

Table of Contents

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

<u>Section</u>	
00 00 01	LIST OF DRAWINGS
00 72 10	GENERAL CONDITIONS
00 73 10	SUPPLEMENTARY CONDITIONS (Revised AD-2)

DIVISION 01 - GENERAL REQUIREMENTS

<u>Section</u>	
01 10 00	SUMMARY OF WORK
01 23 00	ALTERNATES
01 25 13	PRODUCT SUBSTITUTIONS
01 26 13	REQUESTS FOR INFORMATION (RFI) (Revised AD-6)
01 30 00	SUBMITTAL PROCEDURES
01 31 00	CONSTRUCTION PROGRESS DOCUMENTATION
01 31 19	PROJECT MEETINGS
01 32 26	PROGRESS REPORTS
01 35 34	PRODUCT OUTGASSING REQUIREMENTS FOR CLEANROOM CONSTRUCTION
01 35 36	LEED REQUIREMENTS
01 35 38	SUSTAINABLE DESIGN REQUIREMENTS
01 42 11	ABBREVIATIONS - ORGANIZATIONS AND STANDARDS
01 42 13	ABBREVIATIONS FOR UNITS OF MEASURE - ENGLISH SYSTEM OF UNITS (IP)
01 42 19	REFERENCE STANDARDS
01 43 39	MOCK-UPS
01 43 43	COORDINATION DRAWINGS (GC)
01 45 23	TESTS AND INSPECTIONS
01 50 00	TEMPORARY FACILITIES (Revised AD-6)
01 50 13	GENERAL CLEAN ZONE CONSTRUCTION PROCEDURES
01 61 00	ACCEPTABLE MANUFACTURERS AND PRODUCTS
01 65 00	DELIVERY, HANDLING AND STORAGE: MATERIALS AND EQUIPMENT
01 73 29	CUTTING AND PATCHING
01 74 19	CONSTRUCTION WASTE MANAGEMENT (Revised AD-3)
01 74 23	CLEANING
01 77 00	CONTRACT CLOSEOUT (GC)
01 78 23	OPERATION AND MAINTENANCE DATA
01 78 36	WARRANTIES AND GUARANTEES
01 78 39	PROJECT RECORD DOCUMENTS
01 78 43	SPARE PARTS AND MAINTENANCE MATERIALS
01 79 00	SYSTEM DEMONSTRATIONS
01 81 21	INDOOR AIR QUALITY MANAGEMENT (IAQ) DURING CONSTRUCTION
01 81 22	INDOOR AIR QUALITY PROTECTION BEFORE OCCUPANCY
01 91 13	GENERAL BUILDING SYSTEMS COMMISSIONING REQUIREMENTS

DIVISION 02 - EXISTING CONDITIONS

<u>Section</u>	
02 41 00	DEMOLITION
02 42 00	ASBESTOS CEMENT (TRANSITE) PIPE REMOVAL

DIVISION 03 - CONCRETE

Section

03 08 13	CONCRETE TESTING AND EVALUATION - CONTRACTOR (Revised AD-2)
03 11 00	CONCRETE FORMWORK
03 20 00	CONCRETE REINFORCING
03 31 00	CONCRETE MATERIALS AND PROPORTIONING (Revised AD-2)
03 31 10	CONCRETE MIXING, PLACING, JOINTING AND CURING (Revised AD-2)
03 33 00	ARCHITECTURAL CAST-IN-PLACE (ACIP) CONCRETE
03 35 00	CONCRETE FINISHING AND REPAIR OF SURFACE DEFECTS

DIVISION 04 - MASONRY

Section

04 05 05	COLD AND HOT WEATHER MASONRY PROCEDURES
04 05 10	MASONRY CLEANING
04 05 13	PORTLAND CEMENT-LIME (PCL) MORTARS & GROUT
04 05 23	MASONRY ACCESSORIES
04 22 00	CONCRETE MASONRY (CMU)
04 42 03	INDIANA LIMESTONE

DIVISION 05 - METALS

Section

05 12 10	STRUCTURAL STEEL (Revised AD-2)
05 21 10	STEEL JOISTS
05 31 23	METAL ROOF DECKING
05 45 23	EQUIPMENT SUPPORT SYSTEM (Revised AD-2)
05 50 10	MISCELLANEOUS METAL FABRICATIONS
05 50 13	STEEL STAIRS AND RAILINGS
05 52 16	EXTERIOR METAL RAILINGS
05 60 00	ALUMINUM LOUVER FENCING
05 73 00	CUSTOM METAL RAILINGS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

Section

06 10 53	CARPENTRY
06 42 16	WOOD PANELING - FLUSH

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

Section

07 13 26	SELF-ADHERING SHEET MEMBRANE WATERPROOFING
07 21 00	BUILDING INSULATION
07 27 16	SELF-ADHERING AIR BARRIER - VAPOR-RESISTIVE
07 41 13	STRUCTURAL STANDING SEAM METAL ROOF SYSTEM
07 42 13	FOAM-FILLED (INSULATED) METAL WALL PANELS
07 42 16	PREFORMED METAL SIDING
07 42 43	ALUMINUM COMPOSITE MATERIAL (ACM) SYSTEM (Revised AD-2)
07 53 25	FULLY ADHERED EPDM ROOFING (ALTERNATE)
07 54 25	FULLY ADHERED TPO ROOFING
07 62 00	FLASHING AND SHEET METAL
07 72 33	ROOF HATCHES

07 84 00	FIRESTOPPING
07 92 13	EXTERIOR JOINT SEALANTS
07 92 16	INTERIOR JOINT SEALANTS

DIVISION 08 - OPENINGS

<u>Section</u>	
08 11 13	HOLLOW METAL (HM) DOORS AND FRAMES
08 14 16	FLUSH WOOD DOORS
08 31 16	ACCESS PANELS AND DOORS
08 33 23	OVERHEAD COILING DOORS (CD)
08 34 73	SOUND CONTROL DOOR ASSEMBLIES
08 42 30	AUTOMATIC CLEANROOM SLIDING DOORS
08 44 13	CURTAIN WALL SYSTEMS (CWS)
08 71 00	DOOR HARDWARE (Revised AD-8)
08 81 02	EXTERIOR GLASS AND GLAZING
08 81 04	INTERIOR GLASS AND GLAZING
08 91 00	ARCHITECTURAL LOUVERS

DIVISION 09 - FINISHES

<u>Section</u>	
09 06 10	ROOM FINISH AND COLOR SCHEDULE
09 21 27	EXTERIOR STUD WALL SYSTEM
09 22 16	NON-LOAD BEARING METAL STUD FRAMING
09 29 00	GYPSUM WALLBOARD
09 30 00	TILE
09 51 00	ACOUSTICAL & CEILING TILE MATERIALS (AM)
09 54 24	METAL PLANK CEILINGS
09 60 05	WATER VAPOR EMISSION CONTROL FOR CONCRETE WITH APPLIED FLOORING
09 65 18	SHEET RUBBER FLOORING (SR)
09 65 19	RESILIENT TILE FLOORING (VCT), BASE (RB)
09 65 35	STATIC DISSIPATIVE SHEET RUBBER FLOORING (SDSR)
09 66 16	PRECAST TERRAZZO
09 67 26	SEAMLESS EPOXY FLOORING (SEF)
09 67 81	CONCRETE FLOOR SEALER (CFS-ND)
09 68 13	CARPET TILE (CPTT)
09 77 13	STRETCHED FABRIC PANEL SYSTEM
09 84 13	ACOUSTICAL PANEL SYSTEM
09 91 13	EXTERIOR PAINTING
09 91 23	INTERIOR PAINTING

DIVISION 10 - SPECIALTIES

<u>Section</u>	
10 11 00	MARKERBOARDS AND TACKBOARDS
10 14 23	INTERIOR SIGNAGE (Re-Issued AD-6)
10 14 43	PHOTO-LUMINESCENT SIGNAGE
10 21 12	METAL TOILET PARTITIONS
10 21 31	SHOWER CURTAINS
10 28 13	TOILET AND BATH ACCESSORIES
10 44 00	FIRE PROTECTION SPECIALTIES
10 51 13	METAL LOCKERS

DIVISION 11 - EQUIPMENT

Section

11 13 17	DOCK BUMPERS
11 24 26	HORIZONTAL LIFE LINE SYSTEM FOR FALL ARRESTMENT
11 52 13	PROJECTION SCREENS
11 53 00	LABORATORY EQUIPMENT
11 53 13	FUME HOODS AND EXHAUST DEVICES (Revised AD-2)
11 53 33	LASER SAFETY EQUIPMENT
11 53 43	LABORATORY SERVICE FITTINGS AND FIXTURES

DIVISION 12 - FURNISHINGS

Section

12 24 14	ROLLER SHADES
12 34 00	FORMALDEHYDE-FREE ARCHITECTURAL CASEWORK (AC)
12 35 53	LABORATORY CASEWORK AND OTHER FURNISHINGS (Revised AD-2)
12 36 65	ENGINEERED QUARTZ FABRICATIONS (EQF)
12 48 13	ENTRANCE MATS (EM)

DIVISION 13 - SPECIAL CONSTRUCTION

Section

13 21 25	GOWN ROOM FURNISHINGS (Issued AD-2)
13 34 39	ACOUSTICAL SHIELDED ROOMS
13 48 13	ELECTRO-PNEUMATIC CONTROLLED AIR-SPRING VIBRATION ISOLATION SYSTEM
13 49 57	RADIO FREQUENCY SHIELD ENCLOSURE (Revised AD-2)
13 60 13	SPECIAL CLEAN ZONE REQUIREMENTS
13 60 16	CLEANROOM PROTOCOL
13 60 19	CLEANROOM CERTIFICATION
13 61 16	CLEANROOM PARTITION SYSTEMS (CRPS)
13 62 17	CLEANROOM CEILING SYSTEMS (CRCS)
13 63 13	CLEANROOM RAISED ACCESS FLOORING (CRAF)

DIVISION 14 - CONVEYING EQUIPMENT

Section

14 21 23	MACHINE ROOM-LESS ELECTRIC TRACTION ELEVATOR - PASSENGER
14 24 43	HYDRAULIC ELEVATORS - SERVICE
14 43 21	SCISSORS LIFT

DIVISION 20 - MECHANICAL GENERAL REQUIREMENTS

Section

20 05 00	GENERAL MECHANICAL REQUIREMENTS
20 05 19	PIPING SPECIALTIES
20 05 23	MANUAL VALVES
20 05 29	PENETRATIONS AND SUPPORTS
20 05 50	VIBRATION ISOLATION OF MECHANICAL SYSTEMS
20 05 53	MECHANICAL IDENTIFICATION SYSTEMS
20 07 00	PIPE, DUCT AND EQUIPMENT INSULATION (Revised AD-8)
20 08 00	TESTING AND BALANCING
20 11 00	PIPE AND FITTINGS

20 12 00 WELDING PRESSURE PIPING

DIVISION 21 - FIRE SUPPRESSION

Section
21 10 00 FIRE PROTECTION SYSTEMS

DIVISION 22 - PLUMBING

Section
22 10 16 PLUMBING PIPING (Re-Issued AD-2)
22 11 00 WATER DISTRIBUTION SYSTEM
22 11 23 PLUMBING PUMPS
22 11 26 PACKAGED DOMESTIC-WATER PRESSURE-BOOSTER SYSTEM
22 13 00 SANITARY SEWERS
22 14 00 STORM DRAINAGE SYSTEM
22 14 10 PRECAST CONCRETE UTILITY STRUCTURES
22 33 00 DOMESTIC WATER HEATERS
22 42 00 PLUMBING FIXTURES
22 60 80 HIGH PURITY PLASTIC PIPING SYSTEMS
22 61 13 LABORATORY AIR SYSTEM
22 62 13 PROCESS VACUUM SYSTEMS
22 63 13 SPECIALTY GAS SYSTEMS (Re-Issued AD-2)
22 63 21 LIQUID NITROGEN PIPING SYSTEM
22 66 00 WASTE TRANSFER (Re-Issued AD-2)
22 67 19 PROCESS PIPING SYSTEMS
22 67 21 DEIONIZED WATER SYSTEM
22 67 23 PROCESS COOLING WATER SYSTEM

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING

Section
23 21 00 UNDERGROUND CHILLED WATER SYSTEMS (Issued AD-6)
23 21 10 UNDERGROUND COMPRESSED AIR DISTRIBUTION (Issued AD-6)
23 21 13 HYDRONIC PIPING SYSTEMS
23 21 23 HVAC PUMPS
23 22 00 STEAM DISTRIBUTION SYSTEM
23 31 13 AIR DISTRIBUTION SYSTEM (Revised AD-8)
23 35 00 EXHAUST AND VENTILATING FANS (Revised AD-2)
23 36 00 AIR TERMINAL UNITS AND AIR VALVES
23 57 00 HEAT EXCHANGERS AND CONVERTERS
23 73 13 PACKAGED AIR HANDLING UNITS
23 73 43 CUSTOM PACKAGED AIR HANDLING UNIT, CLEANROOMS
23 82 39 HYDRONIC HEATING AND COOLING TERMINAL UNITS
23 82 43 ELECTRIC HEATERS
23 84 13 HUMIDIFIERS (Revised AD-8)
23 90 00 MECHANICAL SYSTEMS COMMISSIONING

DIVISION 25 - INTEGRATED AUTOMATION

Section
25 22 00 LABORATORY AIR FLOW CONTROL SYSTEM
25 23 00 ADJUSTABLE FREQUENCY DRIVES
25 50 00 BUILDING MANAGEMENT AND CONTROL SYSTEM (Revised RFI #146)
25 50 50 TOXIC AND GAS MONITORING SYSTEM (Issued AD-2, Revised AD-6)

DIVISION 26 - ELECTRICAL

Section

26 00 10	ELECTRICAL GENERAL REQUIREMENTS
26 00 11	WIRING EQUIPMENT FURNISHED BY OTHERS
26 05 13	MEDIUM VOLTAGE CABLE
26 05 19	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
26 05 26	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
26 05 33	CONDUITS (Revised AD-2)
26 05 34	BOXES
26 05 35	SURFACE METAL RACEWAYS AND WIREWAYS
26 05 43	UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS
26 05 48	VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS
26 05 73	SHORT-CIRCUIT/COORDINATION/ARC FLASH STUDY
26 09 13	POWER MONITORING AND CONTROL
26 09 43	LOW VOLTAGE LIGHTING CONTROL SYSTEM
26 11 16	SECONDARY UNIT SUBSTATIONS
26 12 19	LOW VOLTAGE DISTRIBUTION TRANSFORMERS
26 23 00	LOW VOLTAGE SWITCHGEAR
26 24 13	SWITCHBOARDS
26 24 16	PANELBOARDS
26 24 19	MOTOR CONTROL EQUIPMENT
26 27 26	WIRING DEVICES
26 28 00	OVERCURRENT PROTECTIVE DEVICES
26 28 16	ENCLOSED SAFETY SWITCHES
26 32 13	DIESEL ENGINE DRIVEN GENERATOR SETS
26 36 23	AUTOMATIC TRANSFER SWITCHES (Re-Issued AD-2)
26 41 13	LIGHTNING PROTECTION SYSTEM
26 43 13	TRANSIENT VOLTAGE SUPPRESSION FOR LOW VOLTAGE EQUIPMENT
26 51 13	BUILDING LIGHTING
26 56 00	SITE LIGHTING
26 70 00	LASER ENTRYWAY CONTROL SYSTEM
26 80 00	ELECTRICAL SYSTEMS COMMISSIONING

DIVISION 27 - COMMUNICATIONS

Section

27 05 28	TELEPHONE CONDUIT SYSTEMS
27 05 32	TELECOMMUNICATIONS CABLING

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

Section

28 05 00	BASIC ELECTRONIC SECURITY REQUIREMENT
28 05 19	SECURITY DEVICES
28 31 00	FIRE ALARM SYSTEM (Revised AD-2)

DIVISION 31 - EARTHWORK

Section

31 10 00	SITE CLEARING
31 22 00	SITE EXCAVATION AND ROUGH GRADING (Revised AD-8)
31 22 19	TOPSOILING AND FINISHED GRADING
31 23 00	BUILDING EXCAVATION, FILLING, AND BACKFILLING (Revised AD-3)

31 23 33	TRENCHING, BACKILLING, AND COMPACTING FOR UTILITIES
31 23 50	HIGH PRESSURE STEAM AND CONDENSATE SYSTEMS (30 TO 150 PSIG)
31 23 60	UNDERGROUND CHILLED WATER SYSTEMS
31 23 70	EXTERIOR COMPRESSED AIR DISTRIBUTION
31 25 00	SOIL EROSION AND SEDIMENT CONTROL
31 27 00	BIORETENTION
31 50 00	EARTH RETENTION SYSTEMS (Issued AD-2)

DIVISION 32 - EXTERIOR IMPROVEMENTS

<u>Section</u>	
32 12 16	ASPHALTIC CONCRETE PAVING
32 13 13	CONCRETE PAVING AND CURBS
32 14 13	PRECAST CONCRETE PAVERS
32 14 15	PERVIOUS CONCRETE PAVING
32 31 13	CHAIN LINK FENCE AND GATES
32 92 19	SEEDING
32 92 22	WILDFLOWER SEEDING
32 93 13	PLANTS AND PLANTING

DIVISION 41 - MATERIAL PROCESSING AND HANDLING EQUIPMENT

<u>Section</u>	
41 22 00	HOISTS, TROLLEYS, AND MONORAILS

APPENDIX A – ISB FINAL DESIGN GEOTECHNICAL REPORT

APPENDIX B – OASIS GAS LINE SPEC