

**GENERAL NOTES**

1. THE CONTRACTOR SHALL NOT SCALE THE DRAWINGS TO ESTABLISH DIMENSIONS. ALL DIMENSIONS SHALL BE CHECKED ON-SITE PRIOR TO ASSEMBLY OR CONSTRUCTION OF ANY WORK.
2. THE STRUCTURE HAS BEEN DESIGNED FOR THE IN-SERVICE LOADS. THE METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION TO BE USED ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. SUPPORTING FORMWORK FOR CONCRETE CONSTRUCTION SHALL NOT BE REMOVED BEFORE THE CONCRETE HAS GAINED SUFFICIENT STRENGTH TO SAFELY SUPPORT THE DEAD AND SUPERIMPOSED LOADS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID OVERLOADS, AND MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
3. THE CONTRACTOR SHALL REFER TO MECHANICAL & ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR SIZE AND LOCATION OF SLEEVES, ANCHORS, INSERTS AND OPENINGS REQUIRED.
4. PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THE DRAWINGS. SLEEVES AND OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
5. MATERIALS SPECIFIED ON THE DRAWINGS AND/OR IN THE SPECIFICATIONS SHALL BE USED UNLESS THE CONTRACTOR OBTAINS WRITTEN APPROVAL OF THE ENGINEER TO USE ALTERNATIVE MATERIALS. WHEN REQUESTING SUCH APPROVAL, THE CONTRACTOR SHALL PROVIDE ADEQUATE AND DETAILED MANUFACTURER'S LITERATURE AND TECHNICAL DATA FOR EACH MATERIAL PRIOR TO ITS POTENTIAL USE.

**CONCRETE NOTES**

1. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301, 305, 306, 308, 315, 318 AND 350R SPECIFICATIONS.
2. LATEST REVISION AND/OR VERSION OF ALL CODES AND REFERENCE STANDARDS SHALL BE FOLLOWED.
3. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLUMP SHALL BE 3 1/2 INCHES ± 1 INCH.
4. CONCRETE SHALL BE AIR ENTRAINED. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE II WITH AIR-ENTRAINING ADMIXTURE CONFORMING TO ASTM C260. AIR CONTENT (% BY VOLUME) SHALL NOT BE LESS THAN 4% NOR GREATER THAN 6.5% AND SHALL DEPEND ON MAXIMUM SIZE AGGREGATE USED.
5. NO ADMIXTURE SHALL CONTAIN CALCIUM CHLORIDE BASED COMPOUNDS. FLYASH AND POZZOLAN CONTENT SHALL NOT EXCEED 20% BY WEIGHT OF CEMENT.
6. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS.
7. LAP SPLICES IN REINFORCING BARS SHALL BE A MINIMUM 38 TIMES BAR DIAMETERS. THE SPLICES SHALL NOT BE LESS THAN 18 INCHES.
8. CONCRETE PROTECTION FOR REINFORCING BARS (UNLESS OTHERWISE NOTED):
  - A. FOOTINGS - 3 INCH BOTTOM AND SIDES, 2 INCH TOP
  - B. GRADE BEAMS - 2 INCH BOTTOM AND SIDES, 1 1/2 INCH TOP (TO STIRRUPS)
  - C. PIERS - 1 1/2 INCH (TO TIES)
  - D. FORMED SLABS - 1 1/2 INCH TOP AND BOTTOM
  - E. WALLS AND PADS - 2 INCH
  - F. EXTERIOR SLABS ON FILL - 2 1/2 INCH BOTTOM, 2 INCH TOP
  - G. INTERIOR SLABS ON FILL - 2 1/2 INCH BOTTOM, 1 1/2 INCH TOP
9. ANCHOR BOLTS SHALL BE CARBON STEEL CONFORMING TO ASTM A307 SPECIFICATIONS. WITH HEAVY HEX NUTS AND WASHERS. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED CONFORMING TO ASTM A123 AND A153 SPECIFICATIONS, AND SHALL BE ACCURATELY PLACED USING TEMPLATES.
10. NO CONSTRUCTION JOINT SHALL BE MADE UNLESS SHOWN ON DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
11. GROUT IN DRILLED HOLES FOR ANCHOR BOLTS AND REINFORCING STEEL DOWELS, AND UNDER BASE PLATES SHALL BE NON-SHRINK NON-METALLIC "MASTERFLOW 713" OR "MASTERFLOW 928" BY DEGUSSA BUILDING SYSTEMS. MANUFACTURER'S INSTRUCTIONS CONCERNING HOLE SIZE, SURFACE PREPARATION AND INSTALLATION SHALL BE FOLLOWED.
12. EDGE TOOL TOP HORIZONTAL EDGES OF PIERS, EQUIPMENT (PUMP) PADS. OTHER EXPOSED EDGES SHALL HAVE 3/4 INCH CHAMFER.
13. RAMPS, PADS AND SLABS SHALL BE TROWEL FINISHED TO WITHIN 1/8 INCH OF ELEVATIONS SHOWN ON DRAWINGS. FOLLOWING TROWELLING, PROVIDE NON-SLIP MEDIUM BROOM FINISH.
14. PROVIDE CORNER BARS TO MATCH HORIZONTAL BARS AT ALL EXTERIOR CORNERS.
15. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A82 AND A185 SPECIFICATIONS.
16. PROVIDE MINIMUM OF 6 INCH MECHANICALLY COMPACTED CRUSHED STONE UNDER SLABS AND WHERE OTHERWISE NOTED ON DRAWINGS.
17. JOINT SEALANT SHALL BE ONE-COMPONENT POLYURETHANE "SIKAFLEX-1A" BY SIKA CHEMICAL CORPORATION.
18. WATERSTOPS SHALL BE 6 INCH FLAT RIBBED PVC WATERSTOPS R6-316 OR 4 INCH RIBBED CENTER BULB PVC WATERSTOPS RB4-316 BY VINYLEX CORPORATION. WATERSTOPS SHALL BE HEAT FUSED AT ALL JOINTS.
19. PERIMETER FOUNDATION WALL RIGID INSULATION SHALL BE STYROFOAM SQUARE EDGE BY DOW CHEMICAL COMPANY; AND LATEX MODIFIED CONCRETE FACING, TONGUE AND GROOVE FORMAT, WITH GALVANIZED CLIPS AND FASTENERS.
20. PRIOR TO CASTING CONCRETE PADS AND PIERS, BASE SLAB AND WALL SHALL BE ROUGHENED, CLEANED AND COATED WITH A CONCRETE BONDING AGENT. BONDING AGENT SHALL BE "CONCRESEIVE LIQUID (LPL)" OR "CONCRESEIVE PASTE (LPL)" BY DEGUSSA BUILDING SYSTEMS. MANUFACTURER'S INSTRUCTIONS CONCERNING SURFACE PREPARATION AND APPLICATION SHALL BE FOLLOWED.

**STRUCTURAL STEEL NOTES**

1. FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO THE DESIGN DRAWINGS, SCOPE OF WORK AND SPECIFICATIONS, AND SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATIONS.
2. LATEST REVISION AND/OR VERSION OF ALL CODES AND REFERENCE STANDARDS SHALL BE FOLLOWED.
3. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 SPECIFICATIONS. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B WITH YIELD STRESS OF 46 KSI.
4. ALL DIMENSIONS SHALL BE FIELD CHECKED BEFORE FABRICATION MAY BEGIN.
5. WELDING SHALL BE IN ACCORDANCE WITH THE AWS STRUCTURAL WELDING CODE. WELDED CONNECTIONS SHALL BE MADE WITH E70XX ELECTRODES. ROOT PASS AND TACK WELDS SHALL BE MADE WITH E8010 ELECTRODES. FILLET WELDS ON STANDARD FRAMED BEAM CONNECTIONS MAY BE 3/16 INCH MINIMUM. ALL OTHER FILLET WELDS SHALL BE 1/4 INCH MINIMUM.
6. GUSSET PLATES AND CLIP ANGLES SHALL BE 5/16 INCH THICK MINIMUM (UNLESS OTHERWISE NOTED). GENERALLY, ONE-SIDED CONNECTIONS FOR BEAMS SHALL NOT BE USED.
7. SHOP CONNECTIONS MAY BE EITHER WELDED OR BOLTED. FIELD CONNECTIONS SHALL BE BOLTED (UNLESS OTHERWISE NOTED). CONNECTIONS FOR NEW STEEL FRAMING TO EXISTING STEEL SHALL HAVE ONE END OF MEMBER BOLTED TO ALLOW FOR ADJUSTMENTS. WELDED CONNECTIONS, FIELD AND SHOP, SHALL BE CONTINUOUS FULL PENETRATION SEAL WELDS.
8. FASTENERS SHALL BE HIGH STRENGTH ASTM A325-N, 3/4 INCH DIAMETER GALVANIZED BOLTS WITH ASTM A194 GRADE 2H OR A563 GRADE DH NUTS TAPPED OVERSIZE AFTER GALVANIZING AND THREADS LUBRICATED. HARDENED WASHERS SHALL BE PROVIDED UNDER ROTATING PART OF NUT AND BOLT ASSEMBLY. CONNECTIONS NOTED WITH A325-SC BOLTS SHALL BE SLIP CRITICAL PER AISC SPECIFICATIONS.
9. BOLT HOLES SHALL NOT BE LARGER THAN 1/16 INCH PLUS DIAMETER OF THE BOLT. A MINIMUM OF TWO BOLTS PER CONNECTION SHALL BE REQUIRED.
10. WHERE BRACING FORCES ARE NOT GIVEN, DESIGN CONNECTIONS AT EACH END FOR 50% OF MEMBER CAPACITY IN TENSION.
11. ALL STRUCTURAL STEEL FRAMES INCLUDING GIRTS, PURLINS, MISCELLANEOUS STEEL, DOOR/WINDOW/OPENING FRAMES, DOORS, COMBINATION LOUVER/DAMPENR AND SHUTTERS SHALL BE PAINTED.
12. PAINT SHALL CONSIST OF ONE COAT PRIMER (6 MILS DFT) EPOXY BAR-RUST 235 AND ONE COAT FINISH (2 MILS DFT) ALIPHATIC URETHANE DEVTHANE 379 BY ICI DULUX-DEVOE COATINGS.

**FOUNDATION NOTES**

1. FOUNDATION DESIGN IS BASED UPON A NET ALLOWABLE SOIL BEARING CAPACITY OF 3,000 POUNDS PER SQUARE FOOT FOR FOOTINGS BEARING ON APPROVED NATIVE SUBGRADE SOILS OR COMPACT STRUCTURAL GRANULAR FILL.
2. CONTRACTOR SHALL FIELD VERIFY THE FOUNDATION BEARING GRADE MATERIAL AND BEARING CAPACITY DURING CONSTRUCTION. FOUNDATIONS SHALL BE PLACED ON APPROVED BEARING GRADE.
3. NO FOOTING SHALL BEAR ON EXISTING FILL, SOFT/LOOSE, ORGANIC OR OTHER UNSUITABLE SOILS. IF ENCOUNTERED, THE EXISTING FILL AND UNSUITABLE SOILS AT THE FOOTING BEARING GRADE LEVEL SHALL BE REMOVED DOWN TO COMPETENT NATIVE SUBGRADE AND EXCAVATION BACKFILLED WITH COMPACTED STRUCTURAL GRANULAR FILL IN ACCORDANCE WITH THE SPECIFICATION.
4. EXISTING UNDERGROUND PIPING, REINFORCED CONCRETE STRUCTURES, UTILITIES, ELECTRICAL CABLES AND GROUNDING SYSTEMS NOT IDENTIFIED ON THE DRAWINGS MAY EXIST. WHEN UNCOVERED, THE CONTRACTOR MUST REPORT FINDINGS TO THE ENGINEER FOR IDENTIFICATION AND RECOMMENDED ACTION.
5. BACKFILL AROUND PIPES AND CABLES AS PER SPECIFICATIONS. NO PIPES OR CONDUITS SHALL BE PLACED IN FOOTINGS.
6. WHERE PIPES OR CONDUITS RUN PERPENDICULAR TO A FOOTING, STEP THE TOP OF THE FOOTING DOWN TO ALLOW PIPES OR CONDUITS TO RUN OVER TOP OF THE FOOTING. WHERE PIPES OR CONDUITS RUN PARALLEL TO A FOOTING, STEP BOTTOM OF FOOTING DOWN SO THAT A LINE DRAWN BETWEEN THE INVERT OF PIPE OR CONDUIT AND BOTTOM OF FOOTING SHALL NOT EXCEED 30 DEGREES ABOVE THE HORIZONTAL. NO PIPING OR CONDUIT SHALL BE ALLOWED TO PASS WITHIN A 30-DEGREE PLANE OF INFLUENCE BELOW AND AWAY FROM FOOTINGS.
7. MAXIMUM WALL FOOTING STEP SHALL BE 1'-0" VERTICAL SPACED NOT LESS THAN 2'-0" ON CENTER.

**ARCHITECTURAL NOTES**

1. BUILDING SHALL CONSIST OF PRE-ENGINEERED METAL, CLEAR SINGLE SPAN RIGID FRAME WITH STRAIGHT COLUMNS (NON-TAPERED) AND GABLED ROOF BEAMS.
2. ROOF SHALL HAVE A 2:12 PITCH.
3. ROOF PANELS SHALL BE 24 GAUGE STANDING SEAM STEEL.
4. EXTERIOR WALL PANELS SHALL BE 26 GAUGE.
5. INTERIOR WALL LINER PANELS SHALL BE 28 GAUGE (STANDARD HEIGHT 8'-3").
6. BOTTOM OF STEEL BASE PLATE TO BE AT EL. 100'-7".
7. BUILDING SHALL HAVE A 6" HIGH CURB AND 1" GROUT UNDER STEEL BASE PLATES.
8. CUTOUTS AND HOLES IN WALL AND ROOF PANELS SHALL BE COMPLETELY SEALED BY MECHANICAL/ELECTRICAL CONTRACTORS WITH FIRE STOP AND WEATHER PROOF MATERIALS AFTER PIPE/DUCT/CABLE INSTALLATIONS.
9. PAINT FOR CONTROL ROOM GYPSUM BOARD WALL SHALL CONSIST OF ONE COAT PRIMER (1 MIL DFT) ULTRA-HIDE PVA (1030) AND ONE COAT FINISH (2 MILS DFT) ULTRA-HIDE LATEX ENAMEL (1418) BY ICI PAINT STORES.
10. FIRE EXTINGUISHERS: CONTROL ROOM - (2 NOS) CLASS C TYPE. OTHER AREAS - (1 NO) CLASS ABC TYPE.
11. BASED ON USE, BUILDING IS NOT INTENDED TO BE "ACCESSIBLE" PER CODE.

**PRECAST CONCRETE NOTES**

1. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
2. AIR ENTRAINED CONCRETE:
  - A. CONCRETE SHALL BE AIR ENTRAINED
  - B. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE II WITH AIR ENTRAINING ADMIXTURE CONFORMING TO ASTM C260. AIR CONTENT (% BY VOLUME) SHALL NOT BE LESS THAN 5% NOR GREATER THAN 7%.
3. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS.
4. LAP SPLICES IN REINFORCING SHALL BE IN ACCORDANCE WITH ACI 318 SPECIFICATIONS. LAP SPLICES SHALL NOT BE LESS THAN 18 INCHES.
5. CONCRETE PROTECTION FOR REINFORCING BARS SHALL BE INDUSTRY OR DOT STANDARDS, UNLESS NOTED OTHERWISE.
6. DESIGN LOADING TO MEET AASHTO HS-20-44 WITH 30% IMPACT. FOR HYDROSTATIC PRESSURE AND UPLIFT FORCES, WATER TABLE SHALL BE CONSIDERED AT THE GROUND SURFACE.
7. LIFTING HOLES IN PRECAST UNITS TO BE FILLED WITH CONCRETE REPAIR MATERIAL IN ACCORDANCE WITH NYS DOT 701-04 SPECIFICATION.

**PERMIT NOTE**

CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM CITY AND STATE AGENCIES FOR UTILITIES AND ROAD PAVEMENT INCLUDING RIGH-OF-WAY WORK.

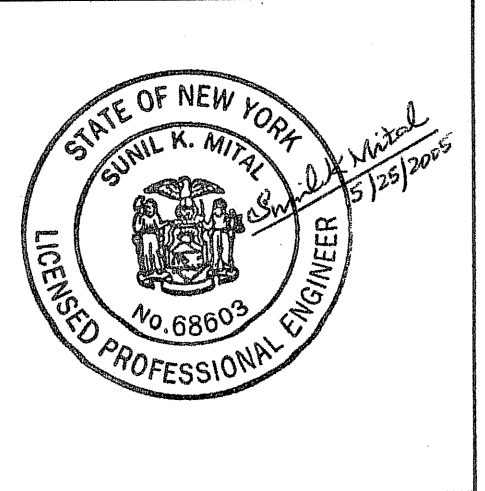
**DATE PRINTED**  
05/25/05

**100% REVIEW DRAWINGS**  
NOT FOR CONSTRUCTION

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

| No | Revision | Date | Initial |
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Approved



WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

**HOOKER/RUCO SITE  
HICKSVILLE, NEW YORK**

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**BIOSPARGE TREATMENT SYSTEM**

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**CONTROL BUILDING  
GENERAL NOTES**

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|------------------------|-------------------------|---------------------|---------------------------------------------------|
|                        |                         |                     | <b>CRA Infrastructure &amp; Engineering, Inc.</b> |
| Source Reference:      |                         |                     | Date:<br>SEPTEMBER 2003                           |
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| Scale:<br>NONE         | Project No:<br>06883-10 | Report No:<br>045   | Drawing No:<br>ST-01                              |