GENERAL NOTES

- 1. THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. INCONSISTENCIES BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
- 3. ALL DIMENSIONS, EXISTING CONDITIONS, AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- 4. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE ONLY AFTER THE STRUCTURAL WORK CONTAINED IN THE S- DRAWINGS IS COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- 5. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE STRUCTURAL ENGINEER. THE STRUCTURAL ENGINEER RESERVES THE RIGHT TO INTERPRET DETAILS TO ADDRESS OTHER PROJECT CONDITIONS.
- 6. PROVIDE AND INSTALL NECESSARY MATERIAL TO CONNECT ELEVATOR SUPPORT BEAMS AND GUIDE RAILS. LOCATION AND SIZE OF MEMBERS AND ANY INSERTS REQUIRED SHALL BE DETERMINED BY THE ELEVATOR MANUFACTURER AND COORDINATED
- 7. THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE WORK. INCLUDING DESCRIPTION OF SHORING. AND CONSTRUCTION METHODS AND SEQUENCING WHERE APPLICABLE. NO PERFORMANCE OF THE WORK INCLUDING, BUT NOT LIMITED TO, DEMOLITION OF EXISTING STRUCTURE. OR FABRICATION OR ERECTION OF NEW STRUCTURAL ELEMENTS, SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE ARCHITECT AND ENGINEER. FOR SHOP DRAWINGS AND SUBMITTALS REQUIRED, REFERENCE THE PROJECT SPECIFICATIONS.
- 8. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
- 9. IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (2006 EDITION, SECTION 1704.1), A STATEMENT OF SPECIAL INSPECTIONS IS REQUIRED AS A CONDITION FOR PERMIT ISSUANCE BY THE LOCAL CODE OFFICIAL. THIS STATEMENT SHALL INCLUDE A COMPLETE LIST OF MATERIALS AND WORK REQUIRING SPECIAL INSPECTIONS, THE INSPECTIONS TO BE PERFORMED AND A LIST OF THE INDIVIDUALS. APPROVED AGENCIES AND FIRMS INTENDED TO BE RETAINED FOR CONDUCTING SUCH
- 10. REFERENCE THE PROJECT SPECIFICATIONS FOR ALL TESTING REQUIREMENTS. 11. ALL COMPONENTS OF THIS PARKING STRUCTURE SHALL CONFORM TO THE "GUIDE FOR THE DESIGN OF DURABLE PARKING STRUCTURES" (ACI 362.IR-97). ZONE III.

DESIGN LOADS

- BUILDING CODE: INTERNATIONAL BUILDING CODE. 2006 EDITION ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
- . DESIGN FLOOR LIVE LOADS (REDUCTIONS ARE UTILIZED PER CODE CRITERIA) PASSENGER CAR PARKING:

100 PSF

60 PSF

- 3. DESIGN ROOF SNOW LOAD: GROUND SNOW LOAD (Pg):
- SNOW EXPOSURE FACTOR (Ce): SNOW LOAD IMPORTANCE FACTOR (Is): 1.0 SNOW LOAD THERMAL FACTOR (Ct): FLAT ROOF SNOW LOAD (PF): 50 PSF + DRIFT 4. DESIGN WIND LOAD:
- BASIC WIND SPEED: WIND LOAD IMPORTANCE FACTOR (Iw): WIND EXPOSURE: INTERNAL PRESSURE COEFFICIENT: COMPONENTS & CLADDING LOADS PER ASCE 7-05
- 5. DESIGN SEISMIC LOADS: EQUIVALENT LATERAL FORCE PROCEDURE OCCUPANCY CATEGORY: II PER IBC TABLE 1604.5 SEISMIC IMPORTANCE FACTOR (Ie): 1.00 MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss: 0.314
- S1: 0.077 SEISMIC SITE CLASS: E SPECTRAL RESPONSE COEFFICIENTS:
- Sds: 0.325 SEISMIC DESIGN CATEGORY: B
- BASIC STRUCTURAL SYSTEM: MOMENT RESISTING FRAME SYSTEM (NORTH/SOUTH) BUILDING FRAME SYSTEM (EAST/WEST) BASIC SEISMIC FORCE RESISTING SYSTEM:
- ORDINARY REINFORCED CONCRETE MOMENT FRAMES (NORTH/SOUTH) ORDINARY REINFORCED CONCRETE SHEAR WALLS (EAST/WEST) RESPONSE MODIFICATION FACTOR (R):, X: 3.0 (NORTH-SOUTH) *Y: 5.0 (EAST—WEST)* SEISMIC RESPONSE COEFFICIENT (Cs), X: 0.035

PILE SUPPORTED FOUNDATION NOTES:

- PILE FOUNDATIONS BASED ON USING 16" SQ PRECAST CONCRETE PILES: THE PILE DESIGN FOR THIS PROJECT IS TO BE DESIGNED BY THE PILE SUBCONTRACTOR. PILE SUBMITTAL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE. PILE ALLOWABLE AXIAL CAPACITY 320 KIPS (160 TON). A MINIMUM FACTOR OF SAFETY OF 2.25 SHALL BE USED WITH ULTIMATE CAPACITY.
- 2. CONTACTOR SHALL SUBMIT PROPOSED PILE HAMMER AND ENERGY REQUIREMENTS FOR REVIEW BY THE GEOTECHNICAL ENGINEER. DRIVING SHALL BE MONITORED BY A QUALIFIED GEOTECHNICAL ENGINEER TO ENSURE DRIVING CRITERIA IS REACHED.
- 3. PILE LENGTHS SHALL BE ESTIMATED BASED ON BORING INFORMATION PROVIDED IN THE GEOTECHNICAL ENGINEERING REPORT.
- 4. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS, AND COORDINATE WITH OWNER'S REPRESENTATIVE FOR PILE LOCATIONS, UTILITY LOCATIONS, BUILDING LOCATIONS, AND ANY INTERFERENCE ENCOUNTERED.
- 5. THE PROJECT SPECIFICATIONS REQUIRE THE CONTRACTOR TO SUBMIT INFORMATION ON HIS PROPOSED PILE DRIVING SYSTEM FOR REVIEW BY THE GEOTECHNICAL ENGINEER PRIOR TO EQUIPMENT MOBILIZATION. THE SYSTEM SHOULD BE CAPABLE OF INSTALLING THE PILES TO THE SPECIFIED MINIMUM ULTIMATE GEOTECHNICAL CAPACITY WITHOUT EXCEEDING THE ALLOWABLE DRIVING STRESSES. THE REVIEW WILL INCLUDE A WAVE EQUATION ANALYSIS OF THE PROPOSED DRIVING SYSTEM.
- 6. IBC REQUIRES PILE LOAD TESTING FOR THIS PROJECT. REFERENCE THE PROJECT SPECIFICATIONS FOR LOAD TESTING REQUIREMENTS.
- 7. BOTTOMS OF EXTERIOR PILE CAPS SHOULD BE FOUNDED AT LEAST 4.5 FT. BELOW ADJACENT FINISHED GROUND SURFACE FOR FROST PROTECTION AND UNDERLAIN WITH CRUSHED STONE. SEE THE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
- 8. PILE CAP SUBGRADE SOILS SHOULD NOT BE ALLOWED TO FREEZE. THE FILL SOILS AT THE SITE ARE CONSIDERED MODERATELY TO SLIGHTLY FROST—SUSCEPTIBLE. FREEZING OF SUBGRADE SOILS BENEATH PILE CAPS MAY RESULT IN FROST HEAVING OR LATERAL WEDGING. THE CONTRACTOR SHOULD MAKE EVERY EFFORT TO PREVENT FREEZING OF SUBGRADE SOILS.
- 9. PILES SHALL BE DRIVEN IN THE LOCATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING TOLERANCES: DEVIATION OF THE LOCATION OF THE TOP OF A PILE FROM THAT SHOWN ON PLANS SHALL NOT EXCEED 1 1/2" FOR 1 AND 2 PILE GROUPS AND 2" FOR GROUPS OF 3 OR MORE PILES. PILES SHALL BE DRIVEN WITH A MAXIMUM DEVIATION FROM VERTICAL OF 2 INCHES IN 10 FEET OF PILE LENGTH.

PILE SUPPORTED FOUNDATION NOTES CONT:

- 12. NO FILL FOR BUILDING SUPPORT SHALL BE PLACED UNTIL SUBGRADES HAVE BEEN OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER OR APPROVED TESTING
- 13. REFERENCE THE GEOTECHNICAL REPORTS FOR ALL EXCAVATION, BACKFILL COMPACTION, CONSTRUCTION DEWATERING AND PERMANENT DRAINAGE
- 14. SOILS EXPOSED AT THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHOULD BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION. SUCH AS DISTURBANCE FROM RAIN OR FROST. SURFACE RUNOFF SHOULD BE DRAINED AWAY FROM THE EXCAVATIONS AND NOT BE ALLOWED TO POND. FOUNDATION EXCAVATIONS AND SHOULD BE ADEQUATELY PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. GROUNDWATER SHOULD BE ANTICIPATED FOR EXCAVATIONS AND APPROPRIATE DEWATERING MEASURES SHALL BE
- 15. EXCAVATIONS FOR BUILDING CONSTRUCTION SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MAINE. DO NOT UNDERMINE EXISTING FOUNDATIONS OF ANY ADJACENT STRUCTURES. REFER TO THE GEOTECHNICAL REPORTS FOR ADDITIONAL AND/OR MORE SPECIFIC REQUIREMENTS.

CONCRETE NOTES

- 1. CONCRETE WORK SHALL CONFORM TO "ACI MANUAL OF CONCRETE PRACTICE", LATEST EDITION. THIS PUBLICATION IS AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848-3800. WWW.CONCRETE.ORG
- 2. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH AS NOTED IN THE SPECIFICATIONS. ADDITIONAL CONCRETE MIX PERFORMANCE DATA INCLUDING AIR CONTENT. WATER—CEMENT RATIO. AIR CONTENT. AGGREGATE SIZE. SLUMP. ETC. HAS BEEN INCLUDED IN THE PROJECT SPECIFICATIONS. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIRMENTS.
- 3. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
- 4. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE, GRADE BEAMS OR SLABS.
- 5. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION.
- 6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND BE PROVIDED IN FLAT
- MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT. UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
 - A) SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH, 3.0" B) FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER #5 BARS. 5/8" DIAMETER WIRE. AND SMALLER, 1.5" #6 THROUGH #11 BARS, 2.0"
- C) SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER WALLS, SLABS, JOISTS #11 BARS AND SMALLER, 1.0" BEAMS, GIRDERS, AND COLUMNS; ALL REINFORCEMENT, 1.5
- 8. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPLICES OR HOOKED BARS AT DISCONTINUOUS ENDS. PROVIDE TENSION LAP SPLICES PER THE SCHEDULE ON DRAWING S20.1. FOR ALL REINFORCING UNLESS OTHERWISE 'NDICATED OR SHOWN ON PLAN.
- 9. WELDING OF REINFORCEMENT IS NOT PERMITTED.
- 10. FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING AROUND OPENING AS SHOWN ON THE CONTRACT DOCUMENTS
- 11. DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE BEAMS/GRADE BEAMS SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR, UNLESS NOTED OTHERWISE.
- 12. SPACING OF CONSTRUCTION JOINTS, UNLESS NOTED OTHERWISE SHALL BE AS FOLLOWS: MAX LENGTH 40'-0" NOR 15'-0" A) FOOTINGS AND WALLS FROM ANY CORNER** SEE SLAB PLAN
- ** EXCEED ONLY WHERE INTERMEDIATE CONTRACTION JOINTS ARE PROVIDED. MINIMUM OF 72 HOURS SHALL ELAPSE BETWEEN ADJACENT CONCRETE PLACEMENT
- 13. ALL GROUT BENEATH BASE PLATES & BEARING PLATES SHALL BE "5-STAR" 5000-PSI NON—SHRINK GROUT BY U.S. GROUT CORP
- 14. SLAB THICKNESSES INDICATED ON THE DRAWINGS ARE MINIMUMS. PROVIDE SUFFICIENT CONCRETE TO ACCOUNT FOR STRUCTURE DEFLECTION, SUBGRADE FLUCTATIONS, AND TO OBTAIN THE SPECIFIED SLAB ELEVATION.

STRUCTURAL STEEL NOTES

- 1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN FABRICATION, AND ERECTION OF STRUCTURAL STEEL" 9TH EDITION, AND THE "CODE OF STANDARD PRACTICE, LATEST EDITION.
- 2. STRUCTURAL STEEL: STEEL PLATES, SHAPES, AND BARS, CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE (U.N.O.). STRUCTURAL STEEL SHAPES DESIGNATED ON THE DRAWINGS FOR WIDE-FLANGE SECTIONS: ASTM A992 (ASTM A572 GRADE 50 WITH SPECIAL REQUIREMENTS PER AISC TECHNICAL BULLETIN #3 DATED MARCH, 1997)
- 3. STRUCTURAL TUBING: CONFORM TO ASTM A500 GRADE B46 KSI.
- 4. FIELD CONNECTIONS SHALL BE BOLTED USING ASTM A325N HIGH STRENGTH BOLTS (U.N.O.) EXCEPT WHERE SLIP CRITICAL CONNECTIONS ARE REQUIRED AND NOTED BY A325 (SC) ON THE DRAWINGS. PROVIDE SLIP CRITICAL (SC) CONNECTIONS AT ALL MOMENT CONNECTIONS, BRACED FRAMES, RELIEVING ANGLES AND AS OTHERWISE NOTED. USE A490 BOLTS WHERE INDICATED
- WHERE WELDING IS INDICATED, ALL WELDING SHALL CONFORM TO AWS D1.1-LATEST EDITION. ELECTRODES SHALL BE CONFORM TO AWS A5.1 E70XX SERIES WITH PROPER ROD TO PRODUCE OPTIMUM WELD (LOW HYDROGEN).
- 6. SEE CONCRETE NOTES AND DRAWINGS FOR ANCHOR BOLT INFORMATION, TYP.
- 7. PROVIDE ALL MISCELLANEOUS ANGLES, PLATES, ANCHORS, BOLTS, ETC., SHOWN ON ARCHITECTURAL DRAWINGS FOR SUPPORT OF BLOCKING, PARAPETS, FINISHES, ETC. COORDINATE WITH MISCELLANEOUS METAL FABRICATOR TO ENSURE COMPLETE COVERAGE OF ALL ITEMS.

MASONRY NOTES

- 1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530.1-02.
- 2. ALL CONCRETE MASONRY UNITS SHALL BE ASTM C90 GRADE N. TYPE I STANDARD WEIGHT BLOCKS INCLUDING STRETCHERS AND CORNER BLOCKS. MINIMUM PRISM STRENGTH OF BLOCK SHALL BE F'M = 1500 PSI IN 28 DAYS.
- 3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270, TYPE M OR S. REFERENCE ARCHITECTURAL DRAWINGS FOR BLOCK FINISHES, COLOR, AND MORTAR COLOR.
- 4. GROUT SHALL CONFORM TO ASTM-C476
- 5. REINFORCING FOR BOND BEAMS. LINTEL BLOCKS AND VERTICAL WALL REINFORCING SHALL BE BILLET STEEL CONFORMING TO ASTM A615, GRADE 60
- 6. HORIZONTAL JOINT REINFORCING SHALL BE DUR-O-WAL TRUSS DESIGN, STANDARD CLASS MILL GALVANIZED WITH 3/16" DIAMETER SIDE RODS AND 9 GAUGE CROSS TIES, UNO. REINFORCING SHALL BE PLACED IN MASONRY WALLS AT EVERY SECOND BLOCK COURSE.
- 7. CONCRETE MASONRY UNITS SHALL BE LAID IN RUNNING BOND UNLESS OTHERWISE NOTED. PROVIDE FULL MORTAR COVERAGE ON ALL WEBS AND FACE SHELLS. PROVIDE CORNER BLOCKS AND END BLOCKS TO FINISH ALL 90 DEGREE CORNERS AND WALL OPENINGS.
- 8. PROVIDE LINTELS AS AT WALL PENETRATIONS AS SHOWN IN THE LINTEL SCHEDULE. 9. STANDARD LAP LENGTH OF GRADE 60 MASONRY REINFORCING BARS SHALL BE 48 BAR DIAMETERS. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCEMENT
- 10. CELLS TO BE GROUTED SHALL BE 2-CELL BLOCK. ALIGN CELLS TO MAINTAIN A CLEAR UNOBSTRUCTED, CONTINUOUS VERTICAL CHASE. CELLS MUST BE KEPT CLEAN OF PROTRUSIONS OR FINS OF MORTAR. FILL CELLS OF MASONRY UNITS AND WALL CAVITIES WHERE INDICATED WITH 2500 PSI GROUT. MAXIMUM GROUT LIFT WITHOUT CLEAN-OUTS SHALL BE 4'-0". HIGH LIFT GROUTING SHALL CONFORM TO CODE REQUIREMENTS WITH A MINIMUM CEMENT CONTENT OF 8 SACKS PER CUBIC YARD. SUPPORT ALL VERTICAL BARS IN CENTER OF GROUTED CELLS WITH VERTICAL BAR
- 11. FIELD PENETRATIONS THROUGH BLOCK WALLS SHALL NOT BE MADE THROUGH BOND BEAMS, LINTELS OR GROUTED CELLS.

- 1. THE FOLLOWING LINTELS SHALL BE USED FOR MASONRY OPENINGS. L 3 1/2 x3 1/2 x 5/16 UP TO 3'-0"
 - 3'-1" TO 4'-6" L 4 x 3 1/2 x 5/16 (LLV) L 5 x 3 1/2 x 5/16 (LLV) 4'-7" TO 6'-0" 6'-1" TO 8'-0" L 6 x 3 1/2 x 5/16 (LLV) 8'-1" TO 12'-0" L 6 x 3 1/2 x 3/8 (LLV)
- PROVIDE ONE ANGLE FOR EACH 4" WALL THICKNESS, FOR 6" WALL THICKNESS, PROVIDE WT OR BUILT-UP SECTION WITH PROPERTIES EQUAL TO OR GREATER THAN 1 1/2 TIMES THE ANGLE PROPERTIES FOR A 4" WALL THICKNESS.
- 3. PROVIDE 8" OF BEARING AT EACH END OF ALL LINTELS.
- 4. ALL EXTERIOR LINTELS SHALL BE HOT-DIPPED GALVANIZED.

POST TENSIONING

- . <u>FIELD FOREMAN</u>: THE FIELD FOREMAN RESPONSIBLE FOR THE PLACEMENT OF ALL POST-TENSIONING SHALL HAVE A MINIMUM OF THREE (3) YEARS IN THIS CAPACITY FOR THIS TYPE OF CONSTRUCTION.
- . <u>PT STEEL QUALITY</u>: ONE SAMPLE OF EACH REEL OR HEAT SHALL BE TESTED BY AN APPROVED LABORATORY. TEST RESULTS OR MILL CERTIFICATES SHALL BE SUBMITTED TO THE ENGINEER BEFORE STRESSING OF TENDONS. POST—TENSIONING TENDONS SHALL BE STRESS-RELIEVED OR BE OF LOW-RELAXATION QUALITY, AND SHALL CONFORM TO THE FOLLOWING:
 - SEVEN WIRE STRAND ASTM DESIGNATION......A-416 1/2" DIAMETER TENDON AREA................0.153 IN SQ. ULTIMATE STRENGTH......270 KSI
- TENDON STRESSES SHALL CONFORM TO THE FOLLOWING:
- MAXIMUM JACKING STRESS..... MAXIMUM STRESS IMMEDIATELY AFTER PRESTRESS TRANSFER..... MAXIMUM ANCHORAGE STRESS IMMEDIATELY AFTER PRESTRESS TRANSFER......189 KSI
- . <u>EFFECTIVE FORCE</u>: EFFECTIVE FORCE SHALL BE 24 KIPS PER STRESS—RELIEVED, AND 26 KIPS PER LOW—RELAXATION TENDON, WHEN TENDON LENGTH IS LESS THAN 100 FEET. FOR VARIANCE FROM THIS VALUE, CONTRACTOR SHALL PROVIDE FRICTION AND LONG—TERM LOSS CALCULATIONS FOR THE ENGINEER'S APPROVAL.
- 4. <u>PT HARDWARE QUALITY</u>: ALL ANCHORAGES, COUPLERS AND MISCELLANEOUS HARDWARE SHALL BE STANDARD AND APPROVED BY THE ENGINEER.
- 5. <u>TENDONS</u>: UNBONDED STRANDS SHALL BE ENCASED IN SLIPPAGE SHEATHING WHICH SHALL CONSIST OF A SEALED DURABLE WATERPROOF PLASTIC TUBING CAPABLE OF PREVENTING THE PENETRATION OF MOISTURE AND CEMENT PASTE, AND WHICH WILL CONTAIN A RUST—INHIBITING GREASE COATING. TEARS IN THE SHEATHING SHALL BE REPAIRED TO RESTORE THE WATERTIGHTNESS OF THE SHEATHING. HEAT—SEALED SHEATHING SHALL NOT BE USED UNLESS THE WATERTIGHTNESS OF THE SHEATHING IS GUARANTEED BY THE CONTRACTOR.
- SHOP DRAWINGS: THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING TENDON LAYOUT, DEAD—END AND STRESSING— END LOCATIONS, AND TENDON SUPPORT LAYOUTS WITH DETAILS NECESSARY FOR INSTALLATION FOR THE ENGINEER'S
- 7. TENDON PLACEMENT: CARE SHALL BE TAKEN THAT TENDONS ARE LOCATED AND HELD IN THEIR DESIGNED POSITIONS. TOLERANCES FOR THE LOCATION OF THE PRESTRESSING STEEL SHALL NOT BE MORE THAN \pm 1/8" VERTICALLY. EXCEPT AS NOTED OR APPROVED BY THE ENGINEER. ACCESS TO STRESSING ENDS SHALL BE MAINTAINED WHERE SHOWN.
- 3. <u>TENDON ADJUSTMENTS</u>: SLIGHT DEVIATIONS IN THE HORIZONTAL SPACING OF THE SLAB TENDONS WILL BE PERMITTED WHEN REQUIRED TO AVOID OPENINGS, INSERTS AND DOWELS WHICH ARE SPECIFICALLY LOCATED. WHERE LOCATIONS OF TENDONS SEEM TO INTERFERE WITH EACH OTHER, ONE TENDON MAY BE MOVED HORIZONTALLY IN ORDER TO AVOID THE INTERFERENCE.
- 9. <u>TWISTING</u>: TWISTING OR ENTWINING OF INDIVIDUAL WIRES OR STRANDS WITHIN A BUNDLE OR A BEAM SHALL NOT BE PERMITTED.
- 10. <u>STRAND BUNDLES</u>: THE MAXIMUM ALLOWABLE NUMBER OF STRANDS PER BUNDLE IS FOUR (4) FOR SLABS AND SIX (6) FOR BEAMS.
- 11. PROFILES: PROFILES SHALL CONFORM TO CONTROLLING POINTS SHOWN ON THE DRAWINGS AND SHOULD BE IN AN APPROXIMATE PARABOLIC DRAPE BETWEEN SUPPORTS, UNLESS NOTED OTHERWISE. LOW POINTS ARE AT MIDSPAN UNLESS NOTED OTHERWISE. HARPED TENDONS SHALL BE STRAIGHT BETWEEN HIGH AND LOW POINT CONTROLS.
- TENDONS ARE TO THE CENTER OF GRAVITY OF THE TENDON (CGS) UNLESS NOTED OTHERWISE.

12. <u>PRESTRESS COVER</u>: ALL DIMENSIONS SHOWING THE LOCATION OF PRESTRESSING

- 13. MINIMUM CHAIRING: TENDONS SHALL BE SECURED TO A SUFFICIENT NUMBER OF POSITIONING DEVICES TO ENSURE CORRECT LOCATION DURING AND AFTER THE PLACING OF THE CONCRETE, AND SHALL BE SUPPORTED AT A MAXIMUM OF 3'-6" ON CENTER. CHAIRS GREATER THAN 2.5" IN SIZE SHALL BE STAPLED TO THE
- 14. ANCHORS: ANCHORAGES SHALL BE RECESSED A MINIMUM OF TWO (2) INCHES. PLACE TWO (2) CONTINUOUS #4 BARS BEHIND ALL ANCHORAGES, UNLESS NOTED OTHERWISE. SPLICES SHALL BE 24" MINIMUM AND STAGGERED.
- 15. <u>BLOCKOUTS</u>: ALL POCKETS OR BLOCKOUTS REQUIRED FOR ANCHORAGE SHALL BE ADEQUATELY REINFORCED SO AS NOT TO DECREASE THE STRENGTH OF THE STRUCTURE. ALL POCKETS SHOULD BE WATERPROOFED TO ELIMINATE WATER LEAKAGE

16. <u>PENETRATIONS</u>: PENETRATIONS SHALL NOT BE PERMITTED IN BEAMS EXCEPT AS

- SHOWN IN PT DRAWINGS OR TYPICAL DETAILS.
- 17. <u>INSERTS</u>: ALL INSERTS AND SLEEVES SHALL BE CAST IN PLACE WHENEVER POSSIBLE. DRILLED AND POWER—DRIVEN FASTENERS WILL BE PERMITTED ONLY WHEN IT CAN BE SHOWN THAT THE INSERTS WILL NOT SPALL THE CONCRETE AND ARE LOCATED TO AVOID THE TENDONS AND ANCHORAGES. THE CONTRACTOR MUST LOCATE TENDONS ON THE SURFACE SLAB.
- 18. CHLORIDES: GROUT OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED. 19. <u>PUMPED CONCRETE</u>: IF CONCRETE IS PLACED BY THE PUMP METHOD, THEN
- HORSES SHALL BE PROVIDED TO SUPPORT THE HOSE. THE HOSE SHALL NOT BE ALLOWED TO RIDE ON THE TENDONS. 20. CONCRETE CONSOLIDATION: THE CONTRACTOR SHALL TAKE PRECAUTIONS TO ASSURE
- COMPLETE CONSOLIDATION AND DENSIFICATION OF CONCRETE BEHIND ALL POST-TENSIONING ANCHORAGES. 21. CONCRETE STRENGTH AT STRESSING: AT TRANSFER OF PRESTRESS, CONCRETE
- SHALL BE 3.000 PSI MINIMUM FOR ANY GIVEN CYLINDER COMPRESSION TEST. 22. <u>TENDON STRESSING</u>: TENSIONING SHALL BE DONE BY JACKING UNDER IMMEDIATE CONTROL OF A PERSON EXPERIENCED IN THIS TYPE OF WORK. CONTINUOUS INSPECTION AND RECORDING OF ELONGATIONS IS REQUIRED DURING ALL STRESSING
- OPERATIONS. 23. CALIBRATION: THE RAM AND ATTENDANT GAUGE USED SHALL HAVE BEEN CALIBRATED WITHIN SIXTY (60) DAYS OF THEIR USE.

24. <u>STRESSING SEQUENCE</u>: UNIFORMLY DISTRIBUTED TENDONS SHALL BE STRESSED

BEFORE CONCENTRATED BEAM STRIP (BANDED) TENDONS, AND SLAB TENDONS SHALL

PROVIDE FRICTION CALCULATIONS AND/OR OTHER JUSTIFICATION TO THE SATISFACTION

- BE STRESSED BEFORE BEAM TENDONS. 25. <u>ELONGATIONS</u>: INDIVIDUAL TENDON FIELD READINGS OF ELONGATIONS AND/OR STRESSING FORCES SHALL NOT VARY BY MORE THAN $\pm 7\%$ FROM CALCULATED REQUIRED VALUES SHOWN ON THE SHOP DRAWINGS. IF THE MEASURED ELONGATIONS VARY FROM CALCULATED VALUES BY MORE THAN ±7%, THE CONTRACTOR SHALL
- OF THE ENGINEER. 26. MEMBER FORCES: THE POST-TENSIONED FORCE PROVIDED IN THE FIELD FOR EACH STRUCTURAL MEMBER SHALL NOT BE LESS THAN THE VALUES NOTED ON THE STRUCTURAL DRAWINGS. IN THIS CONTEXT. STRUCTURAL MEMBERS ARE BEAMS OR SLABS, WHETHER WITH BANDED OR DISTRIBUTED TENDONS, EACH SERVING THEIR

27. <u>TENDON ENDS</u>: DO NOT BURN OFF TENDON ENDS UNTIL THE ENTIRE FLOOR

SYSTEM HAS BEEN SATISFACTORILY STRESSED AND THE ENGINEER'S APPROVAL IS OBTAINED. THE STRESSING END ANCHORS AND WEDGES SHALL BE SPRAY PAINTED WITH RUST-OLEUM OR A SIMILAR COATING FOR CORROSION PROTECTION. INSTALL GREASE CAPS WITHIN THE FOLLOWING 24-HOUR PERIOD.

RESPECTIVE TRIBUTARY.

MOISTURE PENETRATION. 29. <u>DE-SHORING</u>: SLABS OR BEAMS MAY BE DE-SHORED WHEN ALL TENDONS HAVE BEEN SATISFACTORILY STRESSED AND THE ENGINEER'S APPROVAL IS OBTAINED. UNLESS SHORING IS REQUIRED TO CARRY FLOORS ON ABOVE LEVELS.

28. GROUTING OF STRESSING POCKETS: STRESSING POCKETS SHALL BE FILLED WITH

NON-SHRINK GROUT AFTER STRESSING, PAINTING & GREASE-CAPPING TO STOP

<u>INSPECTION</u>

- GENERAL: IN ADDITION TO THE INSPECTIONS REQUIRED BY IBC 2003 THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE TYPES OF WORK DESCRIBED IN THIS SECTION.
- CONCRETE: DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL REINFORCED CONCRETE AND PNEUMATICALLY PLACED CONCRETE.
- 3. REINFORCING STEEL AND PRESTRESSING STEEL:
- A. DURING ALL STRESSING AND GROUTING OF PRESTRESSED AND POST-TENSIONED CONCRETE. TH SPECIAL INSPECTION SHALL INCLUDE RECORDING OF FIELD-MEASURED ELONGATION AND JACKING FORCE
- B. DURING THE PLACING OF REINFORCING STEEL, TENDONS AND PRESTRESSING STEEL FOR ALL STRUCTURAL CONCRETE. TENDON PLACEMENT AND INTEGRITY OF THE PROTECTIVE WRAPPING FOR POST-TENSIONED TENDONS SHALL BE INSPECTED PRIOR TO PLACEMENT OF CONCRETE.

SPECIAL NOTES TO OWNER

ALL CRACKS.

FOR EACH TENDON.

- UNDER NORMAL CONDITIONS, AND FOR CONVENTIONAL BUILDINGS SUCH AS THE SUBJECT MATTER. REINFORCED CONCRETE AS WELL AS POST-TENSIONED CONCRETE DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE OF CONCRETE. CREEP AND RESTRAINING EFFECTS OF VERTICAL AND OTHER STRUCTURAL ELEMENTS TO WHICH THE BEAMS/SLABS ARE TIED.
- . THE CRACKS FORMED ARE NORMALLY COSMETIC. THE SLAB MAINTAINS IT SERVICEABILITY AND STRENGTH REQUIREMENTS. DUE TO SPECIAL FEATURES OF UNBONDED POST-TENSIONING, IT IS POSSIBLE THAT A NUMBER OF HAIRLINE CRACKS. WHICH WOULD NORMALLY SPREAD OVER A WIDE AREA. WILL INTEGRATE INTO A SINGLE CRACK WITH A WIDTH EXCEEDING 0.01 INCH. IT IS EMPHASIZED THAT ALTHOUGH SPECIAL EFFORT IS MADE TO REDUCE THE POTENTIAL CAUSES AND NUMBER OF SUCH CRACKS. IT IS NOT PRACTICAL TO PROVIDE TOTAL ARTICULATION BETWEEN THE FLOOR SYSTEM AND ITS SUPPORTS AND THEREBY ACHIEVE COMPLETE INHIBITION OF
- MOST SUCH CRACKS DEVELOP OVER THE FIRST THREE YEARS OF THE LIFE OF THE FLOOR SYSTEM. CRACKS WHICH ARE WIDER THAN 0.01 INCH MAY NEED TO BE PRESSURE EPOXIED. REFER TO THE NOTES UNDER "ALLOWANCES".
- 4. THE OBJECT OF THE JOINTS PROVIDED IS TO ALLOW MOVEMENT. MOVEMENTS DUE TO CREEP AND SHRINKAGE MAY BE NOTICEABLE AT JOINTS UP TO TWO YEARS AFTER CONSTRUCTION, BEYOND WHICH MOVEMENTS DUE TO VARIATIONS IN TEMPERATURE

TIONS			
<u>ITIONS</u>	ANCHOR BOLT		
	ACOUSTICAL CEILING TILE	K	KIPS
	ABOVE FINISH FLOOR	l Î	ANGLE
	AGGREGATE	l <u>L</u> L	LIVE LOAD
	ALTERNATE	<u> </u>	LONG LEG HORIZ
	APPROXIMATE	LLV	LONG LEG VERT
	ARCHITECTURAL		
	,	MAX	MAXIMUM
	BOTTOM CHORD EXTENSION	MDO	MEDIUM DENSITY OVERLAY
	BEAM	MECH	MECHANICAL
	BOARD	MANUF	MANUFACTURER
	BITUMINOUS	MIN	MINIMUM
	BUILDING	MISC	MISCELLANEOUS
	BOTTOM OF / BY OTHERS		
	BOTTOM	M.O.	MASONRY OPENING
	BRIDGING	N.I.C.	NOT IN CONTRACT
	BASE PLATE	N.S.	NEAR SIDE
	BEARING	N.T.S.	NOT TO SCALE
	BOTH SIDES		
	20117 0.020	O.C.	ON CENTER
	CHANNEL	O.D.	OUTSIDE DIAMETER
	CEMENT BOARD	O.F.	OUTSIDE FACE
	CENTER OF GRAVITY OF		
	POST TENSIONING STRAND	PAF	POWDER ACTUATED FASTENER
	CAST IN PLACE	PL PL	PLATE
	CONTROL/CONST. JOINT	PLF	POUNDS PER LINEAR FOOT
	CENTER LINE	<i>PSF</i>	POUNDS PER SQUARE FOOT
	CLEAR	PSI PSI	POUNDS PER SQUARE INCH
	CONCRETE MASONRY UNIT	P.T.	PRESSURE TREATED
	COLUMN	P/T	POST TENSIONING
	CONCRETE	PVC	POLYVINYL CHLORIDE
	004 174 404 40	DIAT	DAVEMENT

STRUCT

STIFF

U.N.O.

VTR

W.W.F.

CONT CONTINOUS **DOUBLE** DEAD LOAD DRAWING EACH FACE EXPANSION JOINT

<u>ABBREVIAT</u>

A.F.F.

APPROX

ARCH

BCX

B.PL

CEM BD

C.G.S.

ELEVATION EL/ELEV ELECTRICAL **EMBEDMENT** EACH SIDE EACH WAY EACH WAY BOTTOM

E.W.B. EXTERIOR FLOOR DRAIN FINISH FLOOR FINISH FLOOR / FAR FACE FURNISHED BY OTHERS

FINISH FLOOR ELEVATION FAR SIDE FTG FOOTING *GALV* GALVANIZED GENERAL CONTRACTOR GYPSUM WALLBOARD

HEATING VENTILATION & COOLING HOLLOW STRUCTURAL SHAPE INSIDE DIAMETER INSIDE FACE ISOLATION JOINT INSUL INSULATION

PVMT PAVEMENT ROOF DRAIN REINF REINFORCEMENT REQD REQMNT RFOUIRFD REQUIREMENTS ROUGH OPENING RTU ROOF TOP UNIT SQUARE FOOT SHEAR KEY

STAINLESS STEEL STRUCTURAL STIFFENER TOP CHORD EXTENSION TIE JOIST TOP OF STEEL etc. TYPICAL UNLESS NOTED OTHERWISE VAPOR BARRIER

VERIFY IN FIELD VENT THROUGH ROOF WIDE FLANGE WORK POINT WELDED WIRE FABRIC PARKING GARAGE ARCHITEC 75 York Street Portland, Maine 0410 Phone 207-772-4656 Fax 207-828-4656 Scott Simons Architects PARKING GARAGE STRUCTURAL ENGINEER: **BECKE** Portland, Maine 0410 Phone 207-879-1838 Fax 207-879-1822 SITE/CIVIL ENGINEER: 95 Cedar Street Suite 100 41 Hutchins Drive Portland, Maine 04102 Providence, Rhode Island 0290 Phone 800-9426-4262 Phone 800-985-7897 Fax 207-774-6635 Fax 401-273-5087 HARRIMAN Architects + Enginee Auburn Business Park 46 Harriman Drive

CONSTRUCTION MANAGER:

Consigli

Project Title



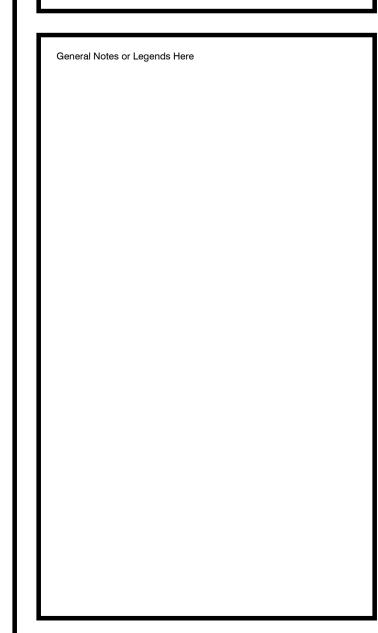
84 Middle Street Portland, Maine 04101

Phone 207-773-3000

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BAYCO LLC



	1-7-08	100% SITE ENABLING PACKAGE	
	12-19-08	50% CONSTRUCTION DOCUMEN	
	11-26-08	100% DESIGN DEVELOPMENT	
	10-29-08	50% DESIGN DEVELOPMENT	
Mark	Date	Description	

ENABLING PACKAGE

GENERAL NOTES

PA / PE: MJM

Drawing Number

Drawn By: APP

GENERAL NOTES NO SCALE

TODD

NEAL

NO.9406