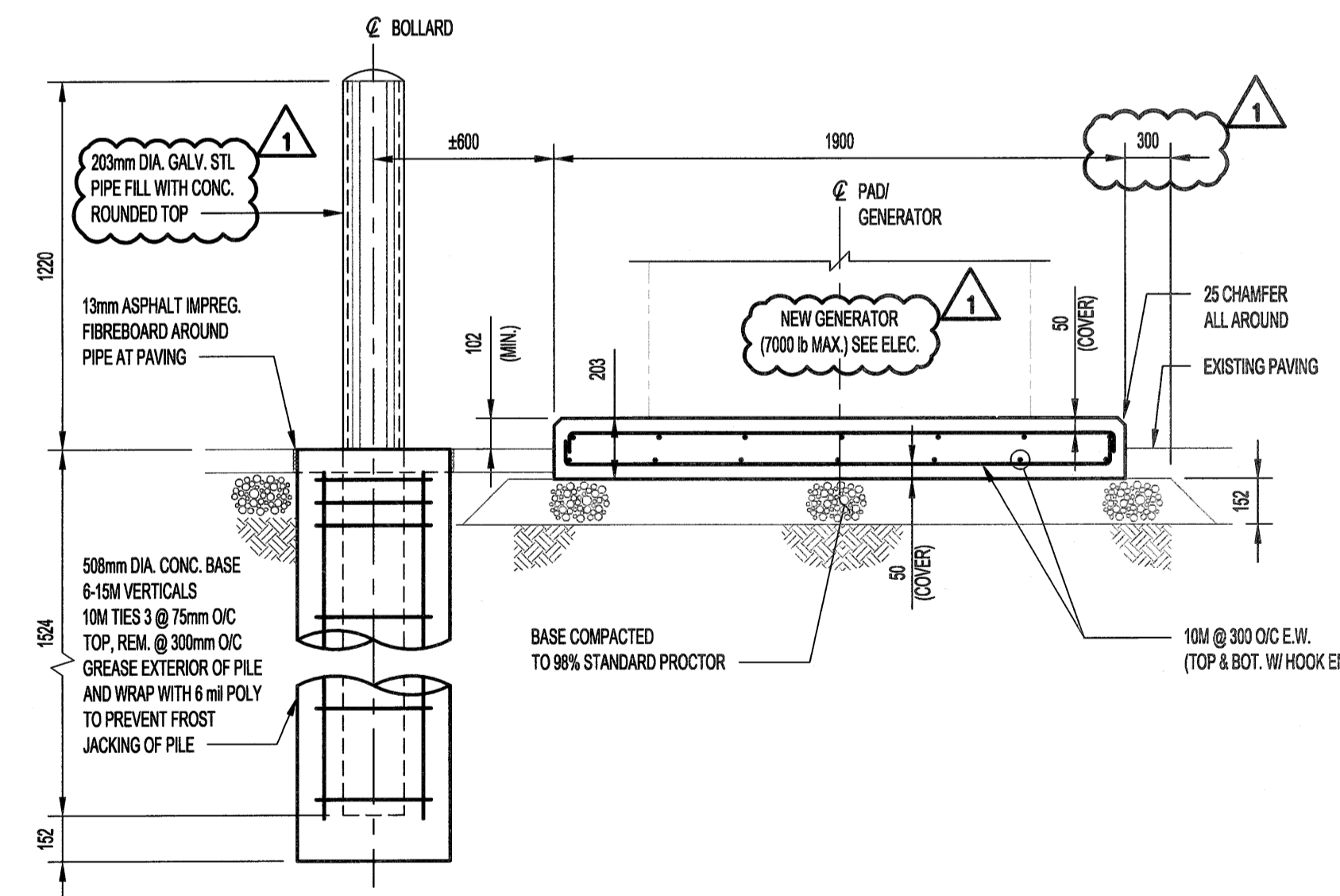
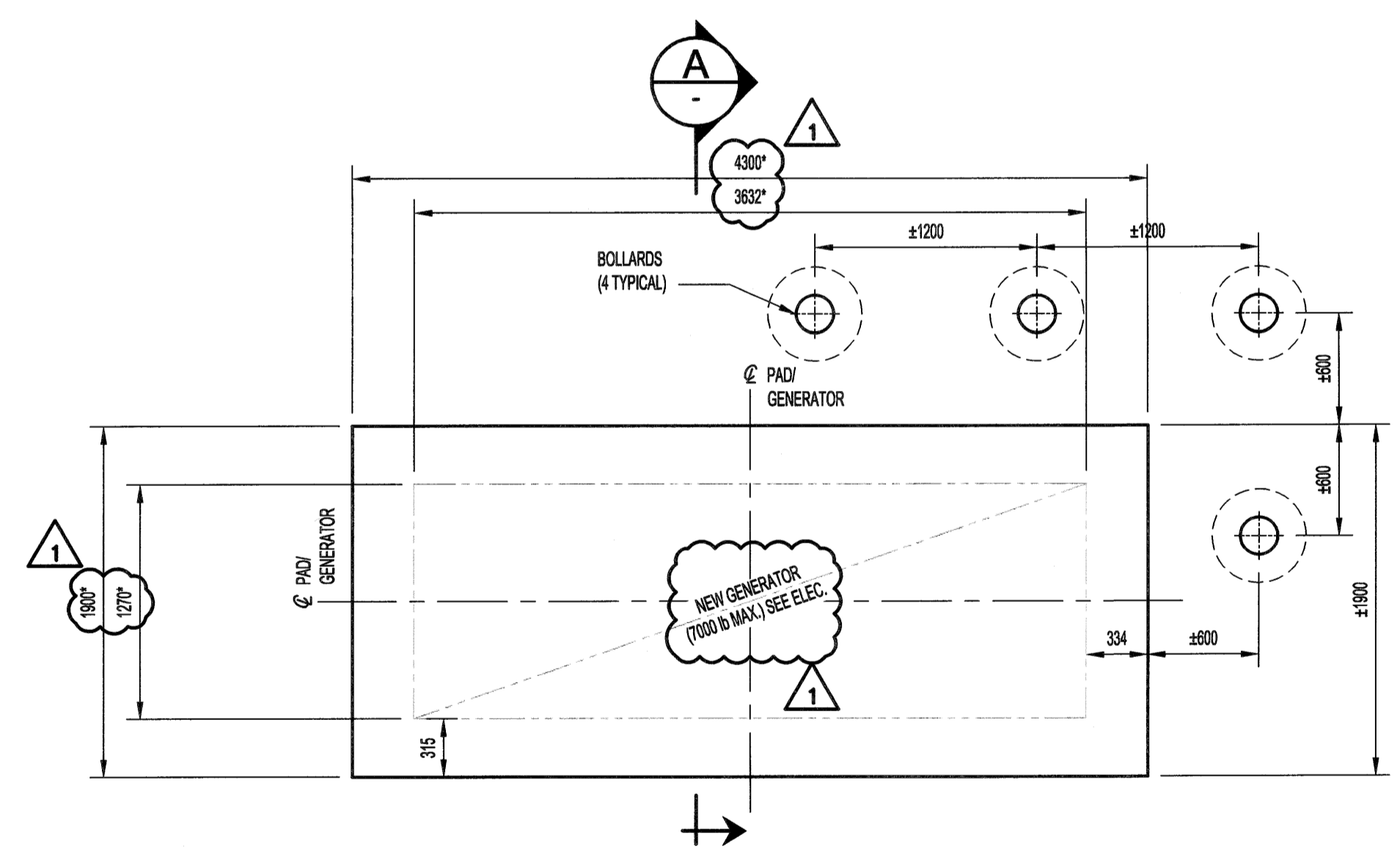
C.I.P. PILES, PILE CAPS, FOOTINGS & RAFT SLABS:	
EXPOSURE CLASS	S-2
MIN. 28 DAY COMP. STRENGTH	30 MPa
MIN. 98 DAY COMP. STRENGTH	32 MPa
AIR CONTENT CATEGORY	1
EXTERIOR SLABS (NON-STRUCTURAL):	
EXPOSURE CLASS	C-2
MIN. 28 DAY COMP. STRENGTH	32 MPa
AIR CONTENT CATEGORY	1

STRUCTURAL AND MISCELLANEOUS STEEL:

- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CANCSA S16 (2009).
- STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CANCSA G40.20/G40.21 (2013).
STANDARD PIPE ASTM A53-12
- STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FINISHED AS INDICATED BELOW, UNLESS OTHERWISE NOTED, OR APPROVED EQUAL:
 - GALVANIZED STEEL**
 - SURFACE PREP TO SP8 (PICKLING)
 - HOT DIPPED GALVANIZED TO ASTM A123-13

SCOPE OF WORK:

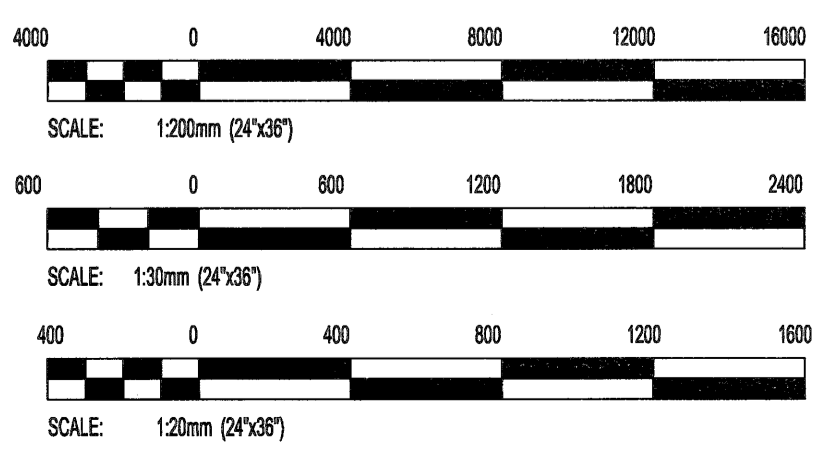
- PROVIDE GENERATOR CONCRETE PAD C/W 4 BOLLARDS.
- PROVIDE 1 HR. FIRE RATED ELECTRICAL ROOM ENCLOSURE C/W 3/4 HR FIRE RATED DOOR AND HARDWARE.



1 PLAN - EXTERIOR GENERATOR PAD
SCALE: 1:30

A SECTION
SCALE: 1:30

*** NOTE:**
CONTRACTOR TO ADJUST DIMENSIONS OF PAD BASED ON FINAL GENERATOR DIMENSIONS. PAD TO BE DIMENSIONED AS TO MAINTAIN CLEARANCES AROUND GENERATOR AS SHOWN.



LOCATION APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
1	RE-ISSUED FOR CONSTRUCTION	2008/15	JMW
0	ISSUED FOR CONSTRUCTION	2009/28	JMW

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
KGS Group
No. 245

DESIGNED BY	CHECKED BY	DATE
JMW	DJP	
DRAWN BY	APPROVED BY	DATE
FBV	JMW	

NO.	REVISIONS	DATE	BY
1	RE-ISSUED FOR CONSTRUCTION	2008/15	JMW
0	ISSUED FOR CONSTRUCTION	2009/28	JMW

ENGINEER'S SEAL
PROVINCE OF MANITOBA
WALTER
Member
24941
REGISTERED PROFESSIONAL ENGINEER
CONSULTANT PROJECT NO.
20-0107-004

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PROJECT TITLE
BRADY ROAD LANDFILL STANDBY GENERATOR

NEW ELECTRICAL ROOM AND GENERATOR PAD

SHEET **1** OF **1**

COMPUTER FILE NAME
X

CONSULTANT DRAWING NUMBER
S01