GENERAL REQUIREMENTS

- 1.1. THESE DRAWINGS HAVE BEEN DESIGNED TO MEET THE DESIGN REQUIREMENTS OF THE NATIONAL BUILDING CODE 2019 ALBERTA EDITION. PROFESSIONAL STANDARDS OF CARE SPECIFIED BY THE ENGINEERING ASSOCIATION IN PLACE HAVE
- BEEN MET OR EXCEEDED IN THESE DRAWINGS. 1.2. DESIGN OF NON-STRUCTURAL ELEMENTS (SUCH AS STAIRS, RAILINGS, NON-LOAD BEARING WALLS, VENEERS, CURTAIN WALLS, ETC.) AND THEIR ATTACHMENT ARE NOT INCLUDED AND MUST BE PROVIDED BY OTHERS UNLESS SPECIFICALLY
- NOTED ON THESE DRAWINGS 1.3. DESIGN OF PREFABRICATED STRUCTURAL PRODUCTS (SUCH AS WOOD TRUSSES, STEEL JOISTS OR CONCRETE PRE-CAST ELEMENTS, ETC.) ARE NOT INCLUDED AND MUST BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED ON THESE
- 1.4. SPECIFICATION REFERENCES (SUCH AS ASTM, CSA, CAC ETC.) SHALL BE THE LATEST ACCEPTED VERSION WHERE NOTED ON THESE DRAWINGS.
- PERFORM WORK IN ACCORDANCE WITH THE SPECIFIED BUILDING CODE, AND LOCAL AMENDMENTS, BYLAWS, ORDINANCES, AND SAFETY REGULATIONS. THE COMPLETE WORK UNDER THESE TRADES SHALL BE GOVERNED BY THE DICTATES OF GOOD PRACTICE IN ALL DETAILS OF MATERIALS AND METHODS, EVEN IF NOT MINUTELY SPECIFIED, PROPERLY COORDINATE THE WORK WITH THE REQUIREMENTS OF OTHER UNITS OF WORK SPECIFIED IN OTHER SECTIONS. THE DRAWINGS DESCRIBE THE COMPLETED PROJECT, AND DO NOT INDICATE COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN-AND-ABOUT THE JOB SITE DURING CONSTRUCTION, AND THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, SHORING, ETC. REQUIRED TO COMPLETE THE PROJECT. MAINTAIN THE WORK, INCLUDING ROOF AND BUILDING SYSTEMS, AT LEAST ON A DAILY BASIS, FREE FROM ACCUMULATIONS OF WASTE MATERIAL AND DEBRIS. IN PREPARATION FOR FINAL ACCEPTANCE OF THE PROJECT ON AN INTERIM, OR FINAL CERTIFICATE OF COMPLETION, PERFORM FINAL CLEANING
- CONTRACTOR/SUPPLIER SHALL REVIEW ALL DRAWINGS, SPECIFICATIONS, AND OTHER RELATED STANDARDS AND PROJECT DOCUMENTS, TO ENSURE ALL THE INFORMATION IS PRESENTED SO THAT THE CONSTRUCTION WORK CAN BE COMPLETED AS INTENDED AND SPECIFIED IN THE SCOPE OF WORK. IF THE CONTRACTOR/SUPPLIER IS NOT ABLE TO MEET THE REQUIREMENTS OF THE PLANS, A COMMUNICATION DIRECTED TO THE E.O.R. SHALL EXPLAIN ITS REASONS AND A PROPOSED SOLUTION SHOULD BE SUBMITTED AS WELL, CONTRACTOR/SUPPLIER SHALL WAIT FOR ENGINEERS APPROVAL TO CONTINUE THE WORK WITH THE PROPOSED SOLUTION. CONTRACTOR/SUPPLIER SHALL REPORT ANY DISCREPANCY IMMEDIATELY TO THE ENGINEER/CONSULTANT, AND AWAIT THEIR APPROVAL PRIOR TO PROCEEDING WITH ANY WORK.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LAYOUT PLAN, SETBACKS, LANDSCAPING, LAND SURVEYING AS PER LOCAL AUTHORITY REQUIREMENTS DO NOT SCALE THE DRAWINGS. INFORM AND REQUEST CLARIFICATION FROM CONSULTANT FOR DIMENSIONS NOT SHOWN
- OR IN THE CASE OF CONFUSION. 2.5. LOCATE ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING THE WORK. ANY COSTS FOR THIS WORK WILL BE BORNE BY THE CONTRACTOR/OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATION FROM THE SPECIFIED PROJECT DRAWINGS, SPECIFICATIONS, STANDARDS AND OTHER PERTAINING DOCUMENT.

COLD WEATHER REQUIREMENT

IN COLD WEATHER, ALL HEATING EQUIPMENT AND PROTECTIVE ENCLOSURES SHALL BE ON THE JOB READY FOR USE WHEN CONCRETE IS PLACED. SUCH EQUIPMENT SHALL BE ADEQUATE FOR THE PURPOSE OF HEATING THE CONCRETE MATERIALS AND PROTECTING THE CONCRETE IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

- WHENEVER THE TEMPERATURE OF THE SURROUNDING ATMOSPHERE IS 5 DEG C OR LOWER, OR THERE IS A PROBABILITY OF IT FALLING BELOW 5 DEG C, ALL AGGREGATES AND WATER SHALL BE PRE- HEATED AND ALL FORMS, FILL AND GROUND WITH WHICH THE CONCRETE IS IN CONTACT WITH, OR IS CALCULATED TO COME IN CONTACT WITH, SHALL BE DEFROSTED. STEEL REINFORCEMENT AND AGGREGATES SHALL BE PROTECTED BY ADEQUATE MEANS TO PREVENT FORMATION OF AN ICE FILM.
- ALL CONCRETE, WHEN PLACED IN THE FORMS, SHALL HAVE A TEMPERATURE BETWEEN 16 DEG C AND 27 DEG C. ALSO, ADEQUATE MEANS SHALL BE PROVIDED BY ENCLOSURES AND HEATING APPURTENANCES FOR MAINTAINING A TEMPERATURE OF AT LEAST 22 DEG C FOR THE FIRST SEVEN DAYS, AND AT LEAST 10 DEG C FOR AS MUCH MORE TIME AS MAY BE NECESSARY, AS DETERMINED BY THE CONSULTANT, TO ENSURE THE PROPER CURING OF THE CONCRETE ALL CANVAS OR OTHER PROTECTIVE COVERING SHALL BE KEPT CLEAR OF ALL CONCRETE IN ORDER TO PERMIT FREE
- CIRCULATION OF AIR AROUND ALL WALLS, COLUMNS, AND OVER THE TOPS OF ALL SLABS THE CONTRACTOR IS TO PROTECT THE SOIL FROM FREEZING DURING THE CONSTRUCTION PERIOD. THIS INCLUDES
- FOOTINGS THAT HAVE BEEN CAST.

STRUCTURAL INSPECTIONS / SITE VISITS

- IT IS ENFORCED BY CANADIAN LAW THAT THE OWNER/CONTRACTOR HAS TO EMPLOY THE ENGINEER OF RECORD (EOR) FOR STRUCTURAL INSPECTIONS ON CONSTRUCTION PROJECTS. THE EOR SHALL DESIGNATE A RESPONSIBLE PARTY TO PERFORM THE STRUCTURAL REVIEWS. THE OWNER/CONTRACTOR SHALL INFORM THE EOR AT LEAST 48 HOURS IN ADVANCE FOR STRUCTURAL REVIEW SITE VISITS AT THE STAGES OUTLINED BELOW.
- TJZ STRUCTURAL ENGINEERING LTD. PROVIDES FIELD REVIEW FOR ONLY THE WORK SHOWN ON THE STRUCTURAL DRAWINGS. THIS REVIEW IS A PERIODIC REVIEW AT THE PROFESSIONAL JUDGEMENT OF TJZ STRUCTURAL ENGINEERING. THE PURPOSE OF THE REVIEW IS TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY TJZ STRUCTURAL ENGINEERING LTD. AND TO FACILITATE COMPLETION OF THE LETTERS OF ASSURANCE REQUIRED BY BUILDING CODE REQUIREMENTS. FIELD REVIEW BY TJZ STRUCTURAL ENGINEERING IS NOT CARRIED OUT FOR THE CONTRACTORS BENEFIT, NOR DOES IT MAKE TJZ STRUCTURAL ENGINEERING LTD. GUARANTORS OF THE CONTRACTORS WORK. IT REMAINS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THEIR OWN QUALITY CONTROL AND TO PERFORM THE WORK WITH GOOD WORKMANSHIP AND IN CONFORMANCE WITH THE CONTRACT
- 1.3. STRUCTURAL INSPECTIONS BY THE EOR REPRESENTATIVE DO NOT REPLACE INSPECTIONS BY THE AUTHORITY HAVING
- LIST OF STRUCTURAL ELEMENTS TO BE INSPECTED: 1.4.1. FOUNDATION (PRIOR TO CONCRETE PLACEMENT) 1 4 1 1 COMPACTION CERTIFICATION BY THE GEOTECHNICAL ENGINEER
- 1.4.1.2. STRIP/PAD FOOTINGS AND GRADE BEAMS (SIZE AND REINFORCING)
- 1.4.1.3. DOWELS AND ANCHORS (SIZE AND LOCATION) 1.4.2. SLAB AND SLAB BEAM/BAND (SIZE AND REINFORCING)
- 1.4.3. OTHER STRUCTURAL ELEMENTS AS REQUIRED BY THE EOR

IMPORTANT NOTE: IF THE ABOVE SPECIFICATIONS ARE NOT MET AND COMPLETED BY THE OWNER/CONTRACTOR THE EOR IS ENTITLED TO DENY THE PROJECT THE SCHEDULE "C" DUE TO NON COMPLIANCE WITH TJZ STRUCTURAL ENGINEERING REQUESTS AND THE BUILDING CODE REQUIREMENTS.

FOUNDATION

- DESIGN AND REQUIREMENTS FOUNDATIONS ARE DESIGNED PER GEOTECHNICAL REPORT BY PRAIRIEGEO ENGINEERING LTD. (FILE#: PGE23-109) DATED JUNE 8, 2023. ALL RECOMMENDATIONS INCLUDED IN THE SOILS REPORT AND ADDENDA, WHERE APPLICABLE, SHALL BE COMPLETED PRIOR TO THE START OF STRUCTURAL FOUNDATIONS. THESE INCLUDE, BUT ARE NOT LIMITED TO. SITE PREPARATION, GRADING, TESTS, INSPECTIONS, FIELD OBSERVATIONS, APPROVALS.
- FOOTINGS AND FOUNDATIONS DESIGN SOIL BEARING CAPACITY ON THE NATIVE SILTY SAND OR CLAYEY SILT: 150 kPa (ULS) 100 kPa (SLS)
- 1.3. ALL FORMS SHALL BE PROPERLY BRACED TO WITHSTAND THE PLACEMENT OF FRESH CONCRETE.

FXCAVATING AND BACKFILLING

EXISTING CONDITIONS VISIT THE SITE, AND NOTE ALL CHARACTERISTICS AND IRREGULARITIES AFFECTING THE WORK OF THIS SECTION. CONFIRM EXACT LOCATIONS OF ALL UTILITY LINES WITH UTILITY COMPANIES PRIOR TO PILING OR EXCAVATING. PROTECT UTILITIES DURING CONSTRUCTION, AND ASSUME LIABILITY FOR DAMAGE. OBTAIN AND PAY FOR ANY NECESSARY PERMITS REQUIRED TO COMPLETE THE WORK. REMOVE FROM THE SITE AND DISPOSE OF SURPLUS OR UNSUITABLE MATERIAL NOT REQUIRED FOR BACKFILL OR GRADING. COMPACTION DENSITIES ARE PERCENTAGES OF STANDARD PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OBTAINABLE FROM ASTM D698.

INSPECTION AND TESTING

CONCRETE WILL NOT BE ACCEPTED

- CONTRACTOR WILL PAY COSTS FOR INSPECTION AND TESTING. EXCAVATED SURFACES: WHEN UNDISTURBED EXCAVATED SURFACE IS BEING PREPARED, MAKE THREE TESTS OF THE SURFACE. FILLS UNDER SLABS-ON-GRADE: MAKE THREE TESTS FOR EVERY TWO LIFTS OF COMPACTED FILL. 2.2.4. BACKFILLING AND COMPACTION DENSITIES NOT CONFORMING TO THE SPECIFICATIONS AND DRAWINGS AS REPRESENTED BY TEST RESULTS. WILL BE REJECTED DURING THE PROGRESS OF THE WORK WHEN THE DEFECT IS DISCOVERED. REMOVE DEFECTIVE MATERIALS, REPLACE, AND RE-TEST AT THE CONTRACTOR'S EXPENSE.
- PROTECT BOTTOMS OF EXCAVATIONS FROM SOFTENING OR FREEZING, SHOULD SOFTENING OCCUR, REMOVE SOFTENED SOIL, AND REPLACE WITH TYPE 1 FILL COMPACTED TO 98%. CONSTRUCT BANKS IN ACCORDANCE WITH LOCAL BYLAWS. AND LOCAL SOIL CONDITIONS, PROTECT EXCAVATIONS BY SHORING, BRACING OR BY OTHER METHODS, AS REQUIRED TO PREVENT CAVE-INS OR LOOSE DIRT FROM FALLING INTO THE EXCAVATION. PROVIDE PROTECTION TO ENSURE NO DAMAGE OCCURS TO EXISTING FACILITIES AND EQUIPMENT SITUATED ON THE SITE. MAINTAIN ADEQUATE BARRIERS AND CONSTRUCTION SIGNS TO PREVENT INJURY TO THE PUBLIC. VERIFY THIS PROCEDURE WITH GEOTECHNICAL ENGINEER RECOMMENDATIONS.
- ALL MATERIALS TO BE SUBJECT TO THE GEOTECHNICAL ENGINEER'S APPROVAL. STRUCTURAL FILL SHOULD BE BY GEOTECHNICAL ENGINEER RECOMMENDATIONS IN THE REPORT STATED ABOVE.

INSTALLATION PROCEDURES FOR ANCHOR PLATES & BOLTS

ANCHORS TO BE MANUFACTURED BY 'HILTI FASTENING SYSTEMS'. USED IN STRICT ACCORDANCE WITH MANUFACTURES'S

FIRST LOCATE EXISTING CONCRETE COLUMN (OR WALL) REINFORCING ON SITE USING FLECTROMAGNETIC METHODS

- DRILL ANCHOR HOLES IN CONCRETE IN REQUIRED LOCATIONS TO SUIT DETAILS. NO EXISTING REINFORCING CAN BE CUT UNIESS NOTED OTHERWISE AND ONLY WITH THE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL CONSULTANT.
- FABRICATE END ANCHOR PLATES TO SUIT ACTUAL SITE-MEASURED HOLE LOCATIONS. PLATE DIMENSIONS AS INDICATED ON DETAILS ARE MINIMUM SIZES ONLY, UNLESS NOTED OTHERWISE. OVERCUTTING OF PLATE HOLES OR OF HOLES IN EXISTING
- INSTALL ANCHOR PLATES IN REQUIRED LOCATIONS AND TORQUE ANCHORS TO MANUFACTURER'S SPECIFICATIONS. PLATES MUST BE INSTALLED AGAINST SMOOTH CONCRETE. IF CONCRETE IS ROUGH, A SKIM COAT OF HIGH STRENGTH GROUT MUST BE APPLIED BEFORE INSTALLATION.

CONCRETE

- ALL CAST-IN-PLACE CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS: CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION: CSA A23.1-04.
- TESTING METHODS FOR CONCRETE: CSA A23.2-04. 1.1.3. DESIGN OF CONCRETE STRUCTURES FOR BUILDINGS (LIMIT STATES DESIGN): CSA A23.3-04.
- 1.1.4. CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CSA-A23.2-04 COMPRISING A SLUMP TEST, AN AIR ENTRAINMENT TEST, AND 4 TEST CYLINDERS (SITE CURED UNDER SAME POUR CONDITIONS) (1) AT LEAST ONCE FOR EVERY POUR
 - (2) AT LEAST ONCE ON EVERY STRUCTURE POURED (3) AT LEAST ONCE FOR EVERY 30m³ OF CONCRETE POURED
- 1.1.5. ERECTION, MAINTENANCE AND REMOVAL OF FORMWORK: CONFORM TO APPLICABLE SAFETY REGULATIONS.
- 1.2. GEOTECHNICAL REPORT SHALL PROVIDE INFORMATION REGARDING ON—SITE SOILS WITH SULFATE EXPOSURES AS PER CURRENT ACCEPTED CODE AS LISTED IN THE BASIS FOR DESIGN.
- CONTRACTOR SHALL VERIFY THAT THE SUPPLY CONCRETE IS "CONTROLLED CONCRETE" AS DEFINED BY CSA A23.1, IN ACCORDANCE WITH THE FOLLOWING, UNLESS NOTED OTHERWISE ON THE DRAWINGS:

MEMBER	f'c	CEMENT	EXPOSURE	AIR %	AGGREGATE	SLUMP	_
POOL DECK	30 MPA*	GU*	F-1	4%-7%	20 mm	80±20 mm	
POOL BASIN	30 MPA*	GU*	F-1	4%-7%	20 mm	80±20 mm	NOTE-1
POOL STAIR & RAMP	30 MPA*	GU*	F-1	4%-7%	20 mm	80±20 mm	NOTE-1
SIDE WALK & CURB	32 MPA*	GU*	C-2	4%-7%	20 mm	80±20 mm	
OTHER'S	25 MPA*	GU*		4%-7%	20 mm	80±20 mm	
PIPE ENCASEMENT & SUCTION PIT	30 MPA*	GU*	F-1	4%-7%	20 mm	80±20 mm	NOTE-2

NOTES-1. "XYPEX" C-100(or KIM) AND SHRINKAGE REDUCER TO BE ADDED. NOTES-2. "XYPEX" C-100(or KIM) TO BE ADDED.

- WHERE THE GEOTECHNICAL REPORT INDICATES THAT SULPHUR IS PRESENT IN THE SOIL, USE 32 MPa SULPHATE RESISTANT CONCRETE. WHERE HARDENER IS TO BE APPLIED TO THE SLAB, AIR CONTENT SHALL BE LESS THAN OR EQUAL TO 3%.
- CONCRETE COMPRESSIVE STRENGTH (f'c) IS SUBJECT TO CHANGE IF REQUIRED BY GEOTECHNICAL REPORT OR VARIABLE FIFLD CONDITIONS.
- STRENGTH OF CONCRETE IS AT 28 DAYS PER RECOMMENDATIONS BY CSA A23.2. USE EXPOSURE CLASS PER CSA A23.1 FOR DETERMINATION OF WATER/CEMENT RATIO. AIR CONTENT IS IN % BY VOLUME.
- HIGH RANGE WATER REDUCING AGENTS MAY BE ADDED TO INCREASE WORKABILITY, AND IN THE PLACEMENT OF CONCRETE WHERE THE SPECIFIED SLUMP IS LESS THAN 80mm, OR WHERE STEEL FIBRE REINFORCED CONCRETE IS USED. FLY ASH IS NOT PERMITTED IN FLOOR SLAB CONCRETE MIXES.
- CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED CONCRETE TESTING LABORATORY AND APPROVED BY THE EOR FLY ASH SHALL COMPLY WITH ASTM C 618, CLASS F, AND SHALL BE APPROVED BY THE ARCHITECT IN WRITING BEFORE BEING USED ON THE JOB. WHEN USED, FLY ASH CONTENT SHALL BE 15% - 20%. WATER/CEMENT RATIO SHALL BE BASED ON TOTAL CEMENTITIOUS MATERIAL. FLY ASH IS NOT PERMITTED IN FLOOR SLAB CONCRETE MIXES. AGGREGATES SHALL COMPLY WITH ASTM C 33, USE 19 mm MAXIMUM AGGREGATE SIZE IN STRUCTURAL CONCRETE. 38 mm MAXIMUM IN SLAB ON GRADES AND 9 mm PEA GRAVEL IN GROUTS ONLY U.N.O. ON THE PLANS OR BY
- ACCESSORIES

APPROVAL BY THE EOR IN WRITING

- VAPOUR BARRIER SHALL BE 0.15 mm THICK POLYETHYLENE SHEET TO CGSB 70-GP-A1. LAP VAPOUR BARRIER A MINIMUM OF 300 mm U.N.O AS PER PLAN.
- COMPRESSIBLE MATERIAL SHALL BE PRE-FORMED FLEXIBLE JOINT FILLER CONSISTING OF ASPHALT, VEGETABLE FIBRE, AND MINERAL FILLERS SECURELY BONDED TOGETHER, AND UNIFORMLY IMPREGNATED WITH A BITUMINOUS BINDER. BITUMINOUS DAMPPROOFING SHALL BE WATERPROOF EMULSION COMPOSED OF ASPHALT DISPERSED IN A MINERAL COLLOID FMULSIFIER TO CGSB 37-GP-16M.
- BONDING AGENT TO BE "SIKADUR 32, HI-MOD" EPOXY BONDING AGENT AS MANUFACTURED BY THE SIKA CORPORATION EPOXY GROUT SHALL BE PRE-MIXED AND PLACE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO OBTAIN A MINIMUM STRENGTH OF 100 MPa IN 7 DAYS.
- CONCRETE DELIVERY AND PLACEMENT HIGH EARLY STRENGTH CONCRETE MAY BE USED WHEN REQUESTED BY CONTRACTOR. MIX DESIGN DATA USING FIELD
- CURED SPECIMENS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. A MAXIMUM OF 120 MINUTES FROM THE TIME OF INITIAL MIXING TO COMPLETE DISCHARGE. CLEAN PREVIOUSLY PLACED CONCRETE TO ENSURE BOND. MIX AND BRUSH ON BONDING AGENT, WHERE SPECIFIED, IN ACCORDANCE WITH
- MANUFACTURER'S INSTRUCTIONS. PLACE CONCRETE AS A CONTINUOUS OPERATION. MECHANICALLY VIBRATE ALL CONCRETE. VIBRATE SLABS ON GRADE AROUND AND UNDER FLOOR DUCTS OR SIMILAR
- FI FMFNTS. REMOVE ALL DEBRIS FROM FORMS BEFORE PLACING CONCRETE. CONCRETE SHALL BE CAREFULLY PLACED IN REINFORCED ELEMENTS SO AS TO AVOID SEGREGATION OF AGGREGATES. UNCONFINED FALL OF CONCRETE SHALL NOT
- EXCEED FIVE FEET UNLESS APPROVED BY THE EOR IN WRITING. CONTROL JOINTS IN SLABS ON GRADE SHALL BE AS NOTED ON THE STANDARD DETAILS. SAW CUT JOINTS SHALL BE CUT TO MAINTAIN A MINIMUM DEPTH OF T/4. DOWELED JOINTS SHALL BE USED WHERE NOTED ON THE PLANS. DO NOT JOINT POST-TENSIONED CONCRETE WITH SLABS ON GRADE UNO. SPACE CONTROL JOINS AS LISTED HEREIN. SLAB THICKNESS (T) JOINT SPACING (EACH WAY)
 - 4"OR SMALLER
 - CONTRACTOR TO PROTECT ELEMENTS FROM COLD AND HOT WEATHER, CONTRACTOR SHALL TAKE SPECIAL CURIN
- PRECAUTIONS TO MINIMIZE SHRINKAGE CRACKING OF CONCRETE SLABS. CONSTRUCTION JOINTS IN STRUCTURAL ELEMENTS (WALLS, BEAMS, COLUMNS, ELEVATED SLABS, ETC.) NOT DETAILED ON THE DRAWINGS REQUIRES PRIOR WRITTEN APPROVAL FROM THE EOR. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS
- SHOWING PROPOSED JOINT LAYOUT CONCRETE OVER STEEL DECK MAY HAVE SAW-CUT CONTROL JOINTS SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 225 SQUARE FEET. REINFORCING U.N.O. ON PLANS SHALL BE 6X6 W1.4XW1.4 WELDED WIRE FABRIC (WWF) PLACED APPROXIMATE CENTER OD CONCRETE DEPTH OVER THE DECK.

FLOOR SLAB SUPPORTED ON GRADE

- REMOVE ALL TOP SOIL AND SOILS CONTAINING ORGANICS. CONTRACTOR IS TO REFER TO SOILS REPORT. IF AVAILABLE. FOR INDICATION OF DEPTHS OF UNSUITABLE SOIL AND IS TO REMOVE SOFT OR WEAK AREAS TO COMPETENT MATERIAL. ALL OF THIS WORK IS TO BE CARRIED OUT UNDER THE DIRECT INSTRUCTIONS OF THE SOILS ENGINEER. PROOF ROLL SUB-GRADE AS DIRECTED BY SOILS ENGINEER
- PREPARE GRANULAR LAYER AND SUB-BASE AS PER SOILS ENGINEERS RECOMMENDATION AND SOILS REPORT. A GEOTECHNICAL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION, WITH AN ENGINEER'S SEAL, STATING THAT THE GRANULAR LAYER AND SUB-BASE PREPARATION HAS BEEN DONE TO THEIR RECOMMENDATIONS AND REQUIREMENTS. THE STRUCTURAL CONSULTANT WILL NOT CERTIFY THESE ITEMS. THE LETTER OF CERTIFICATION IS TO BE FORWARDED
- TO THE CONTRACTOR, ARCHITECT AND OWNER PRIOR TO THE CONCRETE SLAB ON GRADE BEING CAST. SLAB MOVEMENT/CRACKING SINCE THE STABILITY OF A SLAB-ON-GRADE IS ENTIRELY DEPENDENT ON THE NATURE OF THE SOIL UPON WHICH IT IS
- SUPPORTED, SOME MOVEMENT RESULTING IN DISPLACEMENT AND CRACKING OF THE SLAB SHOULD BE EXPECTED ACCURATE LIMITS DEFINING THE AMOUNT AND FREQUENCY OF MOVEMENT CANNOT BE GIVEN DUE TO UNKNOWN AND/OR UNCONTROLLABLE FACTORS SUCH AS SOIL MOISTURE CONTENT, WATER TABLE, SILT POCKETS, ETC. THE CONTRACTOR/OWNER SHALL ASSUME ALL RISKS ASSOCIATED WITH THIS SYSTEM.

REINFORCING STEEL

- REINFORCING STEEL SHALL BE CSA G30.18 (NEW BILLET STEEL), GRADE 400R FOR 10M AND LARGER DEFORMED BARS. WELDABLE REINFORCING STEEL SHALL BE CSA G30.18 (NEW BILLET STEEL) GRADE 300R DEFORMED BARS. CHAIRS, BOLSTERS, BAR SUPPORTS, AND SPACERS SHALL BE ADEQUATE FOR STRENGTH AND SUPPORT OF REINFORCING, AND MUST NOT CAUSE STAINING OF EXPOSED CONCRETE. ALL SUPPORTS USED TO SUPPORT EPOXY COATED REINFORCING SHALL BE PLASTIC COATED. EPOXY COATINGS TO BE PER ASTM A775 RECOMMENDATIONS.
- REINFORCEMENT IS TO BE PLACED ON PURPOSE-MADE SUPPORTS. A REINFORCEMENT TECHNICIAN IS TO BE ON SITE DURING THE PLACEMENT OF CONCRETE FLOOR SLABS. AND IS TO RECHAIR AND/OR ADJUST SUPPORTS FOR REINFORCEMENT AS REQUIRED DURING THE PLACEMENT OF CONCRETE. WELDING REINFORCEMENT IS NOT PERMITTED
- ALL REINFORCING STEEL DIMENSIONS ARE CENTER TO CENTER OF THE STEEL UNLESS NOTED AS CLEAR (CLR) COVER. MINIMUM COVER FOR REINFORCING (CSA A23.1)SHALL BE AS FOLLOWS: (U.N.O. ON THESE PLANS OR PLAN DETAILS)

EXPOSURE	MIN COVER	TOLERANCES
CAST AGAIN AND PERMANENTLY	3"	3/8"
EXPOSED TO EARTH.		. 0
WALL		
10M	11/4"	⅓"
15M AND LARGER	11/2"	3/8"
EXPOSED TO EARTH OR WEATHER	2"	3/8"
POOL WALL	2"	3/8"
POOL BASIN SLAB	21/2"	3/8"
POOL DECK SLAB	2"	3/8"
SLABS ON GRADE	1½"	3/8"
GRADE BEAMS	, <u>, , , , , , , , , , , , , , , , , , </u>	, 0
PRIMARY REINFORCING, TIES,		
STIRRUPS AND SPIRAL	11/2"	¾"

- 2.3. LAP SPLICES IN BEAMS, SLABS AND FOOTINGS SHALL BE AS PER CURRENT GOVERNING CODE OR LAP SCHEDULE WHERE PRESENT. STAGGER SPLICES A MINIMUM OF ONE LAP LENGTH. THE TACK WELDING OF REINFORCING BARS SHALL NOT BE ALLOWED. PROVIDE BENT CORNERS BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. 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, JOIST AND GRADE BEAMS U.N.O. ON THE PLANS.
- REINFORCING BAR SPACING SHOWN ON PLANS REPRESENTS THE MAXIMUM ON CENTER SPACING. ALL REINFORCING SHALL BE BENT COLD, ONE TIME ONLY.
- DOWEL ALL VERTICAL REINFORCING TO FOUNDATION, AS SPECIFIED ON PLANS OR DETAILS. SECURELY TIE ALL BARS IN LOCATION PRIOR TO PLACEMENT OF CONCRETE. MINIMUM CLEAR SPACING BETWEEN PARALLEL REINFORCEMENT SHALL BE 1½ TIMES BAR DIAMETER, 1½ TIMES MAX
- AGGREGATE OR 1½" WHICH EVER IS LARGER.

EPOXY (FOR CONNECTION BETWEEN NEW STRUCTURE AND EXISTING STRUCTURE)

THE EOR HAS TO BE INFORMED OF ALL EPOXY APPLICATIONS ON THE SITE. EPOXY SHALL BE INSTALLED

PER MANUFACTURER'S SPECIFICATIONS EPOXY FOR ALL CONCRETE APPLICATIONS SHALL BE PER THE FOLLOWING TABLE. INSTALL PER MANUFACTURER'S SPECIFICATIONS. IN THE CASE THAT THE CONTRACTOR WOULD PREFER TO USE ANOTHER PRODUCT, CONTACT TJZ STRUCTURAL ENGINEERING LTD FOR APPROVAL.

> SIMPSON SET SIMPSON SET-XP HILTI HIT HY 200 MAX HILTI HIT HY 200 MAX HILTI HIT RE 500 SIKA ANCHOR FIX 3 SIKA ANCHOR FIX 3

CONCRETE FORMWORK & FALSEWORK

- A FORMWORK CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR COMPLETE DESIGN AND ENGINEERING OF FORMWORK INCLUDING SHORINGS, BRACINGS, STRIPPING AND RESHORING. ALL FORMWORK AND FALSEWORK SHALL BE DESIGNED AND SUPERVISED BY A REGISTERED PROFESSIONAL ENGINEER. PREPARE DETAILED SHOP DRAWINGS STAMPED AND SIGNED BY THE ENGINEER. SHOWING ALL PERTINENT INFORMATION INCLUDING REMOVAL OF FORMWORK AND RESHORING PROCEDURES. THE STRUCTURAL CONSULTANT WILL NOT APPROVE FORMWORK/SHORING SHOP DRAWINGS. PRIOR TO STRIPPING RESHORING TO BE REVIEWED BY THE ENGINEER FOR DESIGN LOADS FOR SUSPENDED SLABS, IF
- LEAVE OPEN ONE SIDE OF FORMS FOR THE FOLLOWING STRUCTURAL UNITS UNTIL ALL REINFORCING IS SECURED IN PLACE, REVIEWED AND ACCEPTED BY THE ENGINEER.
- WALLS OR DEEP BEAMS CONTAINING HEAVY OR COMPLICATED REINFORCING.
- LOCATION AND DETAILS FOR CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS SHALL BE SUBJECT TO ENGINEER AND ARCHITECT'S APPROVAL FORM OPENINGS IN WALLS AND SLABS AS SHOWN ON THE DRAWINGS. FORMED OPENINGS NOT SHOWN, BUT OTHERWISE REQUIRED. SHALL BE PROVIDED BY THE FORMWORK CONTRACTOR AND BE APPROVED BY

THE ENGINEER AND ARCHITECTS PRIOR TO PROCEEDING WITH THE WORK. PROVIDE REINFORCING AS

- REQUIRED BY THE STRUCTURAL CONSULTANT NO SLEEVES, DUCTS, PIPES OR OTHER OPENINGS SHALL PASS THROUGH JOISTS, BEAMS, OR COLUMNS EXCEPT WHERE INDICATED OR DETAILED ON THE STRUCTURAL DRAWINGS, OR WHERE APPROVED IN
- WRITING BY THE ARCHITECT AND ENGINEER. ALL SLABS (INCLUDING ONE WAY AND TWO WAY SLABS) AND BEAMS MUST CAMBERED. ALL SLAB/BEAM SPANS TO BE CAMBERED TO MATCH DEAD LOAD DEFLECTION. MINIMUM CAMBER TO BE 1/4" (6mm) FOR EACH 10'-0" (3000mm) OF SPAN, UNLESS NOTED OTHERWISE ON THE PLANS. G.C. TO SURVEY FORMWORK WITH CAMBER PRIOR TO CASTING CONCRETE AND FINISH FLOOR ELEVATION IMMEDIATELY
- SLABS TO BE RESHORED IMMEDIATELY AFTER STRIPPING. A RECORD SHALL BE MAINTAINED FOR TIME OF STRIPPING AND RESHORING. STRIPPING AND RESHORING SHOULD BE DONE IN STAGES AND NOT WHOLE
- COLUMN/WALL FORMS SHALL NOT BE REMOVED UNTIL CONCRETE HAS REACHED 60% OF DESIGN
- ALL SUSPENDED CONCRETE TO BE RESHORED UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH PROVIDE A 3/4" (20mm) CHAMFER ON ALL EXPOSED CONCRETE EDGES UNO.

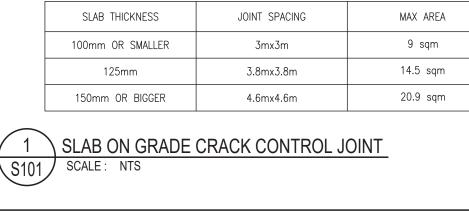
NON-STRUCTURAL ELEMENTS

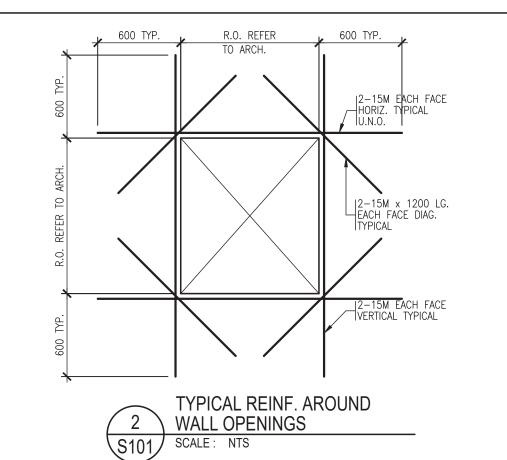
- "NON-STRUCTURAL" OR "SECONDARY STRUCTURAL" ELEMENTS ARE NOT THE RESPONSIBILITY OF TJZ STRUCTURAL ENGINEERING LTD. THEY ARE DESIGNED, DETAILED AND REVIEWED IN THE FIELD BY THEY APPEAR ON DRAWINGS OTHER THAN THOSE OF TJZ STRUCTURAL ENGINEERING LTD. WHERE STRUCTURAL ENGINEERING RESPONSIBILITY IS REQUIRED FOR THESE ELEMENTS, THIS SHALL BE PROVIDED BY SPECIALTY STRUCTURAL ENGINEERS. WHO SHALL ALSO PROVIDE ANY LETTERS REQUIRED BY BUILDING PERMIT AUTHORITIES
- EXAMPLES OF NON-STRUCTURAL ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO ARCHITECTURAL COMPONENTS SUCH AS GUARDRAILS, HANDRAILS, CEILINGS, MILLWORK ETC. LANDSCAPE ELEMENTS SUCH AS BENCHES, LIGHT POSTS, PLANTERS, ETC. CLADDING, GLAZING, WINDOW MULLIONS, INTERIOR STUD WALLS AND EXTERIOR STUD WALLS.
- ARCHITECTURAL PRECAST, PRECAST CLADDING, MECHANICAL AND ELECTRICAL EQUIPMENT, COMPONENTS, AND THEIR ATTACHMENT DETAILS. ELEVATORS AND CONVEYING SYSTEMS.
- BRICK OR BLOCK VENEERS AND THEIR ATTACHMENTS.
- NON-LOAD BEARING MASONRY. NON-STRUCTURAL CONCRETE TOPPINGS
- ALUMINUM SKYLIGHTS.
- SHOP DRAWINGS FOR NON-STRUCTURAL ELEMENTS WHICH MAY AFFECT THE PRIMARY STRUCTURAL SYSTEM SHALL BE SUBMITTED TO TJZ STRUCTURAL ENGINEERING LTD. THESE DRAWINGS WILL BE REVIEWED ONLY FOR THE EFFECT ON THE PRIMARY STRUCTURAL SYSTEM.

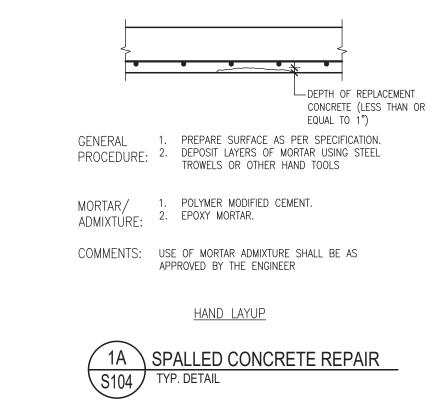
CONDUIT. PIPES & SLEEVES EMBEDDED IN CONCRETE

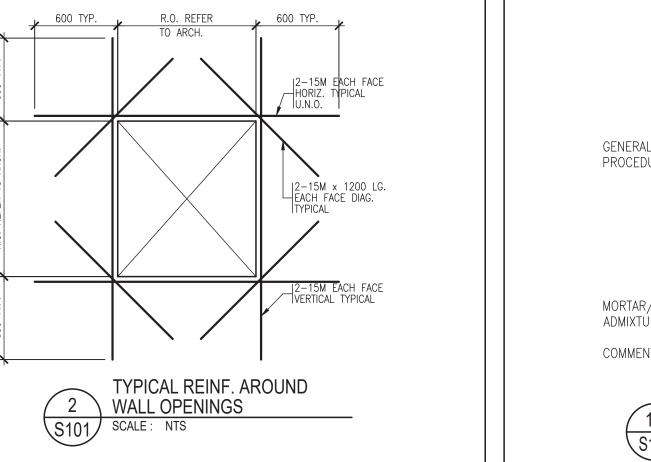
- READ IN CONJUNCTION WITH CAN3-A23.1 CLAUSE 13.5
- EXCEPT WHEN APPROVED BY THE STRUCTURAL ENGINEER, PIPES, CONDUITS AND SLEEVES EMBEDDED IN CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:
- SLEEVES, CONDUITS, AND OTHER PIPES PASSING THROUGH SLABS OR BEAMS SHALL: . HAVE A NOMINAL INSIDE DIAMETER NOT LARGER THAN 50 MM (2") AND AN OUTSIDE DIAMETER NOT LARGER THAN 1/4 SLAB THICKNESS IN WHICH THEY ARE EMBEDDED. BE SPACED NOT LESS THAN 3
- DIAMETERS ON CENTRE. BE LOCATED AS NOT TO IMPAIR THE REQUIRED STRENGTH OF CONSTRUCTION. .1.2. NOT WITHSTANDING THE SATISFYING OF THESE GUIDELINES, THE CONDUIT, SLEEVES, PIPES, ETC. SHALL NOT IMPAIR THE STRUCTURAL STRENGTH AND SHALL BE MOVED IF SO DIRECTED BY THE STRUCTURAL
- .1.3. CENTERLINE SPACING BETWEEN PARALLEL CONDUIT AND REINFORCING BARS TO BE 3 DIAMETERS. .1.4. CENTERLINE SPACING TO BE NOT LESS THAN 3 DIAMETERS. .1.5. METAL CONDUIT, PIPES, ETC., SHALL NOT BE PLACED IN PARKING SLABS. NO CONDUIT, PIPES, ETC.,
- SHALL BE PLACED IN PARKING TOPPING .1.6. ADD REINFORCING AT POINTS OF CONGESTION AS DIRECTED BY THE STRUCTURAL ENGINEER.
- CONDUITS IN THE PLANE OF THE SLAB: PLACE BETWEEN TOP AND BOTTOM REINFORCEMENT
- MAXIMUM SIZE IN ONE NOT TO BE MORE THAN ¼ CONCRETE THICKNESS. .1.3. THREE LAYERS OR MORE CROSSING IS NOT ALLOWED.
- CONDUIT OR SLEEVES ARE NOT ALLOWED IN THE COLUMNS
- FOR BEAMS THE TOTAL MAXIMUM SIZE OF HORIZONTAL CONDUIT PARALLEL TO THE BEAM NOT TO EXCEED 2% OF THE AREA. NO SLEEVES THROUGH ANY BEAMS OR SLABBANDS UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
- CONDUIT/PIPES NOT BE ALLOWED IN THE WALLS WITHOUT THE APPROVAL OF THE STRUCTURAL SPACING OF SLEEVES THROUGH FLAT SLABS TO BE NOT LESS THAN THE FOLLOWING:
- TO BE 3 x DIAMETER TYPICAL U.N.O. 100 MIN
- SLEEVES IN FLAT SLABS NOT TO BE LOCATED NEXT TO COLUMNS UNLESS APPROVED BY ENGINEER IN 7.2. SLEEVES TO BE LOCATED FROM COLUMNS 1200 MIN. UNLESS NOTED OTHERWISE ON STRUCTURAL

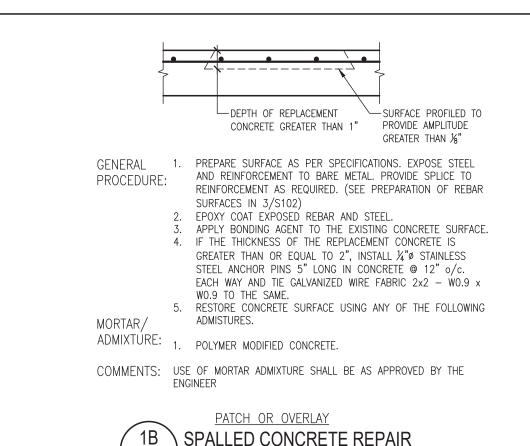
UNLESS NOTED OTHERWISE PROVIDE A JOINT AS PER TABLE SLAB REINF. IS TO RUN THRU CONTROL JOINT, IF SAW CUT, USF 3x38 (1/8"x1 1/2") CAULKING DO NOT CUT THE JOINT AS PER ARCH. CONTRACTOR TO SUBMIT THE CRACK SLAB ON GRADE CONTROL JOINT PATTERN FOR SEE PLAN ARCH. & EOR REVIEW & APPROVAL _ _ ___ _ _ _ _ _ _ _ _ NOTF: SAWCUT WITHIN 24 HOURS OF CASTING CONCRETE. SLAB THICKNESS JOINT SPACING MAX AREA 9 sqm 100mm OR SMALLER 3mx3m

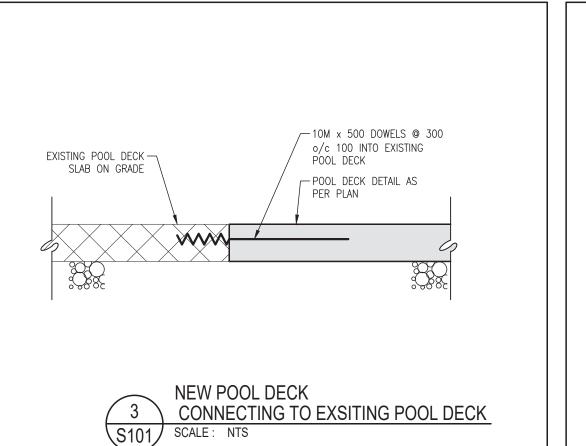


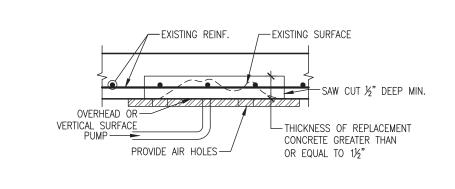








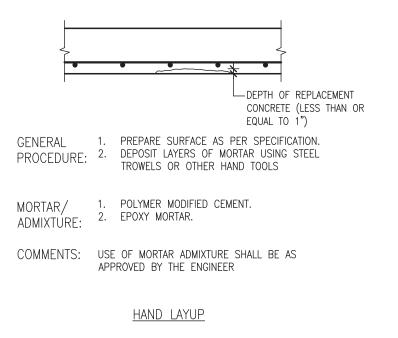




GENERAL PROCEDURE:

- 1. STOP LEAKAGE FROM OPPOSITE SIDE AND/OR PROVIDE DRAINAGE. 2. REMOVE UNSOUND CONCRETE, IF STEEL OR REINFORCING IS EXPOSED, CLEAN IT TO BRIGHT METAL AND CUT CONCRETE 3/4" BEHIND THE REINFORCING IF REINFORCEMENT HAS LOST MORE THEN 25% OF ITS AREA, PROVIDE SPLICE WITH
- PREPARE SURFACE AS PER SPECIFICATIONS. 4. COAT THE EXISTING REBARS AS PER SPECIFICATIONS. 5. APPLY SCRUB COAT OR BONDING COMPOUND TO EXISTING SOUND CONCRETE.
- 6. IF REINFORCEMENT IS NOT PRESENT, PROVIDE MECHANICAL ANCHORAGE AS PER
- PROVIDE FORMWORK 8. CONNECT HOSES TO THE FORMWORK VIA INLET PORTS, PUMP CONCRETE UNDER PRESSURE UNTIL THE FORMWORK IS FULLY PRESSURIZED OR THE CONCRETE IS COMING OUT OF AN ADJACENT INLET PORT. STOP PUMPING AND CLOSE INLET PORT.
- 9. THE MATERIAL TO BE PUMPED SHALL BE: a. POLYMER MODIFIED MORTAR LATEX MODIFIED MORTAR
- c. ORDINARY MODIFIED MORTAR d. ORDINARY MORTAR WITH WATER REDUCING ADMIXTURES e FIRER REINFORCED MORTAR
- 10. IF DEPTH OF REPAIR EXCEEDS 3", USE PEA GRAVEL AND CONC. PUMP. 11. REMOVE FORMWORK AFTER THE CURING PERIOD. 12. APPLY SEALER AND COATING TO VERTICAL SURFACE IF REQUIRED.





REV. DATE DESCRIPTION 2023-11-03 | ISSUED FOR REVIEW 2023-11-10 ISSUED FOR REVIEW 2023-11-30 ISSUED FOR REVIEW 2023-12-01 ISSUED FOR REVIEW 2024-03-13 | ISSUED FOR HEALTH/ BLDG. PERM

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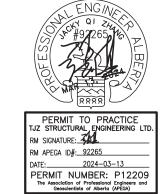
specifications and tender documents related to the

14220 112 Avenue NW, Unit #3

Edmonton AB, T5M 2T8

CONSULTANT:





PROJECT TITLE:

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CHECKED BY

TOWN OF PEACE RIVER - HOT TUB **REPLACEMENT**

PROJECT ADDRESS: 9911 - 100 STREET P.O. BOX 6600 PEACE RIVER, ALBERTA T8S 1S4

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SCALE AS NOTED MAR: 2024 DRAWING TITLE: **GENERAL NOTES &**

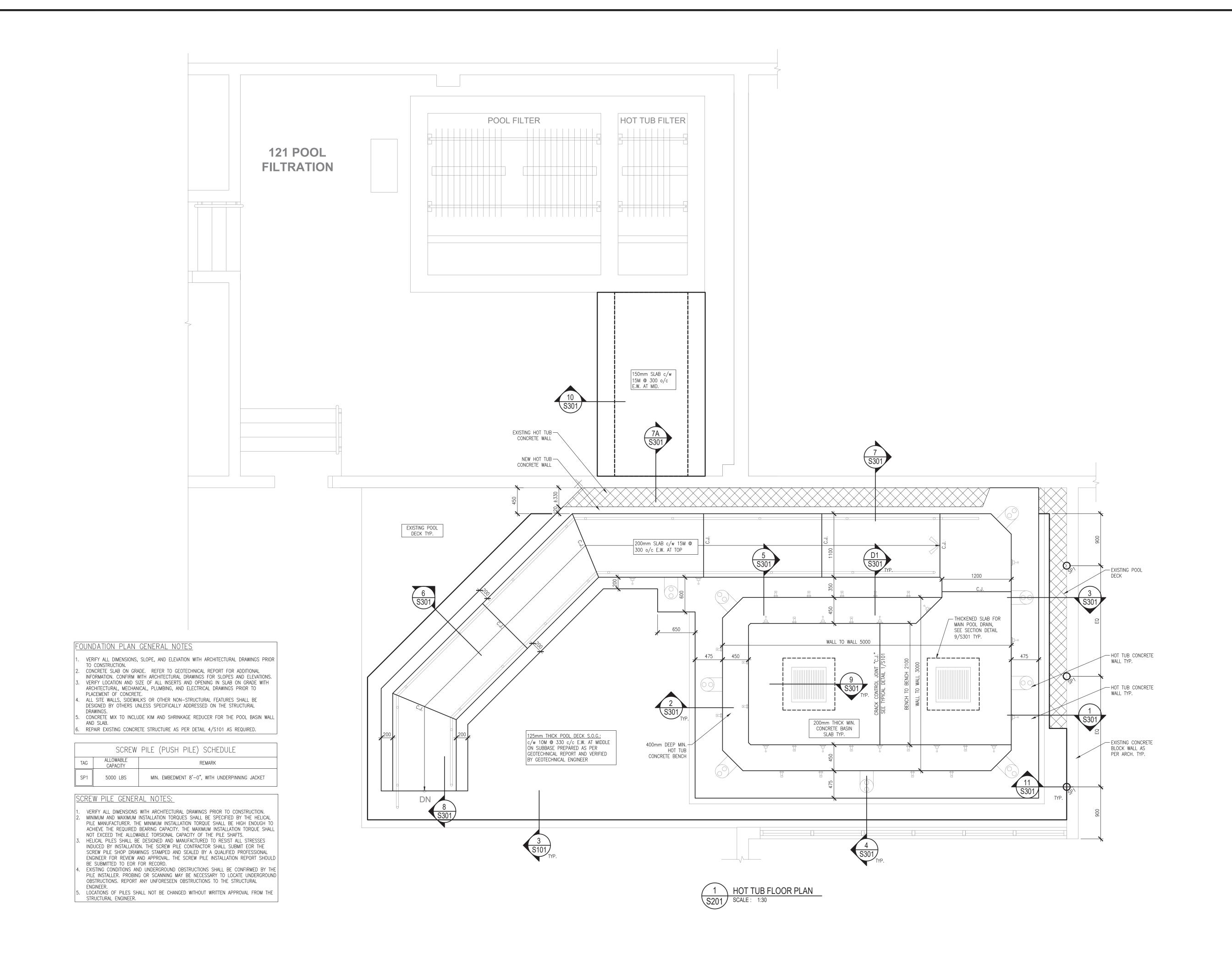
TYPICAL DETAILS

PROJECT NO.

TJZ#2908

DRAWING NO.

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5.	2024-03-13	ISSUED FOR HEALTH/ BLDG. PERMIT

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PROJECT TITLE:

TOWN OF PEACE RIVER - HOT TUB REPLACEMENT

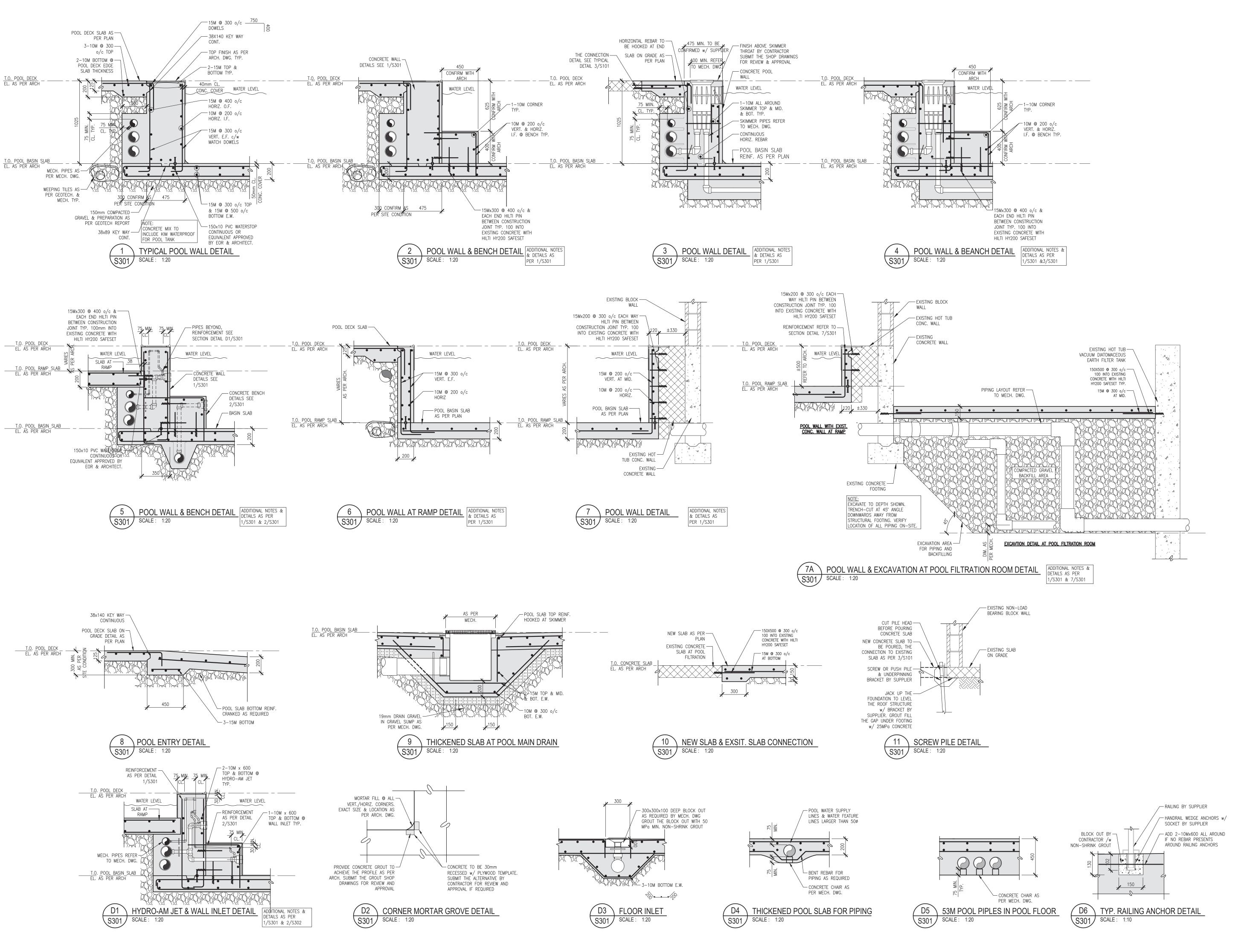
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5.	2024-03-13	ISSUED FOR HEALTH/ BLDG. PERMIT

CONSULTANT:

SEAL:





PROJECT TITLE: TOWN OF PEACE

RIVER - HOT TUB REPLACEMENT

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