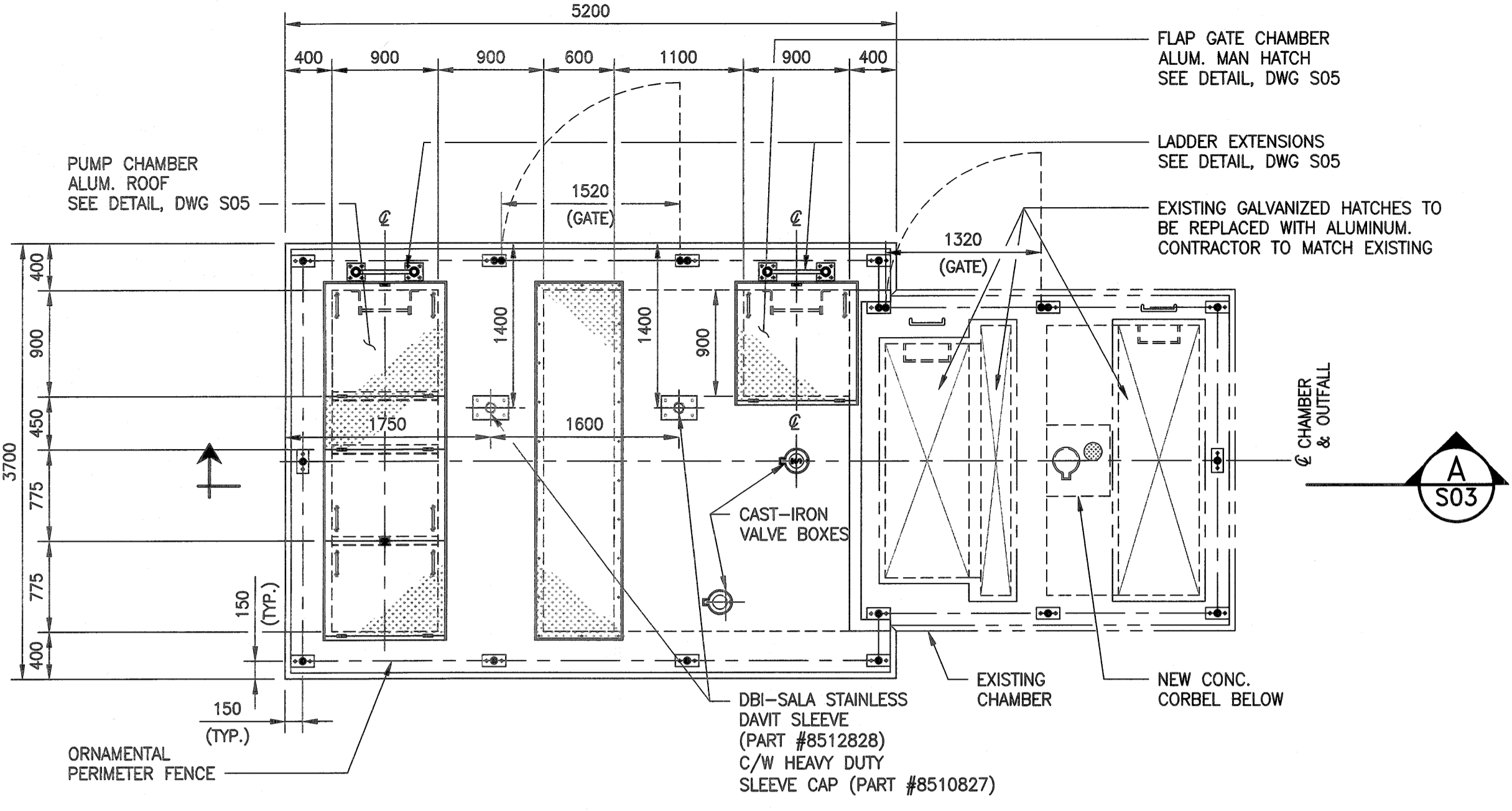
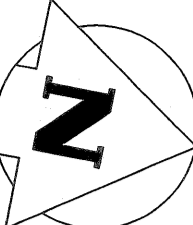
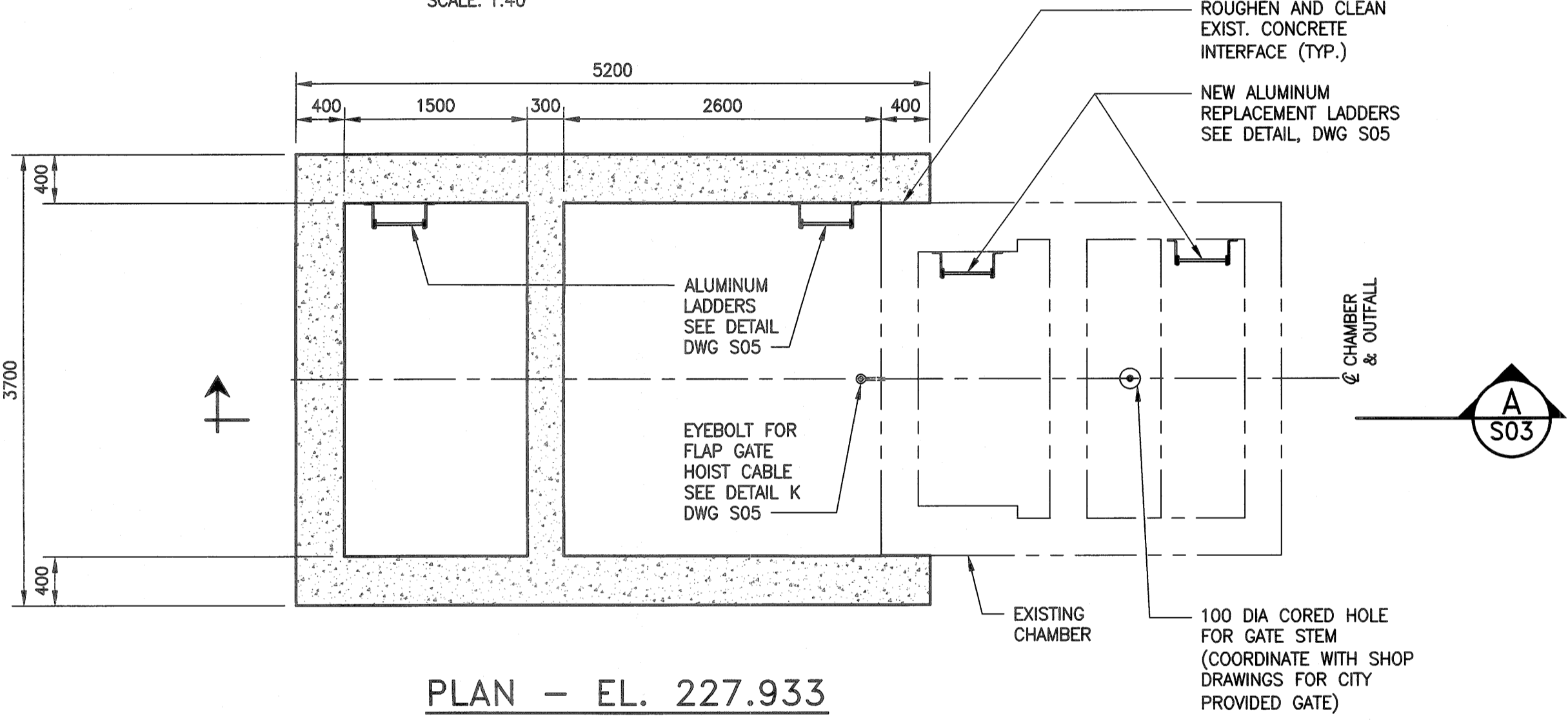


File Name: P:\Projects\2018\18-0107-005_Dwg\Struct\18-0107-005_S02.dwg - Tab: S02 Plotted By: DDerocche 09/11/2018 [Tue 9:15am]



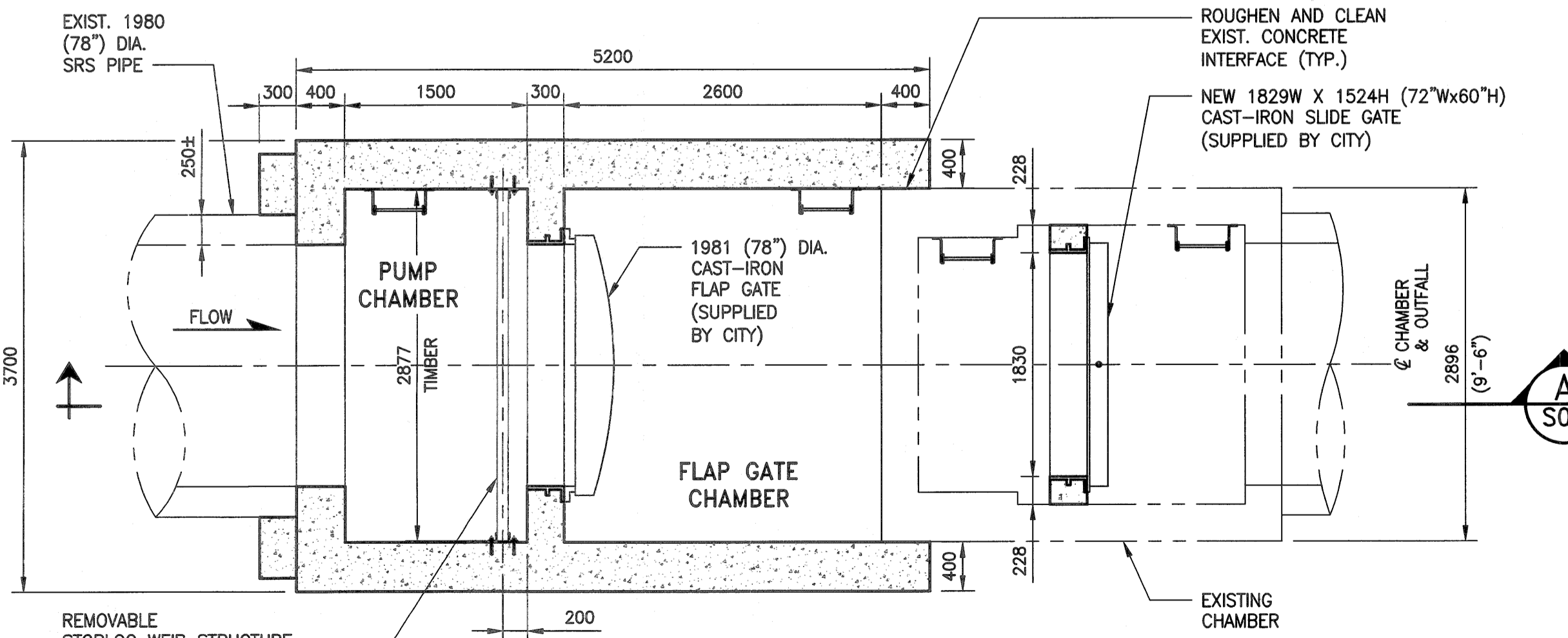
PLAN - EL. 231.133

SCALE: 1:40



PLAN - EL. 227.933

SCALE: 1:40



PLAN - EL. 223.513

SCALE: 1:40

GENERAL NOTES:

- THIS STRUCTURE HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 9 OF THE NATIONAL BUILDING CODE (LATEST).
- ALL SPECIFICATIONS AND CODES SPECIFIED SHALL BE THE LATEST REVISION AVAILABLE.
- SITE VERIFY ALL DIMENSIONS, ELEVATIONS, DETAILS, QUANTITIES AND CONDITIONS PRIOR TO START OF ANY DEMOLITION, CONSTRUCTION OR PREFABRICATION OF ANY STRUCTURAL COMPONENT.
- THE CONTRACTOR SHALL ENSURE THAT ALL BURIED SERVICES ARE LOCATED AND MARKED PRIOR TO EXCAVATION.
- SHIP, STORE, HANDLE, ERECT, INSTALL, ETC. ALL BUILDING MATERIALS, COMPONENTS, FIXTURES, EQUIPMENT, ETC. AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ALL DEMOLITION, FABRICATION, CONSTRUCTION, ETC. SHALL BE CARRIED OUT IN ACCORDANCE WITH ALL PERTINENT BUILDING CODES, AND LOCAL BYLAWS AND ORDINANCES.
- DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE PROJECT TECHNICAL SPECIFICATIONS.
- DESIGN LOADS ARE CONSISTENT WITH THE CITY OF WINNIPEG'S SEWAGE TREATMENT PROGRAM STRUCTURAL DESIGN GUIDELINES.
- DESIGN LOADS ARE AS FOLLOWS:
 FLOOR LIVE LOADS: 10.00 kPa
 SNOW LOAD: 1.90 kPa
 FOUNDATION WALL LOADS:
 LIVE LOAD: $q = 6.0 \text{ kPa}$ (SURCHARGE LOAD)
 SOIL LOAD: $\gamma_{\text{soil}} = 18 \text{ kN/m}^3$
 AT REST LATERAL EARTH PRESSURE COEFFICIENT: $K_0 = 0.70$
 LATERAL PRESSURE ON WALL, $P = K_0(\gamma_{\text{soil}}xH + q)$, WHERE H = HEIGHT OF SOIL
- DESIGN FLOOD PROTECTION LEVEL
 1/700 YEAR EVENT: 230.770m (INCLUDES FREEBOARD).

SURVEY NOTES:

- REFER TO MUNICIPAL DWG [C01] FOR SURVEY DETAILS.

REINFORCING STEEL:

- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18 (LATEST). 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.
- BEND ALL HORIZONTAL REINFORCING 305mm AROUND CORNERS OR PROVIDE ADDITIONAL 610mm X 610mm ANGLE BARS.
- 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:
 BASE SLAB (EXTERIOR FACES) 75mm
 BASE SLAB (INTERIOR FACES) 50mm
 FOUNDATION WALLS (EXTERIOR FACE) 75mm
 FOUNDATION WALLS (INTERIOR FACE) 50mm
 CHAMBER ROOF SLAB (TOP & BOTTOM) 50mm
 INTERIOR WALLS 50mm
- CONTRACTOR SHALL SUBMIT REINFORCING SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL AND MISCELLANEOUS STEEL:

- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CAN/CSA S16 (LATEST).
- STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CAN/CSA G40.20/G40.21 (LATEST).
 ROLLED SHAPES & PLATES CSA G40.21-300W
- WELDING SHALL BE IN ACCORDANCE WITH CSA W59 (LATEST), BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1 (LATEST). ALL WELDS TO BE 6mm UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
- 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 CAN/CSA G164 (LATEST).

CONCRETE:

- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA A23.1 (LATEST). 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 CAN/CSA-S269.3 (LATEST). ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
- CONTRACTOR SHALL SUBMIT SHORING SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION SHORING SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED OR LICENSED IN THE PROVINCE OF MANITOBA AND EXPERIENCED IN THE STRUCTURAL DESIGN OF SHORING SYSTEMS.
- CONCRETE FINISHING SHALL MEET THE REQUIREMENTS OF CSA A23.1 (LATEST).
- FORM RELEASE AGENT SHALL BE BIODEGRADABLE, NON-STAINING AND NON-VOLATILE.
- PROVIDE 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.
- WATERSTOP TO BE HYDROTITE CJ-0725-3K OR APPROVED ALTERNATE NON-BENTONITE WATERSTOP.
- ALL EXPOSED CORNERS TO HAVE 25mm CHAMFER FILLET UNLESS NOTED.
- ADHESIVE ANCHORS SHALL BE HILTI HAS RODS COMPLETE WITH HIT-HY200 ADHESIVE OR APPROVED EQUAL, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
- THE CONCRETE SUPPLIER SHALL BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1.
- THE CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.

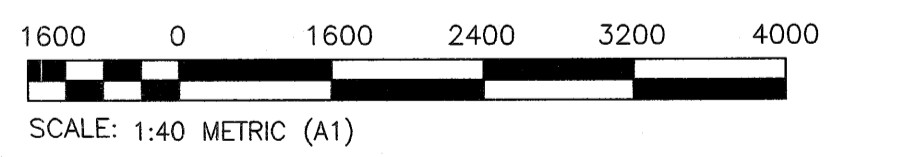
CONCRETE MIX DESIGNS:

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

EXPOSURE CLASS	S-1
MIN. 56 DAY COMP. STRENGTH	35 MPa
CEMENT TYPE	TYPE 50 (HS)
MAX. W/C RATIO	0.40
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	5% TO 8%
MAXIMUM SLUMP	80mm±20mm

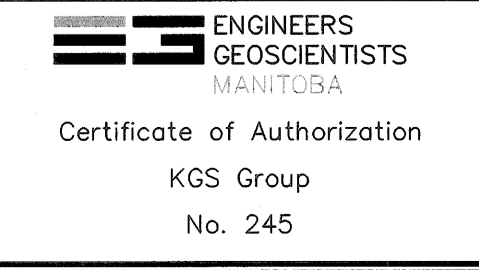
ALUMINUM:

- ALUMINUM SHALL BE IN ACCORDANCE WITH CAN/CSA S517 AND THE ALUMINUM ASSOCIATION "SPECIFICATION FOR ALUMINUM STRUCTURES". ALUMINUM FOR PLATES AND EXTRUDED SHAPES SHALL BE TYPE 6061-T651.
- ALUMINUM WELDING SHALL BE IN ACCORDANCE WITH CSA W59.2 (LATEST) BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.2 (LATEST). ALL WELDS TO BE 6mm UNLESS OTHERWISE NOTED.
- INSTALL NYLITE ELECTROCHEMICAL ISOLATION GASKETS TO ELECTRICALLY ISOLATE DISSIMILAR METALS (SUPPLIER: SPAENAUER).
- ALL ALUMINUM IN CONTACT WITH CONCRETE OR CAST INTO CONCRETE TO HAVE BITUMINOUS ISOLATION COATING.
- ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL & TYPE 316. MEETING ASTM F593/F738M.



METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES



FIELD BOOK #	
POSTED TO LBIS	
DESIGNED BY	KRD
CHECKED BY	CWS
DRAWN BY	FBV
APPROVED BY	CWS
HOR. SCALE	AS NOTED
VERTICAL SCALE	AS NOTED
ISSUED FOR CONSTRUCTION	18/09/11 CWS
NO. REVISIONS	DATE BY
	2018 05 16

KGS GROUP
 CONSULTING ENGINEERS

ENGINEER'S SEAL
 PROVINCE OF MANITOBA
C.M. SIEPMAN
 Member
 20813

DESIGNED BY: KRD
 CHECKED BY: CWS
 DRAWN BY: FBV
 APPROVED BY: CWS
 HOR. SCALE: AS NOTED
 VERTICAL SCALE: AS NOTED
 RELEASED FOR CONSTRUCTION: 18/09/11
 DATE: 2018 05 16

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

Winnipeg

DONALD OUTFALL CHAMBER UPGRADES

STRUCTURAL PLANS

SHEET 5 OF 24
 CITY DRAWING NUMBER
 LD-8637

S02