

Grande Prairie
 10940-92 Ave, Grande Prairie, AB T8V 6B5
 Calgary
 #102, 1212-1 St SE, Calgary, AB T2G 2H8
 www.baseng.ca
 P: 780 532 4819

SEAL

VALIDATION
PERMIT TO PRACTICE
 BEIRSTO & ASSOCIATES ENGINEERING LTD.
 RM SIGNATURE: _____
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 DATE: _____
PERMIT NUMBER : P243
 The Association of Professional Engineers and Geoscientists of Alberta (APEGA)



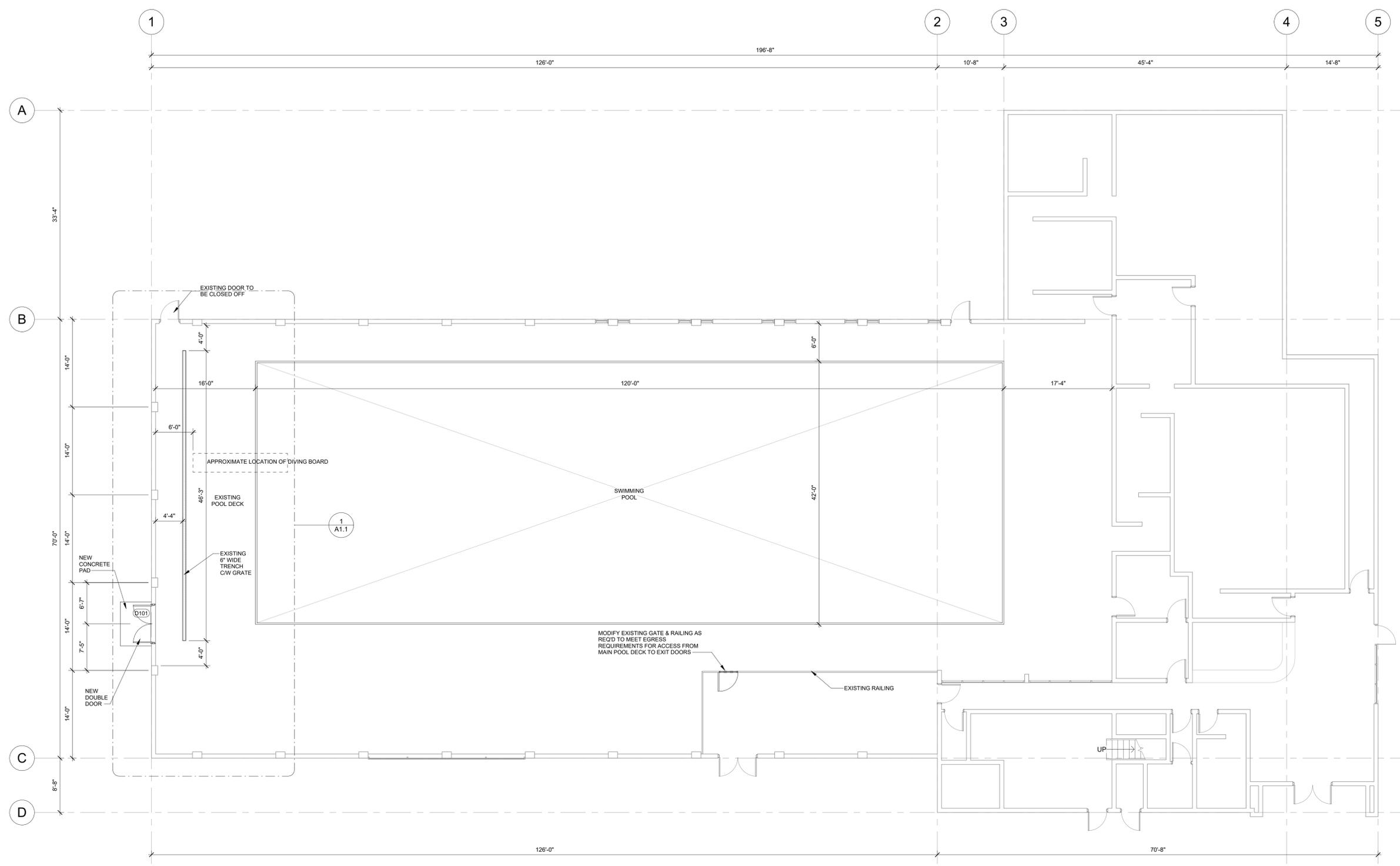
PROJECT
**Drumheller Aquaplex
 New Door**

No.	Description	Date
4	Issued for Tender	May 30, 2023
3	Issued For Review	Mar 9, 2023
2	Issued For Review	Feb 15, 2023
1	Issued for Review	Sep 22, 2022

NOTES:
 1. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED AND SEALED OR ADVISED IN WRITING BY THE ENGINEER. DO NOT SCALE THIS DRAWING.
 2. VERIFY ALL DIMENSIONS, DATUMS, AND LEVELS PRIOR TO COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES OR OMISSIONS TO THE ENGINEER IMMEDIATELY.
 3. ALL WORK MUST COMPLY WITH THE MOST RECENT EDITION OF THE APPLICABLE BUILDING CODE AND ANY OTHER GOVERNING AUTHORITY.

DRAWN BY: C.M. Valiente
 CHECKED BY: D. McGrath, P.ENG.
 ENGINEER: D. McGrath, P.ENG.
 PROJECT No: 22CEBD1024
 DATE: May 2023
 SCALE: 1/8" = 1'-0"

DESCRIPTION
Main Floor Plan
 DRAWING NO. **A1.0** SHEET **2** / **3**



1
 A1.0
 Main Floor Plan
 1/8" = 1'-0"

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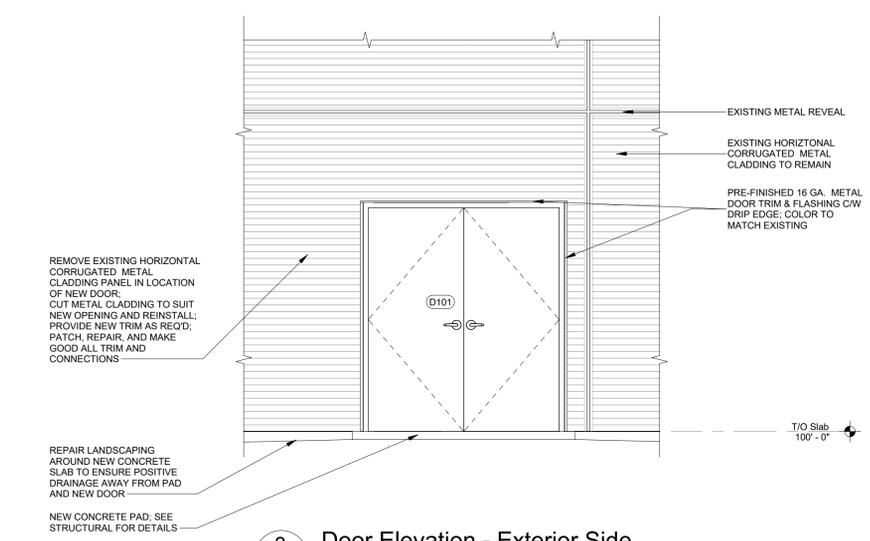
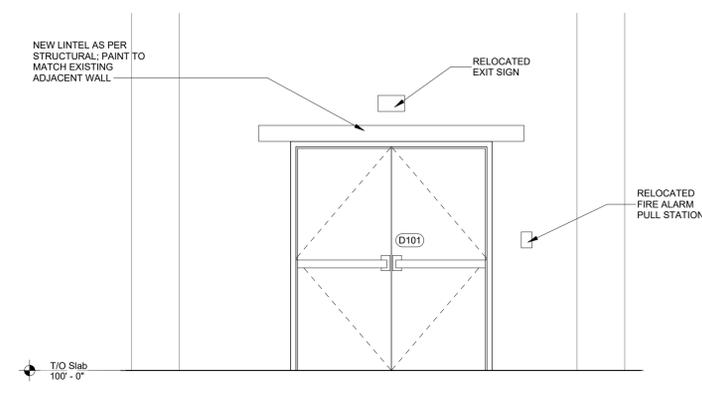
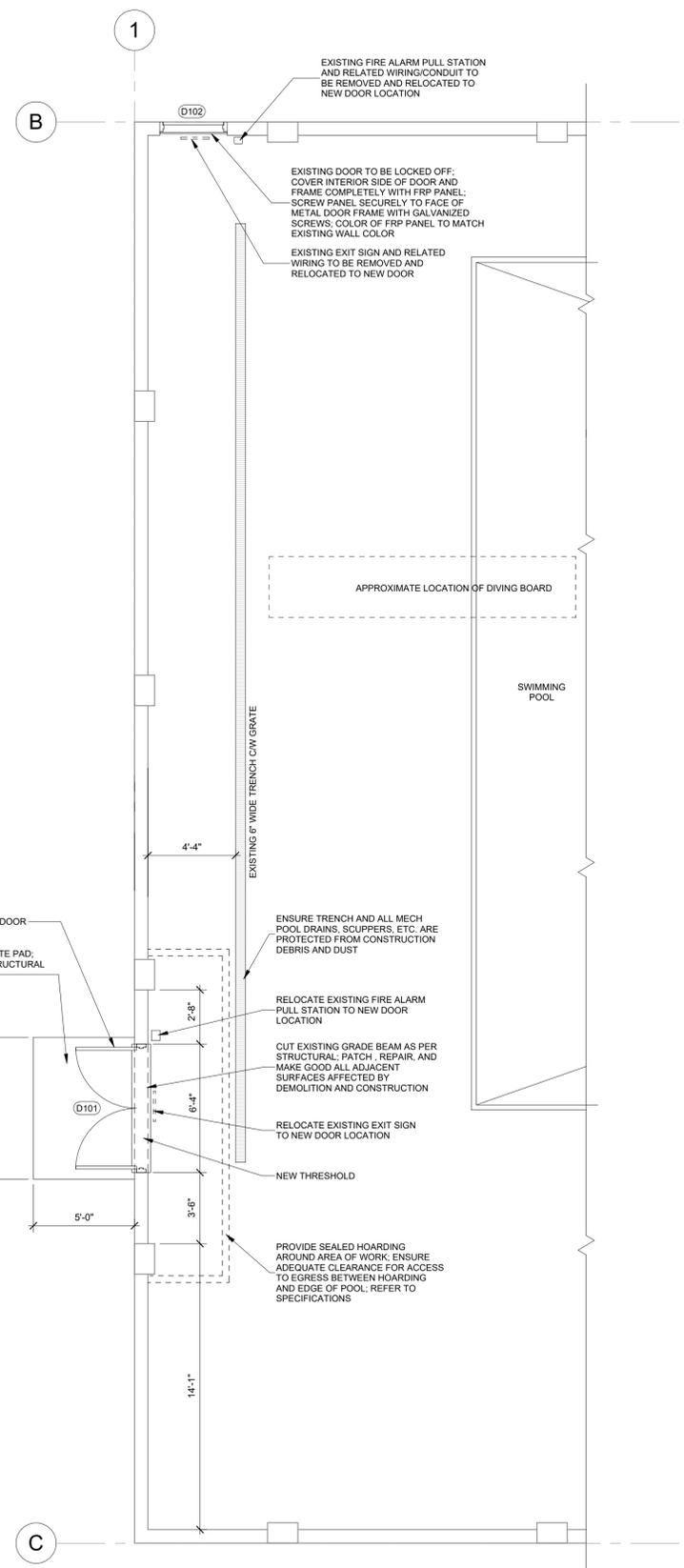
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PROJECT No: 22CEBD1024
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SCALE: As indicated

DESCRIPTION
Enlarged Plan & Details

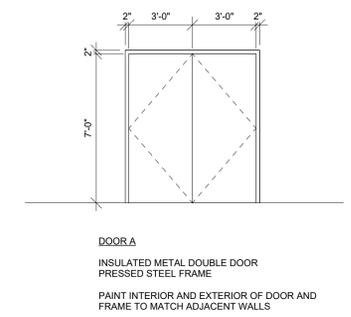
DRAWING NO. **A1.1** SHEET **3** OF **3**



- DEMOLITION NOTES**
- EXECUTE DEMOLITION IN A SAFE AND CAREFUL MANNER TO MINIMIZE DAMAGE TO EXISTING COMPONENTS WHICH ARE TO REMAIN.
 - DEMOLISH OPENING IN EXISTING CONCRETE BLOCK WALL AS REQUIRED TO FACILITATE INSTALLATION OF NEW DOOR. REFER TO DIMENSIONED ARCHITECTURAL AND STRUCTURAL PLANS.
 - DEMOLISH PORTION OF GRADE BEAM AS REQ'D FOR DOOR OPENING. PATCH, REPAIR & MAKE GOOD ALL AREAS AFFECTED BY DEMOLITION. REFER TO STRUCTURAL.
 - REMOVE AND SALVAGE EXISTING EXIT SIGN FOR REINSTALLATION AT NEW DOOR LOCATION.
 - REMOVE AND MODIFY PORTION OF GUARDRAIL AT SOUTHWEST SPECTATOR AREA TO ALLOW FOR ACCESS TO EXIT. CONSULT WITH AHJ FOR APPROVAL ON MODIFICATIONS TO MEET EGRESS REQUIREMENTS.
 - PATCH, REPAIR AND MAKE GOOD ALL AREAS AFFECTED BY DEMOLITION AND CONSTRUCTION.

- EXIT LIGHT NOTES**
- RELOCATE EXIT LIGHT AS INDICATED, IN ACCORDANCE WITH THE NATIONAL BUILDING CODE - ALBERTA EDITION.
 - CONNECT FIXTURES TO EXIT LIGHT CIRCUITS AND TO EMERGENCY POWER SOURCE AS INDICATED.
 - ENSURE THAT EXIT LIGHT CIRCUIT BREAKER IS LOCKED IN ON POSITION.
 - MOUNTING HEIGHTS OF EXIT LIGHTS TO BE 2500 MM UNLESS NOTED OTHERWISE.

- FIRE ALARM NOTES**
- THIS PROJECT IS A RENOVATION PROJECT AND REQUIRES FIRE ALARM SYSTEM MODIFICATIONS. THE FIRE ALARM SYSTEM IS LIMITED TO THE RELOCATION OF PULL STATION AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL HIRE THE SERVICES OF THE FIRE ALARM PANEL MANUFACTURER AND BE RESPONSIBLE FOR ANY REQUIRED CONTROL PANEL UPGRADES INCLUDING PROVISION OF NEW BATTERIES AND CIRCUITS TO MEET THE DESIGN AND CODE REQUIREMENTS.
 - STANDARDS:
1. CANULC - S524-LATEST EDITION (INSTALLATION)
2. CANULC - S536-LATEST EDITION (INSPECTION AND TESTING)
3. CANULC - S525-LATEST EDITION (AUDIBLE SIGNALS)
4. CANULC - S537-LATEST EDITION (VERIFICATION)
 - PROGRAMMING WORK TO BE PERFORMED BY THE MANUFACTURER OR AN APPROVED AGENCY AND RE-VERIFIES BY THE SAME.
 - PROVIDE ALL REQUIRED CONDUIT AND WIRING TO COMPLETION OF WORK IN PRESENCE OF FIRE ALARM MANUFACTURER'S REPRESENTATIVE TO ENSURE PROPER OPERATION.
 - EMPLOY FIRE ALARM MANUFACTURER FOR FIRE ALARM SYSTEM VERIFICATION TO CANULC S537.
 - EMPLOY BEIRSTO & ASSOCIATES ENG. LTD. TO OVERSEE FIRE ALARM SYSTEM VERIFICATION TO CANULC S537.



HARDWARE SCHEDULE

GROUP	DESCRIPTION
GROUP 1	TOUCH BAR EXIT DEVICE KEYED AS PER OWNER 3 PAIR BUTT HINGES COORDINATOR FLUSH BOLTS ASTRAGAL CLOSER THRESHOLD SWEEPS WEATHERSTRIP

NOTES:
1. HARDWARE TO BE GRADE ONE AND TO MATCH EXISTING BUILDING STANDARD
2. CONSULT WITH OWNER FOR KEYING REQUIREMENTS

DOOR SCHEDULE

DOOR NUMBER	DOOR TYPE	ROOM	WIDTH	HEIGHT	FIRE RATING	HARDWARE GROUP	COMMENTS
D101	A	EXISTING POOL DECK	6'-0"	7'-0"		1	
D102	EXISTING	EXISTING POOL DECK	3'-0"	7'-0"			EXISTING DOOR AND FRAME TO REMAIN. SEE DRAWING NOTES

STRUCTURAL STEEL

- ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CISC THE HANDBOOK OF STEEL CONSTRUCTION, LIMIT STATES DESIGN OF STEEL STRUCTURES CAN/CSA-S16-14 AND NATIONAL BUILDING CODE 2019 - ALBERTA EDITION.
- STRUCTURAL STEEL MEMBERS SHALL CONFORM WITH CAN/CSA G40.20/G40.21, UNO.

MEMBER	GRADE
ROLLED W-SHAPES AND TEES	CSA G40.21 350W OR ASTM A992 GR. 50
WELDED WIDE FLANGE SECTIONS	CSA G40.21 350W
HOLLOW STRUCTURAL SECTIONS	CSA G40.21 350W CLASS C
OTHER SHAPES & PLATES	CSA G40.21 300W
BOLTS	ASTM F1554 GR. A325
ANCHOR BOLTS / RODS	ASTM F1554 (APPLICABLE WITH WELDABILITY SUPPLEMENT S1)
HEX NUTS	ASTM A563
HARDENED WASHERS	ASTM F436
(LOAD INDICATING WASHER)	
SHEAR STUDS	ASTM 29 / ASTM 108 (MILD STEEL) ASTM A276 (STAINLESS STEEL)

- ALL STEEL FABRICATION IS REQUIRED TO BE COMPLETED BY AN APPROVED STEEL FABRICATOR.
- ALL BOLTS SHALL BE INSTALLED AS BEARING-TYPE CONNECTIONS WITH THREADS EXCLUDED IN SHEAR PLANE (TYPE "X" CONNECTION) UNLESS NOTED OTHERWISE. HIGH-STRENGTH BOLT ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" AND SHALL BE SNUG TIGHTENED USING ANY CISC APPROVED METHOD UNO. ALL BOLTS IN SLOTTED OR OVERSIZED HOLES AND ALL HIGH-STRENGTH BOLTS SHALL BE INSTALLED WITH HARDENED WASHERS.
- SEE PLAN NOTES FOR CONNECTION DESIGN REQUIREMENTS.
- GROUT BENEATH COLUMN BASES OR BEARING PLATES SHALL BE 35MPa (5,000 PSI) (MIN) NON-SHRINK FLOWABLE GROUT OR DRYPACK. INSTALL GROUT UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL GROUT UNDER BASE PLATE AFTER COLUMN HAS BEEN PLUMBED BUT PRIOR TO FLOOR OR ROOF INSTALLATION. GROUT DEPTH SHALL BE SUFFICIENT TO ALLOW GROUT OR DRYPACK TO BE PLACED BENEATH PLATE WITHOUT VOIDS. (1" MIN).

WELDING

- ALL WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA W59.1 AND FOLLOW THE PREQUALIFIED JOINT DETAILS INCLUDED THEREIN. WELDING OF JOINTS THAT INCLUDE REINFORCING STEEL SHALL CONFORM TO CAN/CSA W186-M1990.
- WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT HIS DISCRETION. ALL COMPLETE JOINT PENETRATION (CJP) WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.
- CONTRACTOR TO APPOINT AND PAY FOR SERVICES OF TESTING AGENCY TO PERFORM TESTING AND INSPECTION OF WORK FOR THIS SECTION.
- ALL WELDING ELECTRODES SHALL MEET THE REQUIREMENTS OF CSA STANDARD W48 AS APPLICABLE
- WELD LENGTHS CALLED OUT ON PLANS OR DETAILS ARE MINIMUM NET EFFECTIVE LENGTHS UNO.
- ALL MISC. FILLET WELDS NOT NOTED, INCLUDING THOSE FOR STIFFENERS, MISC. LATES, ETC. SHALL BE PER CISC AND CAN/CSA-S16-14.
- MINIMUM WELD SIZE TO BE 6mm (1/4") FILLET ALL AROUND U.N.O.

REINFORCING STEEL

- REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE W/ CAN/CSA 23.3-04 AND THE LATEST EDITION RSIC'S MANUAL OF STANDARD PRACTICE.
- REINFORCING STEEL SHALL CONFORM TO CAN/CSA G30.18-M92 GRADE 400 MPa AND 400W (FOR ALL REINFORCING TO BE WELDED) AND SHALL BE DEFORMED BARS UNO.
- WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.5-M1983 FOR SMOOTH WIRE FABRIC AND CAN/CSA G30.15-M1983 FOR DEFORMED WIRE FABRIC. LAPS SHALL BE MADE SUCH THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRE OF EACH FABRIC SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 50mm (2").
- ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CL" ARE TO CENTER OF STEEL. CLEAR COVER SHALL BE AS NOTED BELOW, UNO ON PLANS OR DETAILS.

EXPOSURE CONDITION:	COVER:
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	76mm (3")
EXPOSED TO EARTH OR WEATHER (INCLUDES SLABS ON GRADE)	
15M AND SMALLER	38mm (1-1/2")
20M AND LARGER	50mm (2")
NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH	
STRUCTURAL WALLS, SLABS, AND JOISTS	
35M AND SMALLER	19mm (3/4")
BEAM AND COLUMN PRIMARY REINF., TIES, STIRRUPS, AND SPIRALS	
35M AND SMALLER	38mm (1-1/2")

- LAP SPLICES OF REINFORCING STEEL IN CONCRETE BEAMS, SLABS AND FOOTINGS SHALL BE ACCORDING TO CAN/CSA A23.3 OR LAP SCHEDULE BELOW UNO. STAGGER SPLICES A MIN OF ONE LAP LENGTH. NO TACK WELDING OF REINFORCING BARS ALLOWED. LATEST CAN/CSA CODE AND DETAILING MANUAL APPLY. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS WHERE PROVIDED. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. SPLICE TOP BARS AT CENTER LINE OF SPAN AND BOTTOM BARS AT THE SUPPORT IN SPANDRELS, BEAMS, GRADE BEAMS, ETC. UNO.

REBAR LAP SCHEDULE:	
BAR SIZE:	LAP
10M	400mm (16")
15M	600mm (24")
20M	800mm (32")
25M	1000mm (40")
- MECHANICAL SPLICE COUPLERS MAY BE USED AS AN ALTERNATE TO LAP SPLICES. COUPLERS SHALL HAVE CURRENT CSA APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE BAR STRENGTH.
- WELDING OF REINFORCING BARS, METAL INSERTS, AND CONNECTIONS SHALL CONFORM TO CAN/CSA W186-M1990 AND SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS OR DETAILS. ALL REINFORCING SHALL BE BENT COLD. BARS SHALL ONLY BE BENT ONCE.
- REINFORCING BAR SPACING SHOWN ON PLANS ARE MAX ON CENTERS. DOWEL ALL VERTICAL REINFORCING INTO FOUNDATION. SECURELY TIE ALL BARS IN LOCATION PRIOR TO CONCRETE PLACEMENT.
- FOUNDING SURFACE BELOW FOOTINGS SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER TO VERIFY THE ALLOWABLE SOIL BEARING CAPACITY

FOUNDATION

- REFER TO FOUNDATION PLANS FOR ADDITIONAL NOTES
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER TO CONFIRM AND OFFER RECOMMENDATION/DIRECTION RELATED TO:
 - EXCAVATION
 - SITE PREPARATION
 - BACKFILL MATERIAL
 - COMPACTION REQUIREMENTS
 - FOUNDING ELEVATION
- ALL SITE PREPARATION, GRADING, COMPACTION TESTS, INSPECTIONS, ETC. SHALL BE FOLLOWED AND COMPLETED PRIOR TO ANY CONCRETE PLACEMENT.
- ALL FILL AND BACKFILL BEING USED FOR SLABS OR OTHER STRUCTURAL APPLICATION SHALL BE TESTED FOR SUITABILITY BY A GEOTECHNICAL ENGINEER.
- NO BACKFILL CONTAINING STONES OVER 76mm (3"), FROZEN MATERIAL, DEBRIS, OR ORGANIC MATTER WILL BE PERMITTED.
- DO NOT EXCAVATE FOR FOOTINGS BELOW A LINE INCLINED DOWN 30 DEGREES FROM NEARBY FOOTINGS UNLESS THE EXCAVATION IS ADEQUATELY BRACED OR APPROVED BY THE ENGINEER.

CONCRETE

- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE.
- CONTRACTOR SHALL COORDINATE WITH WORK OF ALL OTHER TRADES AND WHERE REQUIRED INSTALL ALL BUILT-IN WORK, SLEEVES, INSERTS, ETC. AS REQUIRED.
- CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY AND APPROVED BY THE ENGINEER OF RECORD.
- PORTLAND CEMENT SHALL CONFORM TO CAN/CSA A23.1, 23.2 AND 23.3.
- NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT, UNLESS APPROVED BY THE ENGINEER OR AUTHORIZED TESTING AGENCY.
- CONTRACTOR SHALL ONLY ADJUST THE MAXIMUM SLUMP BY THE ADDITION OF SUPER-PLASTICIZERS. NO ADMIXTURES SHALL BE USED WITHOUT THE PERMISSION FROM THE ENGINEER OF RECORD.
- CONCRETE BATCHING, MIXING, TRANSPORTATION AND PLACEMENT SHALL BE PER CAN/CSA A23.1 OR A23.4 AS APPLICABLE.
- CONCRETE CONSOLIDATION SHALL BE PER CAN/CSA A23.1 OR A23.4.
- FORM WORK SHALL BE PER CAN/CSA A23.1 OR A23.4 AS APPLICABLE.
- REMOVE ALL DEBRIS FROM FORMS, REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO PLACING CONCRETE. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (WALLS OR COLUMNS) SO AS TO CAUSE A SEGREGATION OF AGGREGATES. UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FEET. CARE SHALL BE TAKEN IN PLACING SLABS ON GRADE SO FILL MATERIAL IS NOT DISTURBED.
- ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC. SHALL BE SECURELY POSITIONED IN THE FORMS PRIOR TO PLACING OF CONCRETE.
- CONCRETE SLAB ON GRADE CONTROL JOINTS SHALL BE SAW-CUT CONTROL JOINTS SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED THAT INDICATED IN TYPICAL DETAIL.
- EMBEDDED ITEMS SHALL BE PLACED PER CAN/CSA A23.1 OR A23.4 AS APPLICABLE.
- PIPE OTHER THAN ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY THE ENGINEER. MAX PIPE SIZE SHALL BE 1/3 OF THE SLAB THICKNESS AND LOCATED AT THE MID-DEPTH. MIN SPACING SHALL BE 3 TIMES THE PIPE DIAMETER. PIPES SHALL NOT IMPAIR THE STRENGTH OF THE MEMBER.
- PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH DUE TO COLD OR HOT WEATHER PER CSA-A23.1.
- CONTRACTOR SHALL SUBMIT CONCRETE MIX REPORT WITH COMPRESSION TEST RESULTS TO THE STRUCTURAL ENGINEER FOR REVIEW. REPRESENTATIVE TEST CYLINDERS SHALL BE TAKEN FROM THE CONCRETE IN ACCORDANCE WITH CONCRETE CSA SPECIFICATIONS. TESTING SHALL BE PERFORMED AT 7 AND 28 DAYS.
- VOID FORM SHALL BE GEOSPAN FOR GRADE BEAMS AND PILE CAPS AND GEOVOID FOR STRUCTURAL SLAB BY PLASTI-FAB OR APPROVED ALTERNATE.
- EXTERIOR CONCRETE FOR APRONS, PADS AND SIDEWALKS TO BE BROOM FINISH.
- RECOMMENDATION TO CONTROL SLAB ON GRADE OR CONCRETE OVER STEEL DECK CRACKING:

A.	38mm (1-1/2") MAX AGGREGATE SIZE
B.	CAN/CSA A23.1 OR A23.4 AGGREGATE SPECIFICATION TO PROVIDE A WELL GRADED AGGREGATE MIX.
C.	CONTRACTION JOINTS SHALL BE SPACED AT 25 TIMES THE SLAB THICKNESS AND NOT MORE THAN 4500mm (14'-0") ON CENTRE IN APPROXIMATELY SQUARE PATTERNS UNLESS SPECIALTY CONCRETE MIXES ARE INVOLVED.

102mm (4") SLAB THICKNESS	2500mm (8'-4")
127mm (5") SLAB THICKNESS	3000mm (10'-0")
152mm (6") SLAB THICKNESS	3800mm (12'-6")
178mm (7") SLAB THICKNESS OR GREATER	4450mm (14'-7")

CONCRETE SCHEDULE						
ELEMENT	EXPOSURE CLASS	EMENT TYPE	MINIMUM STRENGTH	MAXIMUM AGGREGATE SIZE	W/C RATIO	AIR ENTRAINMENT
EXTERIOR CONCRETE						
PILES	S-2	HS OR Hsb	25 MPa @ 28 DAYS	3/4" (20mm)	0.45	5% - 8%
FOOTINGS			32 MPa @ 56 DAYS			
FOUNDATION WALLS	S-2	HS OR Hsb	32 MPa @ 28 DAYS	3/4" (20mm)	0.45	5% - 8%
RETAINING WALLS						
GRADE BEAMS	S-2	HS OR Hsb	32 MPa @ 28 DAYS	3/4" (20mm)	0.55	4% - 7%
PILE CAPS						
COLUMNS	F-2	GU	32 MPa @ 28 DAYS	3/4" (20mm)	0.40	5% - 8%
PILASTERS						
CONCRETE APRONS	C-1	GU	32 MPa @ 28 DAYS	3/4" (20mm)	0.45	5% - 8%
PARKING SLABS & RAMPS						
SIDEWALKS	C-2	GU	32 MPa @ 28 DAYS	3/4" (20mm)	0.45	5% - 8%
CURBS & GUTTERS						
SPLASH PAD	S-2	HS OR Hsb	5 MPa @ 28 DAYS	3/4" (20mm)	0.45	5% - 8%
MUD SLABS						
INTERIOR CONCRETE						
SLAB ON GRADE	N	GU	32 MPa @ 28 DAYS	3/4" (20mm)	NOTE 1	N/A
STRUCTURAL SLAB	N	GU	35 MPa @ 28 DAYS	3/4" (20mm)	NOTE 1	N/A
SUMP PITS	N	GU	32 MPa @ 28 DAYS	3/4" (20mm)	NOTE 1	N/A
CONCRETE ON COMPOSITE STEEL DECK	N	GU	25 MPa @ 28 DAYS	1/2" (12mm)	NOTE 1	N/A
HOUSE KEEPING PADS	N	GU	25 MPa @ 28 DAYS	3/4" (20mm)	NOTE 1	N/A

- NOTE:
- WATER-CEMENT RATIO AS PER THE MIX DESIGN FOR THE STRENGTH REQUIRED.

SUBMITTALS

- SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS TO THE STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION. REQUIRED SHOP DRAWINGS SHALL INCLUDE BUT ARE NOT LIMITED TO:
 - A. STRUCTURAL STEEL
 - B. OPEN WEB STEEL JOISTS AND GRIDERS
 - C. PRECAST CONCRETE MEMBERS
 - D. METAL STUD FRAMING
- CONTRACTOR SHALL REVIEW AND STAMP SHOP DRAWINGS PRIOR TO SUBMITTING. CONTRACTOR'S REVIEW SHALL CHECK FOR COMPLETENESS/COMPLIANCE WITH CONTRACT DOCUMENTS.
- SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. REVIEW DOES NOT INDICATE THAT THE SHOP DRAWINGS ARE CORRECT OR COMPLETE. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS SHALL BE CLOUDED. ANY OF THE AFORESAIDED SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW UNLESS SPECIFICALLY NOTED ACCORDINGLY. THE SHOP DRAWINGS DO NOT SUPERSEDE OR REPLACE THE ORIGINAL CONTRACT DRAWINGS. ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN APPROPRIATELY REGISTERED ENGINEER.
- INDICATED BY THE STRUCTURAL DRAWINGS TO BE DESIGNED BY OTHERS MAY BE SUBMITTED TO THE ARCHITECT AND/OR ENGINEER OF RECORD FOR REVIEW AS A DEFERRED SUBMITTAL, PROVIDED THAT SUCH SUBMITTAL IS TO BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - A. CONCRETE MIX DESIGNS
 - B. METAL STUD FRAMING
 - C. SUPPORT/ANCHORAGE OF MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT AND COMPONENTS
 - D. STAIRS, HANDRAILS, GUARDRAILS, AND THEIR COMPONENTS
 - E. EXTERIOR SIGNAGE
- ALL DEFERRED SUBMITTALS SHALL INCLUDE CALCULATIONS AND DRAWINGS PREPARED IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND STAMPED BY AN APPROPRIATELY LICENSED PROFESSIONAL ENGINEER. SUBMITTALS SHALL SHOW LOCATION AND MAGNITUDE OF LOADS, SIZE AND CONFIGURATION OF MEMBERS AND COMPATIBILITY WITH THE PRIMARY STRUCTURAL SYSTEM.
- DEFERRED SUBMITTALS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER TO DETERMINE THAT THE DRAWINGS AND CALCULATIONS HAVE BEEN PROPERLY SEALED, LOAD CRITERIA IS IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE REFERENCED BUILDING CODE. THAT CONNECTIONS TO THE PRIMARY STRUCTURE ARE COMPATIBLE WITH THE PRIMARY DESIGN, AND THAT THE PRIMARY STRUCTURE IS CAPABLE OF SUPPORTING THE IMPOSED LOADS.
- THE STRUCTURAL ENGINEER OF RECORD WILL RELY UPON THE SPECIALTY ENGINEER'S SEAL AS CERTIFICATION THAT THE ITEMS DESIGNED BY THE SPECIALTY ENGINEER COMPLY WITH THE CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF DESIGNS PROVIDED BY OTHERS.
- ALLOW (5) WORKING DAYS FOR THE ENGINEER'S REVIEW OF SUBMITTALS. CONTRACTOR SHALL PROVIDE A COPY OF EACH SUBMITTAL FOR THE ENGINEER'S RECORDS. ONLY (1) COPY WILL BE RETURNED WITH ANY CORRECTIONS NOTED. CONTRACTOR SHALL BE RESPONSIBLE FOR REPRODUCING ENGINEER'S CORRECTIONS ON ADDITIONAL COPIES REQUIRED.
- REFER TO APPLICABLE GSN SECTIONS FOR ADDITIONAL REQUIREMENTS SPECIFIC TO INDIVIDUAL SUBMITTALS.
- ANY EXACT REPRODUCTION OF THE ORIGINAL STRUCTURAL DOCUMENTS ON THE SHOP DRAWINGS IS PROHIBITED AND WILL BE AN AUTOMATIC DISAPPROVAL OF ALL SHOP DRAWINGS INCLUDED WITH THE PACKAGE. ANY SHOP DRAWINGS NOT APPROVED FOR THIS REASON SHALL BE RE-SUBMITTED AS CLEAN COPIES.

SCREW PILE NOTES:

- DESIGN CRITERIA:
 - A. SOIL PROFILE
 - REFERENCE: PILE DESIGN IS BASED ON GEOTECHNICAL INVESTGATION OF THE PROPOSED CURLING CLUB LOCATED EAST OF THE PROPERTY.
 - B. ADFFREEZE BOND OF 70 kPa WITH FROST DEPTH OF 2.1m IS CONSIDERED IN THE ULTIMATE UPLIFT PILE CAPACITY ONLY.
 - C. GEOTECHNICAL RESISTANCE FACTORS:
 - COMPRESSION = 0.4
 - UPLIFT = 0.3
 - D. MINIMUM PILE TORQUE PROVIDED AS A GUIDE AND PILE INSTALLATION NEEDS TO BE MONITORED TO ENSURE CONSISTENT TORQUE VALUES ARE READ DURING INSTALLATION. IF DURING INSTALLATION A SUDDEN DROP IN TORQUE VALUES ARE ENCOUNTERED, PILE LOG TO BE FORWARDED TO ENGINEER FOR REVIEW AND RECOMMENDATIONS.
 - E. PILE PLACEMENT TOLERANCE OF ±3 INCHES OF POSITION SPECIFIED IN ON DRAWING. PILE MIS-ALIGNMENT SHALL BE PARTIALLY COMPENSATED FOR BY INSTALLING THE CAP PLATE OFFSET IN THE DIRECTION OF THE DESIGN LOCATION. THIS DIRECTION, HOWEVER, MUST NOT EXCEED 3 INCHES.
 - F. IF SITE CONDITIONS DO NOT SUPPORT THE ABOVE CRITERIA, THE DESIGN MUST BE REVISED TO ACCOMMODATE THE ACTUAL SITE CONDITIONS.
- PILE INSTALLER MUST SUBMIT PILE INSTALLATION REPORT TO BEARSTO AND ASSOCIATES ENGINEERING LTD. INCLUDING TORQUE AND DEPTH READING UPON COMPLETION.
- PRE-DRILLED HOLES IF REQUIRED THROUGH FROST TO BE NO MORE THAN 80% OF THE HELIX DIAMETER. THE PRE-DRILLED HOLE TO BE BACKFILLED AND COMPACTED WITH SUITABLE UNFROZEN MATERIAL TO ENSURE THE LATERAL SUPPORT OF THE PILE IS MAINTAINED AS DESIGNED.
- SCREW PILE PROPERTIES:
 - A. PILE SHAFT SHALL CONFORM TO ASTM A-252 GRADE 2 OR 3.
 - B. HELICAL AND PILE CAP PLATES SHALL CONFORM TO CAN/CSA G40.21 GRADE 44W.
 - C. ALL WELDS SHALL BE 3/8" FILLET WELD U.N.O. WITH E49XX ELECTRODES.
- WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH CSA W59 AND THE WELDER SHALL BE CERTIFIED UNDER THE REQUIREMENTS OF CSA W47.1.
- FABRICATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE BEST TRADE PRACTICES AND ALL APPLICABLE CODES.



 BEARSTO & ASSOCIATES ENGINEERING LTD.

P: 780 532 4919 F: 780 532 4739
Grande Prairie
 10940-92 Ave, Grande Prairie, AB T6V 6B5
Calgary
 #102, 1212 - 1 St SE, Calgary, AB T2G 2H8
Fort St. John
 10012-97 Ave, Fort St. John, BC V1J 5P3
 www.baseng.ca
 P: 780 532 4919 F: 780 532 4739

SEAL



PROFESSIONAL ENGINEER ALBERTA
 REG. NO. 122205
 May 30, 2023
 ID# 122205

VALIDATION

PERMIT TO PRACTICE
BEARSTO & ASSOCIATES ENGINEERING LTD.

RM SIGNATURE: _____
RM APEGA ID #: _____
DATE: _____

PERMIT NUMBER - P243
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

OWNER



DRUMHELLER VALLEY

PROJECT

Aquaplex New Door Opening

No.	Description	Date
2	Issued for Tender	May 30, 2023
1	Issued for Review	Mar. 9, 2023

- NOTES:
- THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED AND SEALED OR ADVISED IN WRITING BY THE ENGINEER.
 - DO NOT SCALE THIS DRAWING.
 - VERIFY ALL DIMENSIONS, DATUMS, AND LEVELS PRIOR TO COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES OR OMISSIONS TO THE DESIGNER IMMEDIATELY.
 - ALL WORK MUST COMPLY WITH THE MOST RECENT EDITION OF THE APPLICABLE BUILDING CODE AND ANY OTHER GOVERNING AUTHORITY.

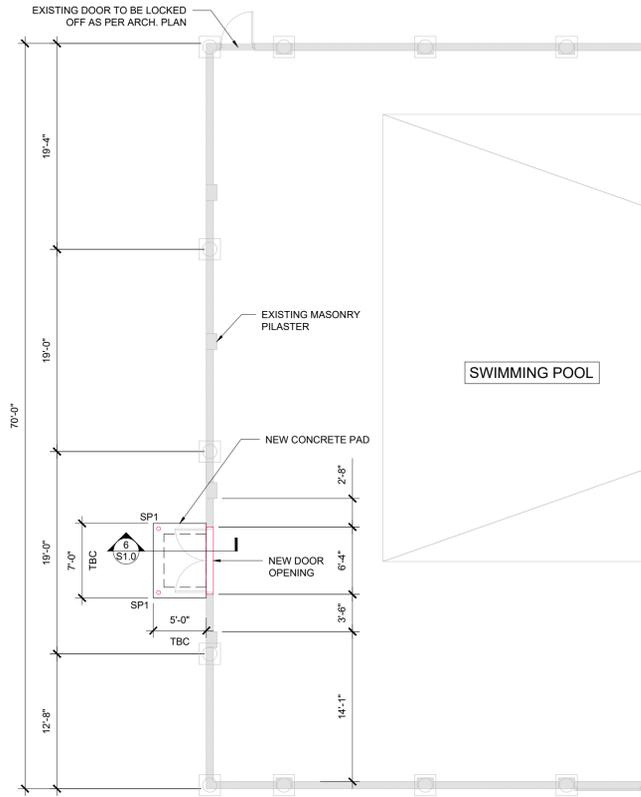
DRAWN BY:	C.M. Valiente
CHECKED BY:	D. McGrath, P.Eng.
ENGINEER:	D. Dizon, P.Eng.
PROJECT No:	22CEBD1024
DATE:	May 2023
SCALE:	As Indicated

DESCRIPTION

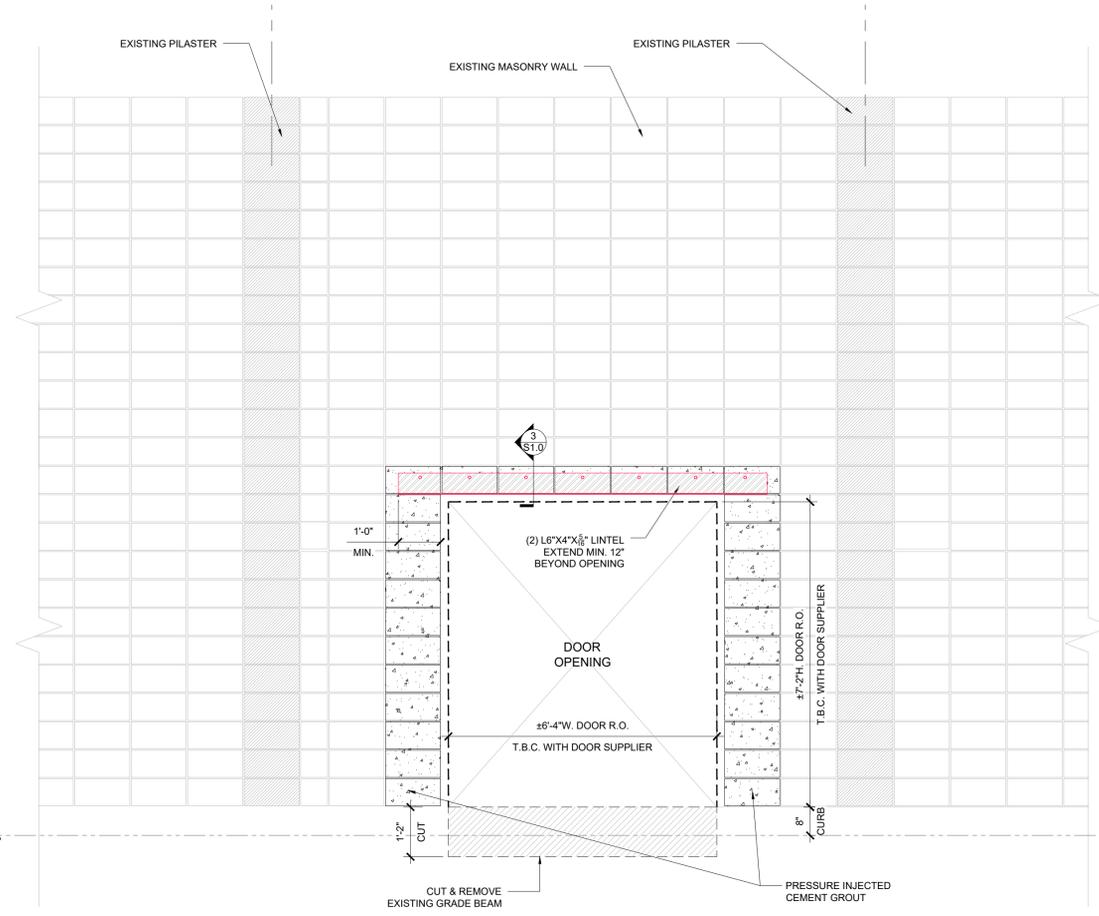
Structural Notes

DRAWING NO. **S0.0**

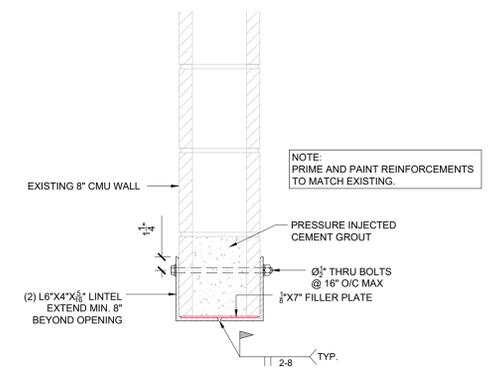
SHEET
1
2



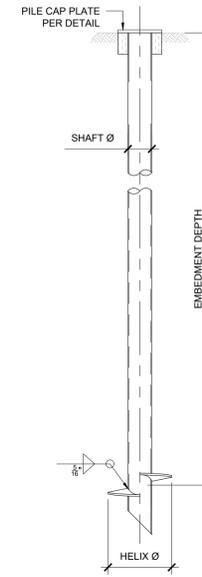
1 Partial Main Floor Plan
S1.0 SCALE: 1/8" = 1'-0"



2 New Door Opening
S1.0 SCALE: NTS



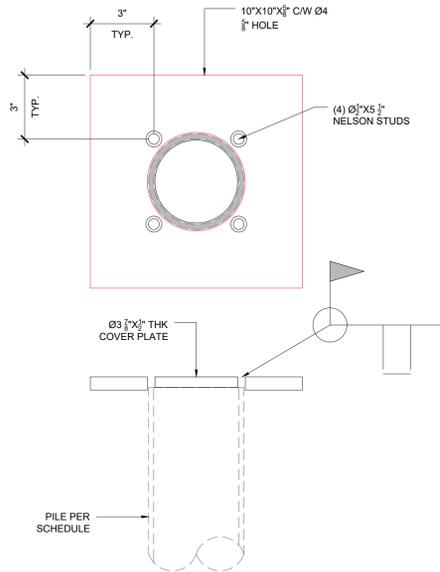
3 Lintel Detail
S1.0 SCALE: NTS



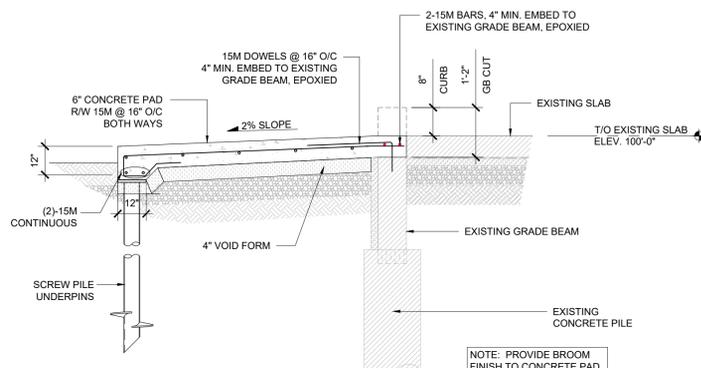
4 Typ. Screw Pile Detail
S1.0 SCALE: NTS

SCREW PILE GEOMETRY:

PILE MARK	SP1
SHAFT OUTSIDE DIAMETER	4 1/2"
SHAFT THICKNESS	0.237"
HELIX DIAMETER	16"
HELIX THICKNESS	1/2"
NO. OF HELICAL PLATES	1
INTER-HELIX SPACING	-
MINIMUM EMBEDMENT DEPTH	12'-0"
MINIMUM TORQUE REQUIRED TO RESIST LOAD (FT-LBS)	6,700
MAXIMUM RECOMMENDED TORQUE (FT-LBS)	10,000



5 Pile Cap Plate Detail
S1.0 SCALE: NTS



6 Concrete Pad Section
S1.0 SCALE: NTS

Beirsto & Associates 6 YEARS
ENGINEERING & SURVEY

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ENGINEER: D. Dizon, P.Eng.
PROJECT No: 22CEBD1024
DATE: May 2023
SCALE: As Indicated

DESCRIPTION

Partial Main Floor Plan & Details

DRAWING NO. **S1.0** SHEET **2/2**