

GENERAL NOTES:

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- A. FOUNDATIONS:**
FOUNDATIONS FOR THE TOWER AND BASE BUILDINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH RECOMMENDATIONS OF GEOTECHNICAL REPORT NO. 0761-1044 OF AUGUST 1996 BY FUGRO-McCLELLAND INC., DALLAS, TEXAS.
- B. WIND LOADS:** - 70 MPH, EXPOSURE C, 1994 UNIFORM BUILDING CODE.
- C. EARTHQUAKE LOADS:** - SEISMIC ZONE 0.
- D. GENERAL:**
- ALL EXISTING FIELD CONDITIONS AND STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE RESIDENT ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES FOUND.
 - MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DRAWINGS SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.
 - TOWER HAS BEEN DESIGNED FOR OPERATIONAL LOADS ON COMPLETED STRUCTURE. DURING CONSTRUCTION STRUCTURE SHALL BE PROTECTED BY BRACING AND BALANCING WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR.
 - WHERE THE WEIGHT OF EQUIPMENT OR MATERIALS BEING TRANSPORTED TO LOCATION, OR TEMPORARILY STORED, EXCEEDS THE DESIGN LIVE LOAD, PLANKING SHALL BE PROVIDED ON THE FLOOR SLAB AND SHORING PROVIDED BENEATH THE FLOOR.
 - REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF WALL, ROOF AND FLOOR OPENINGS, SLEEVES AND CONCRETE PADS UNDER EQUIPMENT. THE CONTRACTOR SHALL VERIFY EXACT SIZE AND LOCATION WITH EQUIPMENT FURNISHED.
- E. PRECAST CONCRETE PANELS:**
- REINFORCED CONCRETE FOR PRECAST PANELS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF (f'c) 6000 PSI AT 28 DAYS (NORMAL WEIGHT).
 - REINFORCING STEEL SHALL BE NEW BILLET STEEL, DEFORMED BARS, CONFORMING TO ASTM SPECIFICATION A 615, GRADE 60 WITH A MINIMUM YIELD STRENGTH OF (fy) 60,000 PSI.
 - ALL REINFORCING SHALL HAVE A MINIMUM COVER OF 2" UNLESS SHOWN OTHERWISE ON DRAWINGS.
 - THE PRECAST MANUFACTURER SHALL BE RESPONSIBLE FOR PRECAST PANEL REINFORCING DESIGN FOR MANUFACTURING AND HANDLING LOADS AND LOADS AFTER THE PANELS ARE INSTALLED AT THEIR FINAL POSITION. THE DESIGN WIND PRESSURE SHALL BE IN ACCORDANCE WITH UBC-94.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRACING EACH PANEL IN POSITION BEFORE RELEASING IT FROM THE LIFTING CRANE. THESE BRACES SHALL REMAIN IN PLACE UNTIL ALL CONNECTIONS ARE COMPLETED.
 - REFER TO ARCHITECTURAL DRAWINGS FOR ALL CHAMFERS AND REVEAL STRIP LOCATIONS.
 - REFER TO ARCHITECTURAL AND STRUCTURAL DETAILS FOR TYPES AND LOCATIONS OF ALL EMBEDDED PLATES AND INSERTS WHICH SHALL BE INSTALLED ON EACH INDIVIDUAL PANEL.
 - WHERE WELDS OF PANEL CONNECTIONS ARE GREATER THAN 3/16", USE MULTIPLE PASSES ALLOWING TIME TO DISSIPATE HEAT IN ORDER TO PREVENT CRACKING OF CONCRETE PANELS.
 - NON-SHRINK MORTAR BETWEEN PANEL JOINTS SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF (f'c) 5000 PSI (NORMAL WEIGHT).
 - MISCELLANEOUS METAL FOR PRECAST WALL PANEL CONNECTIONS (ANGLES AND PLATES) SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123-89a, PREPARED AND FIELD PAINTED AS SPECIFIED.
 - THE PRECAST MANUFACTURER SHALL BE RESPONSIBLE FOR PRECAST PANEL CONNECTIONS TO THE STRUCTURE. CONNECTIONS SHOWN ON DRAWINGS ARE FOR DESIGN INTENT ONLY.
- F. STRUCTURAL STEEL:**
- ALL STRUCTURAL STEEL SHALL BE ASTM A36 UNLESS NOTED OTHERWISE.
 - ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
 - ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER ASTM A325 BOLTS (SLIP-CRITICAL CONNECTION), UNLESS NOTED OTHERWISE, AND TIGHTENED BY THE "TURN OF NUT" METHOD (TWO BOLTS PER CONNECTION MINIMUM).

- STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500-90, GRADE "B" WITH A MINIMUM YIELD STRENGTH OF 46,000 PSI.
 - ALL ANCHOR BOLTS SHALL BE ASTM A325 UNLESS NOTED OTHERWISE.
 - ALL WELDING SHALL BE DONE WITH E70 ELECTRODES IN CONFORMANCE WITH THE LATEST AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE", AWS D1.1. TYPICALLY PROVIDE BACKING BARS AS REQUIRED FOR ALL COMPLETE PENETRATION GROOVE WELDS.
 - ALL BEAM CONNECTIONS NOT SPECIFICALLY INDICATED SHALL BE FIELD BOLTED WHERE POSSIBLE AND DESIGNED BY THE CONTRACTOR. THE CONNECTION SHALL BE DESIGNED TO A MINIMUM OF 1/2 THE TOTAL UNIFORM LOAD CAPACITY AS TABULATED IN PART 2 "ALLOWABLE UNIFORM LOADS FOR BEAMS LATERALLY SUPPORTED" OF THE A.I.S.C. MANUAL OF STEEL CONSTRUCTION (NINTH EDITION) FOR THE GIVEN SHAPE, SPAN AND GRADE OF STEEL BEAM IN QUESTION. DOUBLE ANGLE SHEAR CONNECTIONS SHALL BE USED WHERE POSSIBLE.
 - COLUMN BASE PLATES, CAP PLATES, AND STIFFENER PLATES SHALL BE WELDED ALL AROUND.
 - STAIR FRAMING AND CONNECTIONS SHALL BE DESIGNED BY STAIR MANUFACTURER.
 - LIGHT GAGE METAL FRAMING SHALL CONFORM TO THE ASTM DESIGNATION AS PER THE AISI SPECIFICATIONS.
- G. METAL DECK:**
- METAL DECK SHALL CONFORM TO ASTM A 446, GRADE A, GALVANIZED WITH A MINIMUM COATING DESIGNATION OF G90.
 - METAL DECK SHALL BE DESIGNED FOR A BASIC ALLOWABLE STRESS OF 20,000 PSI (USE ONLY WITH AN INTERLOCKING SIDE LAP).
 - ROOF DECK SHALL BE 1.5", WIDE-RIB, 20 GAGE, METAL DECK (UNLESS NOTED OTHERWISE) IN CONFORMANCE WITH THE STEEL DECK INSTITUTE. ROOF DECK SHALL CONFORM TO THE FOLLOWING MINIMUM SECTION PROPERTIES: "I" = 0.212" TO THE FOURTH POWER PER FOOT. "Sp" = 0.234" & "Sn" = 0.247" TO THE THIRD POWER PER FOOT.
 - FLOOR DECK SHALL BE 2", WIDE RIB, 18 GAGE, COMPOSITE METAL DECK (UNLESS NOTED OTHERWISE) IN CONFORMANCE WITH THE STEEL DECK INSTITUTE WITH 2.5" MINIMUM NORMAL WEIGHT CONCRETE FILL REINFORCED WITH 4X4-W2.1XW2.1 WWF FLOOR DECK SHALL CONFORM TO THE FOLLOWING MINIMUM SECTION PROPERTIES: "I" = .569" TO THE FOURTH POWER PER FOOT, "Sp" = 0.523" & "Sn" = 0.522" TO THE THIRD POWER PER FOOT.
 - DIAPHRAGM ACTION SHALL BE PROVIDED FOR ALL AREAS WITH WELDING PATTERN IN ACCORDANCE WITH SPECIFIED MANUFACTURER'S RECOMMENDATIONS TO PROVIDE THE FOLLOWING SHEAR CAPACITIES. ROOF: 350 PLF FLOOR: 1000 PLF
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT OF METAL DECK FOR THE FOLLOWING OPENINGS: ROOF DRAINS, MECHANICAL PIPE OPENINGS, AND OTHER OPENINGS SMALLER THAN 12X12 INCH
 - REINFORCING IN ADDITION TO THE WELDED WIRE FABRIC SHALL BE PLACED IN THE BOTTOM OF THE FLUTES AT LOCATIONS INDICATED ON THE DRAWINGS.
- H. ALUMINUM ANCHORS, SHAPES AND CONDUITS:**
- WHERE ALUMINUM ANCHORS, ALUMINUM SHAPES, OR ALUMINUM ELECTRICAL CONDUITS ARE EMBEDDED IN CONCRETE, ALL CONTACT SURFACES SHALL BE PAINTED WITH ZINC-CHROMATE PRIMER. THE PAINT SHALL BE ALLOWED TO DRY THOROUGHLY BEFORE THE ALUMINUM IS PLACED IN CONTACT WITH THE CONCRETE.
 - ALUMINUM SURFACES TO BE PLACED IN CONTACT WITH CONCRETE, WOOD OR MASONRY CONSTRUCTION, EXCEPT WHERE THE ALUMINUM IS TO BE EMBEDDED IN CONCRETE, SHALL BE GIVEN A HEAVY COAT OF AN ALKALI-RESISTANT BITUMINOUS PAINT BEFORE INSTALLATION. THE PAINT SHALL BE APPLIED AS IT IS RECEIVED FROM THE MANUFACTURER WITHOUT THE ADDITION OF ANY THINNER.
- I. LIVE LOADS:**
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|--------------------------------|---------|
| TOWER: | |
| CAB FLOOR: | 150 PSF |
| MECHANICAL AND ELECTRICAL: | 250 PSF |
| STAIRWAYS, CORRIDORS, LOBBIES: | 100 PSF |
| CAB ROOF: | 20 PSF |
| ALL OTHER FLOORS: | 150 PSF |
| BASE-EG BUILDING: | |
| OFFICE FLOORS: | 100 PSF |
| CORRIDORS, LOBBIES: | 100 PSF |
| EQUIPMENT ROOMS: | 150 PSF |
| ROOF: | 20 PSF |
| MECHANICAL AND ELECTRICAL: | 250 PSF |
- J. FIRE PROOFING:**
SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

- K. REINFORCED CONCRETE:**
- APPLICABLE CODE:
CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF ACI 301 AND ACI 318.
 - REINFORCING STEEL DETAILS:
ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS NOTED OTHERWISE, SHALL BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315), LATEST EDITION.
 - MATERIALS:
A. ALL CAST-IN-PLACE STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH ACI AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF (f'c) 4000 PSI AT 28 DAYS, NORMAL WEIGHT.
B. REINFORCEMENT:
ALL REINFORCEMENT SHALL BE NEW BILLET STEEL, DEFORMED BARS, CONFORMING TO ASTM A615, GRADE 60 WITH A MINIMUM YIELD STRENGTH OF (fy) 60000 PSI. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185-90a.
 - CONCRETE COVER:
CONCRETE CLEAR COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS.
A. CONCRETE CAST AGAINST GROUND - 3".
B. CONCRETE IN CONTACT WITH GROUND OR EXPOSED TO WEATHER.
(1) BARS GREATER THAN #5 - 2"
(2) BARS #5 OR LESS - 1 1/2"
C. CONCRETE NOT PERMANENTLY EXPOSED TO GROUND OR WEATHER.
(1) BEAMS AND COLUMNS - 1 1/2" TO SPIRALS, TIES, OR STIRRUPS
(2) SLABS AND WALLS - 3/4"
 - CONSTRUCTION JOINTS:
ADDITIONAL CONSTRUCTION JOINTS SHALL HAVE PRIOR APPROVAL OF CONTRACTING OFFICER.
 - PENETRATIONS:
PENETRATIONS OTHER THAN SHOWN SHALL NOT BE ALLOWED WITHOUT CONTRACTING OFFICER'S APPROVAL.
 - BAR LAP SPLICE LOCATIONS FOR GRAVITY LOADS:
ALL BOTTOM BARS MAY BE SPLICED AT SUPPORT ONLY. TOP BARS MAY BE SPLICED AT CENTER OF SPAN ONLY.
 - RESTRICTED BAR ANCHORAGE:
IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.
 - STANDARD HOOKS:
BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF PAR 7.1, ACI 315.
 - CHAMFERS:
EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS, UON.
 - SLABS-ON-GRADE:
SLABS-ON-GRADE, UNLESS NOTED OTHERWISE, SHALL BE 6 INCHES THICK, REINFORCED WITH #3 @ 12" C/C, EW, TOP AND BOTTOM, OVER VAPOR BARRIER.
 - WATER STOP:
WATER STOP SHALL BE GREENSTREAK TYPE-R THERMOPLASTIC ELASTOMERIC RUBBER WATERSTOP, 4" WIDE, DUMBELL TYPE OR APPROVED EQUAL.

13. BAR SPLICES:
ALL DOWEL AND LAP LENGTHS SHALL BE AS SHOWN IN TABLE, UNLESS NOTED OTHERWISE.

TENSION LAP SPLICE LENGTHS (INCHES) FOR f'c = 4000 PSI AND fy = 60,000 PSI

BAR SIZE	CLASS	TOP BARS CATEGORY						OTHER BARS CATEGORY					
		1	2	3	4	5	6	1	2	3	4	5	6
#3	A B	16 21	16 21	16 21	16 21	16 21	16 21	13 13	13 13	13 13	13 13	13 13	13 13
#4	A B	23 30	22 28	22 28	22 28	22 28	22 28	18 23	17 22	17 22	17 22	17 22	17 22
#5	A B	36 46	29 37	27 35	27 35	27 35	27 35	27 36	27 29	27 27	27 27	27 27	27 27
#6	A B	50 65	40 52	35 46	32 42	32 42	32 42	39 50	31 40	27 35	25 32	25 32	25 32
#7	A B	69 89	55 71	48 63	39 50	38 49	38 49	53 69	42 55	37 48	30 39	29 38	29 38
#8	A B	90 117	72 94	63 82	51 66	45 49	43 56	70 90	56 72	49 63	39 51	35 45	33 43
#9	A B	114 148	91 119	80 104	64 83	57 74	48 63	88 114	70 91	62 78	49 64	44 57	37 48
#10	A B	145 188	116 151	102 132	81 106	73 94	58 76	89 145	78 102	63 81	56 73	45 58	45 58
#11	A B	178 231	142 185	125 162	100 130	89 116	71 93	137 178	110 142	96 125	77 100	69 89	55 71

- WHERE d_b = NOMINAL DIAMETER OF A BAR
- CLASS A = EMBEDMENT OR STAGGERED LAP LENGTH; CLASS B = TYPICAL LAP LENGTH
 - LAP SPLICES MAY BE CLASS A ONLY IF NOT MORE THAN 50% OF BARS ARE LAP SPLICED WITHIN ONE LAP LENGTH.
 - TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BARS.
 - OTHER BARS ARE ALL BARS OTHER THAN TOP BARS.
 - VALUES OF l_d FOR BARS IN BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT MEETING MINIMUM REQUIREMENTS FOR STIRRUPS IN ACI 11.5.4 AND 11.5.5.3, OR MEETING TIE REQUIREMENTS IN ACI 7.10.5; AND ARE BASED ON MINIMUM COVER SPECIFIED IN ACI 7.7.1.
 - #11 AND SMALLER EDGE BARS WITH C/C SPACING NOT LESS THAN $6d_b$ ARE ASSUMED TO HAVE A SIDE COVER NOT LESS THAN $2.5d_b$. OTHERWISE, CATEGORY 5 APPLIES RATHER THAN CATEGORY 6.

STRUCTURAL ELEMENT	CONCRETE COVER	CATEGORY, ACCORDING TO CENTER-TO-CENTER BAR SPACING			
		$\leq 3d_b$	$>3d_b$ $<4d_b$	$\geq 4d_b$ $<6d_b$	$\geq 6d_b$
BEAMS, COLUMNS, AND INNER LAYER OF WALLS OR SLABS	$\leq d_b$ $> d_b$	1	1	1	1
OTHER	$\leq d_b$ $> d_b < 2d_b$ $\geq 2d_b$	1	3	3	4

REV. DATE DESCRIPTION DFTG. CHECKED

STATE OF TEXAS
Nikhil B. Parekh
REGISTERED PROFESSIONAL ENGINEER
No. 61221

PARSONS
DALLAS, TX

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGION FORT WORTH, TEXAS

LOW ACTIVITY LEVEL
AIRPORT TRAFFIC CONTROL TOWER

GENERAL NOTES
ATCT/BASE-EG BUILDING
(ADDISON AIRPORT) TEXAS

ADDISON
SUBMITTED: *[Signature]*
SYSTEMS ENGINEER, ANI-640

APPROVED: *[Signature]*
MANAGER TERMINAL PLATFORM, ANI-640

DESIGNED BY: A. RAB/N.P.
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FACILITY:

ISSUED BY: AIRWAY FACILITIES DIVISION
DATE: 06-22-01
DRAWING NUMBER: ADS-ATCT- S01

S01