GEORGE C. MARSHALL SPACE FLIGHT CENTER

HUNTSVILLE, ALABAMA

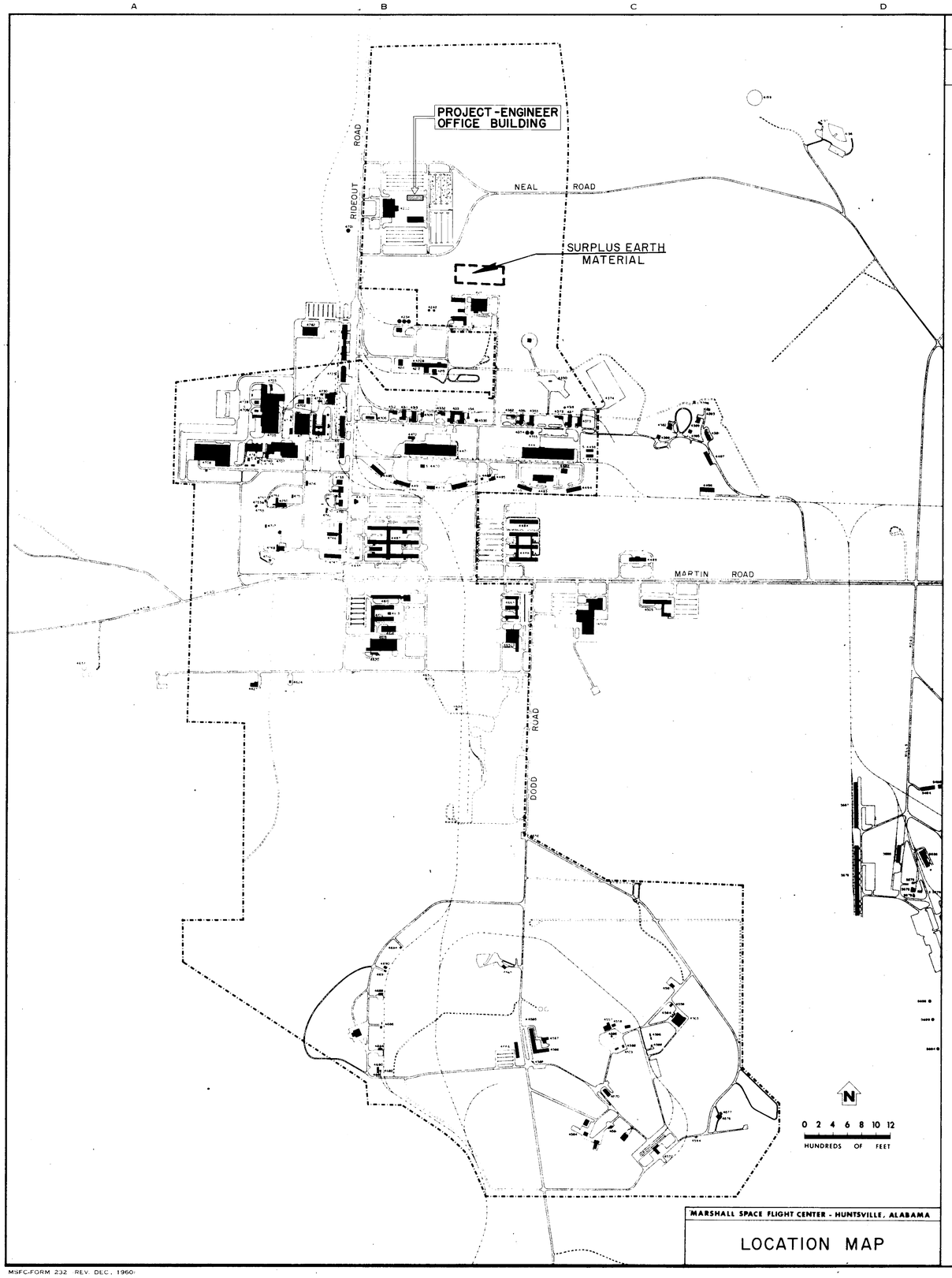
PROJECT ENGINEER OFFICE BUILDING

NO. 4202

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

HUDGINS-THOMPSON-BALL & ASSOC., INC.
ARCHITECT - ENGINEER
OKLAHOMA CITY, OKLAHOMA

4202



MARSHALL SPACE FLIGHT CENTER - HUNTSVILLE, ALABAMA

LOCATION MAP

DRAWING INDEX

BUILDING NO. 4202

MSFC FILE NO.	DWG. NO.	REFN	
			CIVIL
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			ARCHITECTURAL
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8893	F&D-A-4202-A-2	A-2	FIRST FLOOR PLAN
8894	F&D-A-4202-A-3	A-3	SECOND FLOOR PLAN & DETAILS
8895	F&D-A-4202-A-4	A-4	THIRD & FOURTH FLOOR PLANS
8896	F&D-A-4202-A-5	A-5	FIFTH & SIXTH FLOOR PLANS
8897	F&D-A-4202-A-6	A-6	PENTHOUSE & ROOF PLANS
8898	F&D-A-4202-A-7	A-7	ROOM FINISH & COLOR SCHEDULE
8899	F&D-A-4202-A-8	A-8	ROOM FINISH & COLOR SCHEDULE
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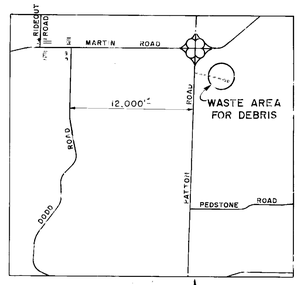
8901	F&D-A-4202-A-10	A-10	NORTH REAR EXTERIOR ELEVATION
8902	F&D-A-4202-A-11	A-11	EAST END EXTERIOR ELEVATION
8903	F&D-A-4202-A-12	A-12	SOUTH FRONT EXTERIOR ELEVATION
8904	F&D-A-4202-A-13	A-13	WEST END EXTERIOR ELEVATION
8905	F&D-A-4202-A-14	A-14	WALL SECTIONS & DETAILS
8906	F&D-A-4202-A-15	A-15	WALL SECTIONS & DETAILS
8907	F&D-A-4202-A-16	A-16	FRONT ENTRANCE DETAILS
8908	F&D-A-4202-A-17	A-17	TYPICAL COLUMN DETAILS
8909	F&D-A-4202-A-18	A-18	COVERED WALK CANOPY DETAILS
8910	F&D-A-4202-A-19	A-19	STAIR SECTIONS & DETAILS
8911	F&D-A-4202-A-20	A-20	ELEVATOR SECTIONS & DETAILS
8912	F&D-A-4202-A-21	A-21	BUILDING SECTIONS & DETAILS
8913	F&D-A-4202-A-22	A-22	1/4" SCALE CORE PLANS & TOILET ELEVATIONS
8914	F&D-A-4202-A-23	A-23	MISCELLANEOUS DETAILS
8915	F&D-A-4202-A-24	A-24	ENLARGED FOOD SERVICE PLAN
8916	F&D-A-4202-A-25	A-25	CAFETERIA ELEVATIONS & DETAILS
			STRUCTURAL
8917	F&D-A-4202-S-1	S-1	FOUNDATION & BASEMENT FRAMING PLAN & DETAILS
8918	F&D-A-4202-S-2	S-2	FIRST FLOOR FRAMING PLAN-SCHEDULES & DETAILS
8519	F&D-A-4202-S-3	S-3	TYPICAL FLOOR FRAMING PLAN - SCHEDULES & DETAILS
8920	F&D-A-4202-S-4	S-4	PENTHOUSE - LOW ROOF & MACHANICAL FLOOR PLAN - SCHEDULES - DETAILS
8921	F&D-A-4202-S-5	S-5	TYPICAL FLOOR & LOW ROOF DECK FRAMING PLANS GENERAL NOTES - FOUNDATION & CONCRETE
8922	F&D-A-4202-S-6	S-6	COLUMN SCHEDULE & DETAILS
			PLUMBING
8923	F&D-A-4202-P-1	P-1	BASEMENT PLUMBING PLAN
8924	F&D-A-4202-P-2	P-2	FIRST FLOOR PLUMBING PLAN
8925	F&D-A-4202-P-3	P-3	SECOND & THIRD FLOOR PLUMBING PLAN
8926	F&D-A-4202-P-4	P-4	FOURTH & FIFTH FLOOR PLUMBING PLAN
8927	F&D-A-4202-P-5	P-5	SIXTH FLOOR & PENTHOUSE PLUMBING PLAN
8928	F&D-A-4202-P-6	P-6	CORE PLANS & RISER DIAGRAMS
			MECHANICAL
8929	F&D-A-4202-M-1	M-1	BASEMENT FLOOR PLAN-AIR CONDITIONING
8930	F&D-A-4202-M-2	M-2	FIRST FLOOR PLAN-AIR CONDITIONING
8931	F&D-A-4202 M-3	M-3	FIRST FLOOR PLAN AIR CONDITIONING
8932	F&D-A-4202-M-4	M-4	TYPICAL & SIXTH FLOOR PLAN-AIR CONDITIONING
8933	F&D-A-4202 M-5	M-5	SECOND & THIRD FLOOR PLAN-AIR CONDITIONING
8934	F&D-A-4202-M-6	M-6	FOURTH & FIFTH FLOOR PLAN-AIR CONDITIONING
8935	F&D-A-4202 M-7	M-7	SIXTH & PENTHOUSE FLOOR PLAN-AIR CONDITIONING
8936	F&D-A-4202-M-8	M-8	SCHEDULES & DETAILS-AIR CONDITIONING
8937	F&D-A-4202-M-9	M-9	RISER DIAGRAMS & DETAILS
8938	F&D-A-4202-M-10	M-10	AIR CONDITIONING & DETAILS
8939	F&D-A-4202-M-11	M-11	SECTIONS & DETAILS
8940	F&D-A-4202 M-12	M-12	AIR CONDITIONING CONTROLS
			ELECTRICAL
8941	F&D-A-4202-E-1	E-1	ELECTRICAL PLOT PLAN AND DETAILS
8942	F&D-A-4202-E-2	E-2	ELECTRICAL RISER DIAGRAMS AND SCHEDULES
8943	F&D-A-4202 E-3	E-3	ELECTRICAL 120/208 PANEL DIAGRAMS
8944	F&D-A-4202 E-4	E-4	SWITCHGEAR PLAN AND DETAILS
8945	F&D-A-4202-E-5	E-5	SYMBOLS AND FIXTURES
8946	F&D-A-4202-E-6	E-6	BASEMENT FLOOR PLANS-POWER-LIGHTING
8947	F&D-A-4202-E-7	E-7	FIRST FLOOR PLAN-POWER
8948	F&D-A-4202 E-8	E-8	FIRST FLOOR PLAN-LIGHTING
8949	F&D-A-4202E-9	E-9	SECOND FLOOR PLAN - POWER-LIGHTING
8950	F&D-A-4202-E-10	E-10	THIRD FLOOR PLAN-POWER-LIGHTING
8951	F&D-A-4202-E-11	E-11	FOURTH FLOOR PLAN-POWER-LIGHTING
8952	F&D-A-4202-E-12	E-12	FIFTH FLOOR PLAN - POWER-LIGHTING
8953	F&D-A-4202-E-13	E-13	SIXTH FLOOR PLAN - POWER-LIGHTING
8954	F&D-A-4202-E-14	E-14	TYPICAL FLOOR CORE PLAN AND ROOF PLAN
8955	F&D-A-4202-E-15	E-15	MANHOLE DETAILS
8961	F&D-A-4202 E-16	E-16	SIGNAL RACEWAY SYSTEM & DETAILS
8962	F&D-A-4202 E-17	E-17	ELECTRICAL KITCHEN LAYOUT



INSERT
NO SCALE

REF NO. C-1

REV	BY	DATE	C'I NO	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING

MSFC — HUNTSVILLE, ALABAMA

LOCATION MAP & INDEX

NASA AE CONT. NO. NAS8-12,015 — FILE NO. 8883 MSFC

SUBMITTED CHIEF Ed Hudgins — APPROVAL RECOMMENDED CHIEF DESIGN BRANCH — APPROVED R.O. Binney Jr.

AE DATE 3/13/64 — LAB DATE — NASA DATE 3-16-64

DESIGNED — DRAWN SMITH — CHECKED HARRIS — APPROVAL RECOMMENDED Chief SECTION — DESIGN DATE Nov. 16, 1964 — SCALE AS NOTED — SPEC NO. F&D-441

DRWG. NO. F&DA4202-C-1

MSFC-FORM 232 REV. DEC. 1960

4202

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STORM DRAINAGE PIPE & STRUCTURE SCHEDULE

STRUCTURE FROM	STRUCTURE TO	PIPE LENGTH FEET	CONCRETE, CLAY OR SMOOTH INTERIOR C.M. DIA.	SLOPE %	CLASS R.C.P.	GAGE C.M.P.	CORRUGATED METAL PIPE DIA. INCHES	SLOPE %	GAGE	NO.	TYPE OF STRUCTURE	STRUCTURE INVERT ELEVATION IN	STRUCTURE INVERT ELEVATION OUT	TOP ELEV. M.H., CURB OR GRATE	TYPE GRATE	NO. GRATE	REMARKS
																	CONC. n=0.013, C.M. n=0.021
1	2	70	12"	0.80	III	16	12"	0.80	16	①	CURB INLET	——	G43.76	G47.11	—		
2	3	70	12"	0.75	III	16	12"	0.75	16	②	CURB INLET	G43.20	G43.10	G46.69	—		
3										③	CURB INLET	G42.57	15"-G41.32	G46.27	—		
4	13	118	10"	C.I.P.		16	11"	0.55	16	④	INLET	——	G42.27	G44.75	T	1	SEE SHEET NO. A-2 FOR LOCATION OF INLET ④
3A	5	80	12"	0.40	III	16	12"	0.40	16	3A	EXTENDED CURB INLET		G41.77	G45.50			
3	5	45	15"	0.70	III	16	15"	0.70	16								
5	—		EXISTING 18" C.M.P. @ 1.02% SLOPE							⑤	CURB INLET	15"-G40.50 12"-G41.69	EXISTING G40.25	G45.1			EXISTING INLET MODIFIED SEE DETAIL SH. NO. C-4
6	7	70	12"	0.55	III	16	12"	1.40	16	⑥	EXTENDED CURB INLET	——	R.C.P. G37.39 C.M.P. G44.00	G47.64			
7	8	70	15"	0.26	III	16	18"	0.65	16	⑦	EXTENDED CURB INLET	R.C.P. G42.00 C.M.P. G43.02	R.C.P. G41.50 C.M.P. G42.52	G48.08			
8	9	128	21"	0.26	III	16	21"	0.65	16	⑧	EXTENDED CURB INLET	R.C.P. G41.99 C.M.P. G42.92	R.C.P. G41.07 C.M.P. G41.81	G48.51			
9	10	70	24"	0.24	III	16	24"	0.58	16	⑨	EXTENDED CURB INLET	R.C.P. G40.74 C.M.P. G40.98	R.C.P. G40.45 C.M.P. G40.75	G47.50			
10	—									⑩	HEADWALL	——	R.C.P. G40.28 C.M.P. G40.32	—			
11	12	80	15"	0.40	III	16	15"	0.40	16	⑪	INLET	——	G41.82	G43.50	F	1	
12	—									⑫	HEADWALL	——	G41.50	—			
13	14	240	12"	0.50	III	16	12"	0.50	16	⑬	INLET	G41.62	G41.45	G44.0	F	1	
14	—	—	21"	0.80						⑭	EXISTING INLET	12"-G40.55 15"-G40.00	G39.50	G43.5	F	1	
15	16	44	12"	0.00	III	16	12"	0.30	16	⑮	INLET	——	G41.47	G46.0	F	1	
16	14	148	15"	0.25	III	16	15"	0.25	16	⑯	INLET	G41.21	G43.82	G46.7	F	1	
14	—									⑭		15"-G40.00					
17	14	38	12"	0.80	III	16	12"	0.80	16	⑰	INLET		G40.55	G43.5	F	1	
14	—									⑭		12"-G40.55					
18	19	44	——	——	——	——	24"	0.55	16	⑱	HEADWALL	G25.24	——	——			
										⑲	HEADWALL	——	G25.00	——			

LEGEND

NEW		EXISTING
	BUILDING	
	R.C. CONCRETE	
	ASPHALTIC CONCRETE	
	CURB	
	CURB & GUTTER	
G45	CONTOURS	G45
G48.0	SPOT FINISH GRADE	G41.75
② ③	INLET, DRAIN & HEADWALL	
A	SECTION DETAIL	
M-269	TEST HOLE	
	RC. CONCRETE TO BE REMOVED	
	CURB TO BE REMOVED	
	RETAINING WALL	
	APPROX. GRADING LIMITS	

SCALE : 1" = 30'

PLAN
JUNCTION NEAL ROAD NORTH
NEAL ROAD SOUTH & NEAL ROAD
SCALE : 1" = 50'

GENERAL NOTE

1. AT LOCATIONS WHERE NEW PAVEMENT, CURB, OR CURB & GUTTER JOINS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE REMOVED AS REQUIRED BACK FROM THE RAVELED EDGES, ALONG A SAWED CUT TO PROVIDE A NEAT JOINT BETWEEN NEW AND EXISTING PAVEMENT.

REV.	BY	DATE	REVISION	C. I. NO.	APPROVED
3	RLL	10-30-64	REVISED NEW CONTOURS	12038-1	
2	RLL	5-14-64	DELET & STEPS, REVISED GRADES & LIMITS	6038-16	
1	RLL	1-21-64	REVISED COOLING TOWER	12038-11	
REV.	BY	DATE	AS BUILT	C. I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING

M S F C – HUNTSVILLE, ALABAMA

PLOT PLAN - PAVING, GRADING & DRAINAGE

NASA AE CONT. NO. NAS8 - 12,015 — FILE NO. M S F C 8884

SUBMITTED: CHIEF — AE DATE: 3/13/64 — APPROVAL RECOMMENDED: LAB. DATE: — APPROVED: CHIEF, DESIGN BRANCH — MASA DATE: 3-16-64

DESIGNED SMITH — DRAWN — CHECKED HARRIS — SCALE: AS NOTED — APPROVAL RECOMMENDED: SECTION — DESIGN DATE: — SPEC. NO. F&D-441 — DRWG. NO. F&D-A4202-C2

REF. NO. C-2

MSFC-FORM 232 (REV. APRIL 1962)

4202

NORTH NEAL ROAD

STOCKPILE

APPROXIMATE GRADING LIMITS

FOR DETAILS OF PARKING AREA SEE DWG. REF. NO. C-2

21" SD

SD 24"

SCALE : 1" = 30'

0 30 50 100

*NOTE:
FOR GRADING WEST OF NEW CONTOUR 644 SEE SHEET C-2.

REV.	BY	DATE		C.I. NO.	APPROVED
1	RLL	6-28-65	REVISED NEW CONTOURS	12038-17	B

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

M S F C
HUNTSVILLE, ALABAMA

PROJECT ENGINEER OFFICE BUILDING

GRADING PLAN-EAST AREA

NASA AE CONT. NO.

FILE NO. M S F C 8884 A

SUBMITTED: CHIEF A&E DATE:	APPROVAL RECOMMENDED: LAB. DATE:	APPROVED: CHIEF, DESIGN BRANCH NASA DATE: MAY 14, 1965	
DESIGNED JEH DRAWN JEH CHECKED RL SCALE: 1" = 30'	APPROVAL RECOMMENDED: CHIEF, CIVIL SECTION DESIGN DATE: MAY 13, 1965 SPEC. NO. F&D-441	DRWG. NO. F&D-A4202-C2A	

REF NO. C-2A

C.I. 12038-17

MSFC-FORM 232 (REV. APRIL 1962)

4202

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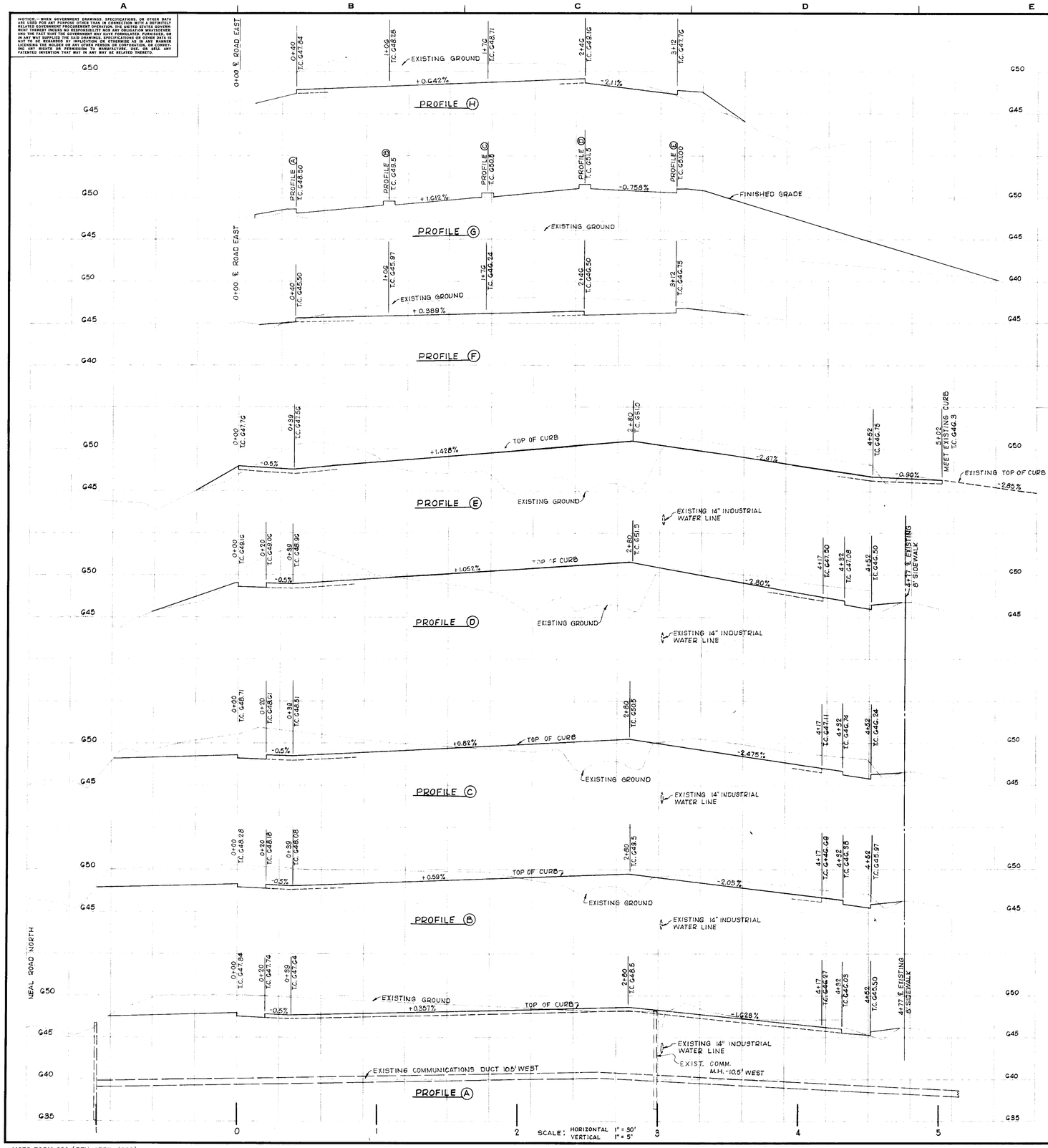

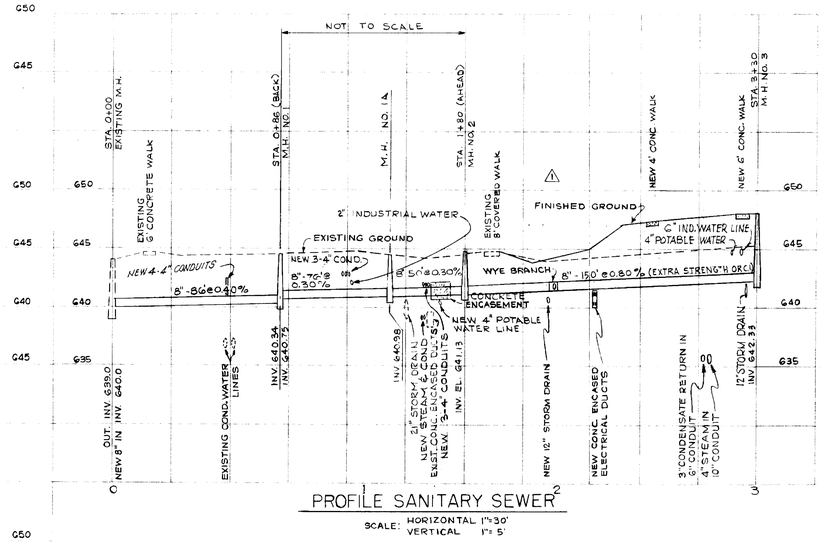

PROFILE SANITARY SEWER

SCALE: HORIZONTAL 1"=30'
VERTICAL 1"=5'

AS BUILT

REV.	BY	DATE		C.I. NO.	APPROVED
1	RLL	5-14-66	REVISED SAN. SEWER PROFILE	12038-18	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING

M S F C - HUNTSVILLE, ALABAMA

PAVING PROFILES

NASA AE CONT. NO. NAS8 - 12,015 — FILE NO. M S F C 8885

SUBMITTED: CHIEF, AE [illegible] 3/13/64 — APPROVAL RECOMMENDED: LAB. DATE: — APPROVED: CHIEF, DESIGN BRANCH NASA DATE: 3-16-64

DESIGNED — DRAWN SMITH — CHECKED HARRIS — SCALE: AS NOTED

APPROVAL RECOMMENDED: CHIEF, CIVIL SECTION — DESIGN DATE: 16 MARCH 64 — SPEC. NO. F & D - 441

DRWG. NO. F&D-A4202-C 3

REF. NO. C-3

MSFC-FORM 232 (REV. APRIL 1962)

4202

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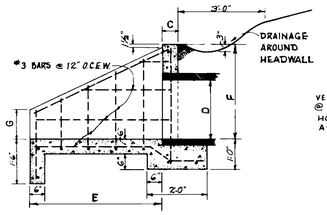

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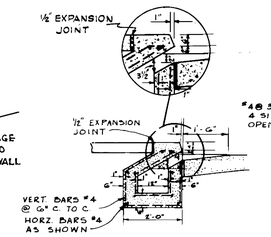
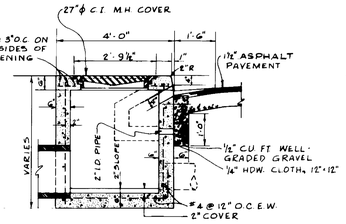


SECTION A-A



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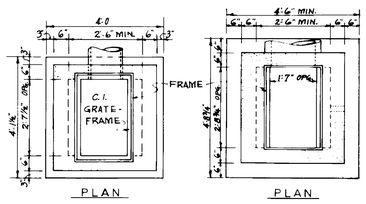
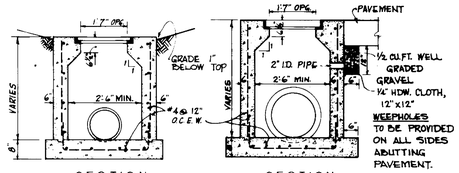
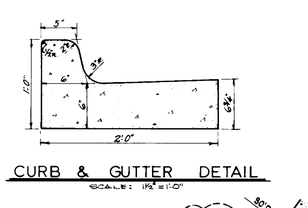


PLAN

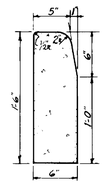


SECTION TYPE "F" — SECTION TYPE "T"

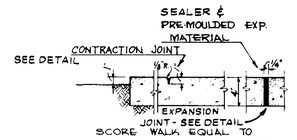
INLET DETAILS
SCALE: ½" = 1'-0"



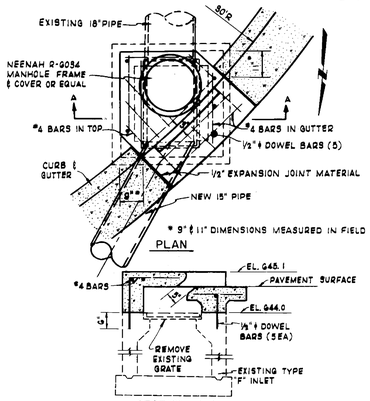
CURB & GUTTER DETAIL
SCALE: 1½" = 1'-0"



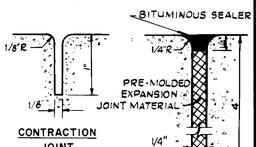
CONCRETE CURB
SCALE: 1½" = 1'-0"



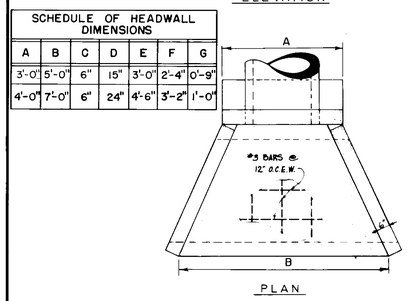
CONCRETE WALK
SCALE: 1½" = 1'-0"



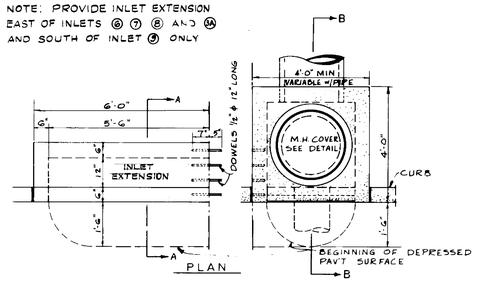
INLET #5 MODIFICATION DETAIL
SCALE: ½" = 1'-0"



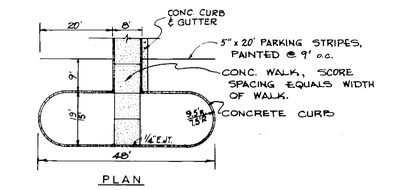
SIDEWALK JOINT DETAILS
SCALE 1" = 1'



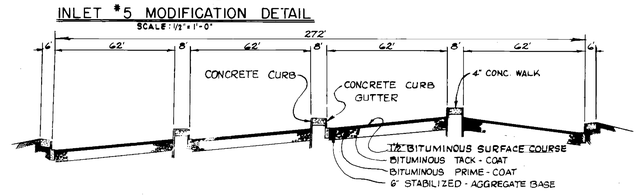
HEADWALL DETAILS
NO TO SCALE



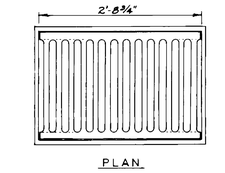
CURB INLET DETAILS
SCALE: ½" = 1'-0"



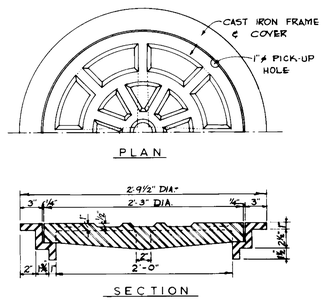
TYPICAL PARKING ISLAND
SCALE: 1½" = 1'-0"



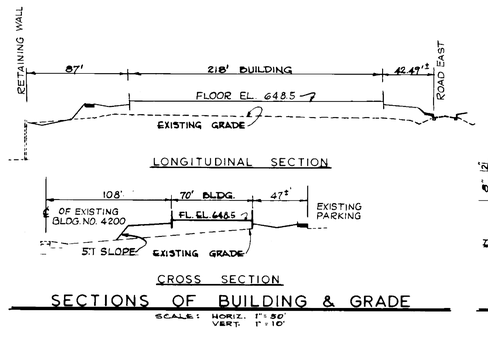
CROSS-SECTION OF PARKING LOT
SCALE: HORIZ. 1"=30' VERT. 1"=3'



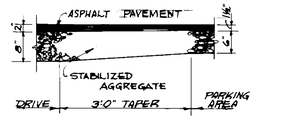
TYPE "T" GRATE DETAILS
SCALE: 1" = 1'-0"



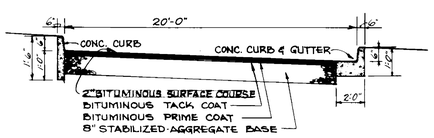
MANHOLE FRAME & COVER DT'L.
SCALE: 1½" = 1'-0"



SECTIONS OF BUILDING & GRADE
SCALE: HORIZ. 1"=50' VERT. 1"=10'

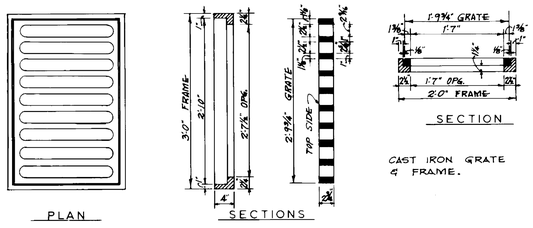


SECTION OF PAVEMENT TRANSITION
SCALE: ¾" = 1'-0"

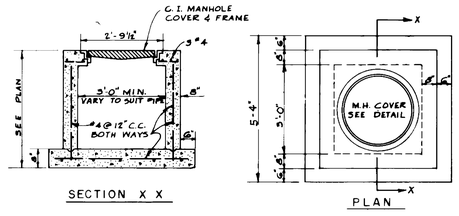


TYPICAL SECTION OF DRIVE TO PARKING AREA
SCALE: HORIZ. 1"=40' VERT. 1"=20'

AS BUILT



TYPE "F" GRATE DETAILS
SCALE: 1" = 1'-0"



MANHOLE DETAIL
N.T.S.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC
ARCHITECTS - ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING

M S F C - HUNTSVILLE, ALABAMA

EXTERIOR DETAILS

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. MSFC 888C

SUBMITTED CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED Lowell Pace Eng — APPROVED CHIEF DESIGN BRANCH — DATE

AE DATE 11/17/62 — DATE — NASA DATE

DESIGNED DRAWN AS TRAILER CHECKED D.L.L. — APPROVAL RECOMMENDED CHIEF CIVIL SECTION — DRWG NO. FED-A4202-C4

SCALE AS NOTED — DESIGN DATE 16 MARCH 1964 — SPEC NO. FED-44

REF. NO. C-4

MSFC-FORM 232 (REV. DEC. 1960)

4202

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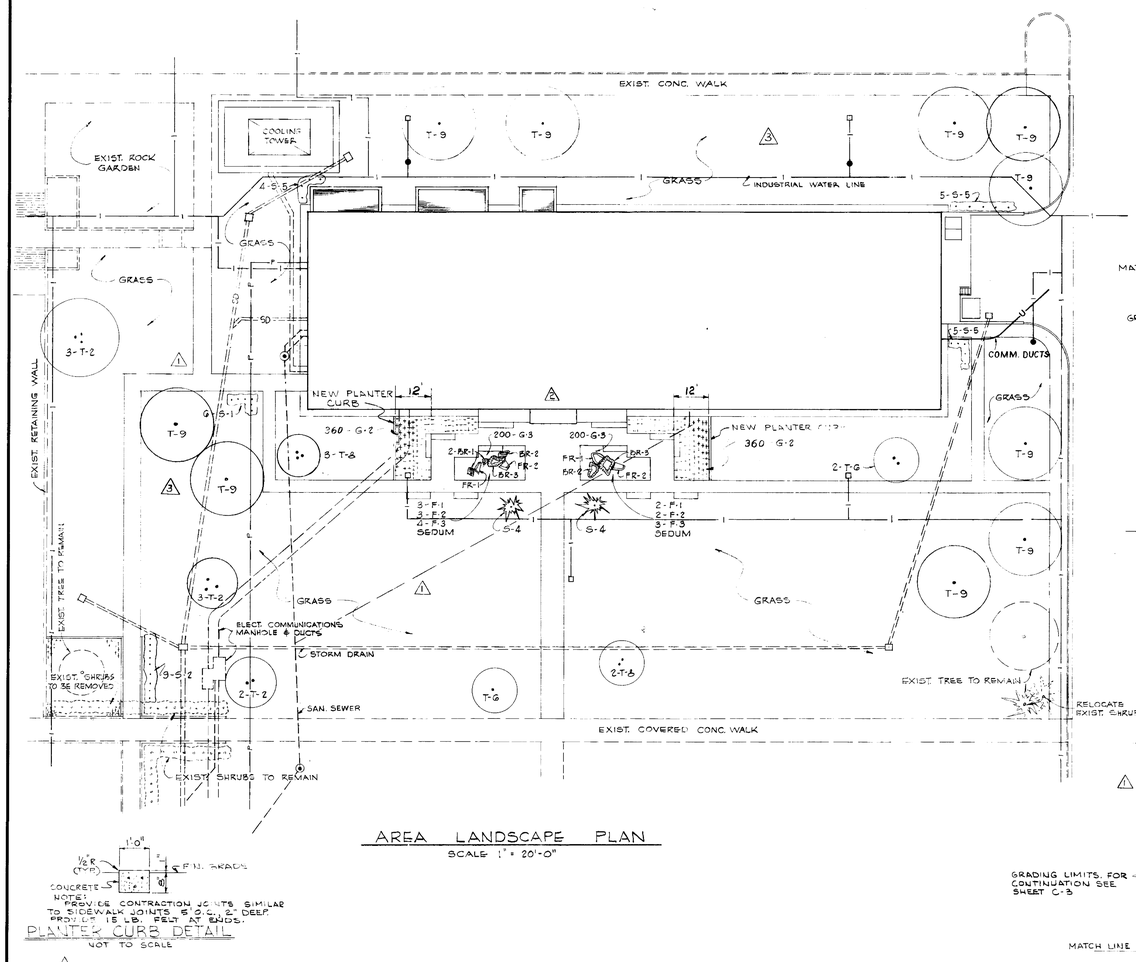
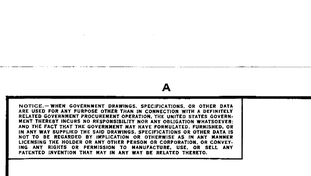


AREA LANDSCAPE PLAN

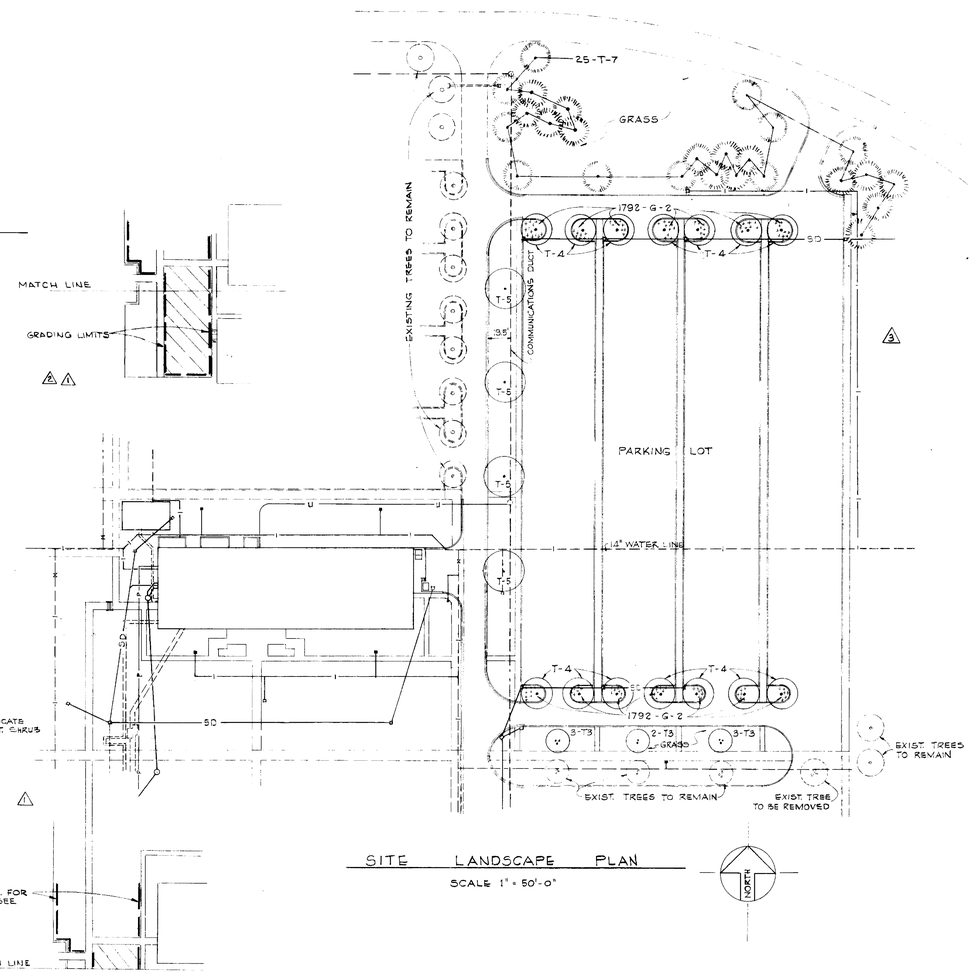
SCALE 1" = 20'-0"



NOTE:
PROVIDE CONTRACTION JOINTS SIMILAR TO SIDEWALK JOINTS 5'-0" C. & ½" DEEP. PROVIDE ½" I.B. FELT AT ENDS.

PLANTER CURB DETAIL

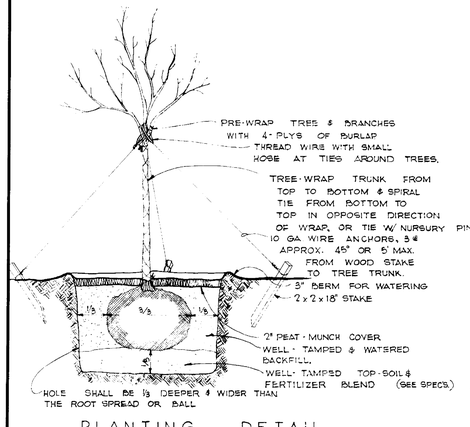
NOT TO SCALE



SITE LANDSCAPE PLAN

SCALE 1" = 50'-0"

NORTH



PLANTING DETAIL

NOT TO SCALE

LIST OF SEDUM

S. ACRE — MOSSY STONECROP
S. ALBERTI
S. ANGLICUM
S. PULCHELLUM — FLOWERING MOSS
S. REFLEXUM — YELLOW STONECROP
S. SPURIUM COCCINEUM

PLANT EQUAL VARIETY AMONG ROCKS.

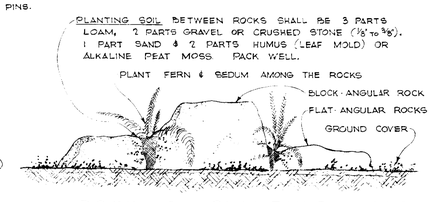
PLANT AMONG FERN IN ROCKS AREAS.

SEDUM SOIL SHALL BE AS NOTED BELOW.

ROCK SCHEDULE

NO	SIZE (POUNDS)
	BLOCK-ANGULAR
BR-1	50 TO 100
BR-2	101 TO 250
BR-3	251 TO 500
	FLAT-ANGULAR
FR-1	50 TO 100
FR-2	101 TO 250

△2 USE LOCAL ROCKS FROM AREAS APPROX. 100' SOUTHWEST OF BLD'G. #4201. RELOCATE APPROX. 20 ROCKS.



ROCK & PLANTING DETAILS

NOT TO SCALE

PLANT SCHEDULE

ITEM	NO	TYPE	BOTANICAL NAME	COMMON NAME	MATURE HT. OR SPR	PLANTING HEIGHT	PLANTING ROOT	SPEC. SPACING	REMARKS
TREES	T-2	D	CORNUS FLORIDA RUBRA	REDFLOWERING DOGWOOD	20'	4'-5'	B&B		
	T-3	D	LAGERSTROEMIA INDICA, WM. TOOVEY	CRAPEMYRTLE, RED	15'	7'-3'	B&B		
	T-4	D	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	120'	8'-10'	B&B		
	T-5	D	LIRIODENDRON TULIPIFERA	TULIP TREE (YELLOW POPLAR)	150'	8'-10'	B&B		
	T-6	D	MALUS FLORIBUNDA	SHOWY CRABAPPLE	20'	4'-5 BR	B&B		
	T-7	E	PINUS TAEDA	LOBLOLLY PINE	90'-120'	4'-5'	B&B	30'	
	T-8	D	PRUNUS SUBHIRTELLA PENDULA	JAP. ROSEBUD WEEPING CHERRY	20'-30'	5'-6'	B&B		
	T-9	D	QUERCUS COCCINEA	SCARLET OAK	60'	10'-12'	B&B		
SHRUBS	S-1	E	ABELIA EDWARD GOUCHER	PINK ABELIA	4' SPR.	18"-24"	B&B	36"	
	S-2	D	CHAENOMELES LAGENARIA	JAP. FLOWERING QUINCE	6'	18"-24"	B&B	36"	
	S-3	E	ILEX CORNUTA BURFORDI	BURFORD'S CHINESE HOLLY	8'	18"-24"	B&B	36"	
	S-4	E	JUNIPERUS GLAUCA HETZI	HETZ'S BLUE SPR. JUNIPER	12' SPR	15"-24"	B&B		
	S-5	E	LIGUSTRUM LUCIDUM	GLOSSY PRIVET (WAXLEAF)	6'	24"-30"	B&B	36"	
GROUND COVER	G-1	E	EUONYMUS FORTUNEI COLORATA	SPREADING WINTERCREEPER	8" SPR.	12"-15"	POT	12"	MAY BE MOWED IN MARCH
	G-2	E	OPHIOPOGON JAPONICUS	LILY-TURF	8"-10"	4"-6"	2½" POT	12"	
	G-3		AJUGA REPTANS ATROPURPUREA	BRONZE AJUGA (BUGLEWEED)	4"-10"	3"-6"	2½" POT	12"	
FERN	F-1		ATHYRIUM FILIX-FEMINA	LADY FERN	24"-30"	6"-8"	2½" POT	12"	
	F-2		DRYOPTERIS MARGINALIS	EVERGREEN WOOD FERN	8"-24"	6"-8"	2½" POT	12"	
	F-3		POLYSTICHUM ACROSTICHOIDES		24"	6"-8"	2½" POT	12"	

LEGEND

- EXISTING TREE
- REMOVE TREE
- NEW TREE (BROAD LEAF)
- NEW TREE (NEEDLE LEAF)
- SHRUB (B-LEAF)
- SHRUB (N-LEAF)
- GROUND-COVER AREA
- Y.H. YARD HYDRANT
- SD PLUMBING LINE (SEE MECH)
- 2-T-2 QUANTITY & NUMBER OF PLANT
- U DUCT BANK

AS BUILT

REV.	BY	DATE		C.I. NO.	APPROVED
△3	RLL	12-7-65	RELOCATED 24 TREES	12038-23	
△2	RLL	7-12-65	REVISED LANDSCAPING	12038-21	
△1	RLL	5-14-65	ADDED SEWER & GRADING. DELETED STEPS.	12038-18	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

LANDSCAPE PLAN

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8887

SUBMITTED: CHIEF — AE. DATE 3/15/64 — APPROVAL RECOMMENDED: — APPROVED: CHIEF, DESIGN BRANCH — NASA DATE: 3-16-64

DESIGNED B.J. DRAWN B.S. CHECKED W.S. — APPROVAL RECOMMENDED: CHIEF, CIVIL SECTION — DESIGN DATE: 16 MARCH 64 — LAB. DATE:

SCALE: AS NOTED — SPEC. NO. FE-D-441

DRWG. NO. F&DA-4202-C-5

REF NO. C-5

MSFC-FORM 232 (REV. APRIL 1962)

4202

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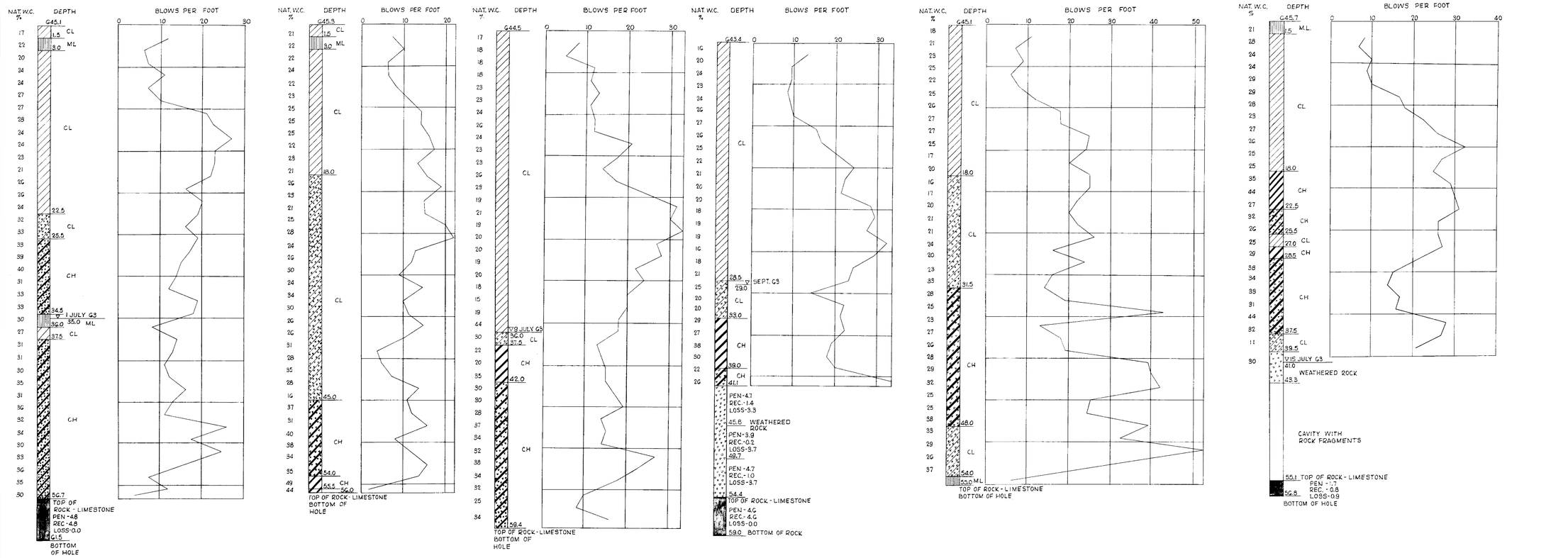
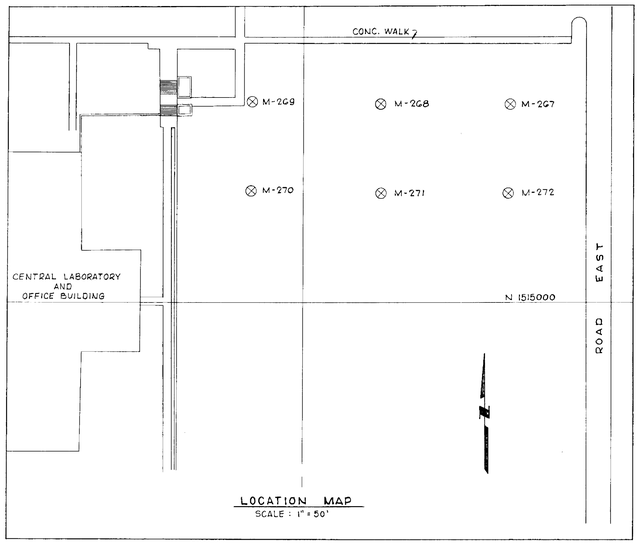
A B C D E F G

HOLE *M-267 1 JULY 63 | HOLE *M-268 3 JULY 63 | HOLE *M-269 3 JULY 63 | HOLE *M-270 12 JULY 63 | HOLE *M-271 15 JULY 63 | HOLE *M-272 15 JULY 63 | ELEV. 650.00





LOCATION MAP
SCALE : 1" = 50'

LEGEND

- INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY: SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY: SANDY CLAYS, SILTY CLAYS, LEAN CLAYS, GRAVELLY CLAYS WITH ROCK FRAGMENTS.
- INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS
- INORGANIC CLAYS OF HIGH PLASTICITY: FAT CLAY
- INORGANIC CLAYS OF HIGH PLASTICITY: FAT CLAY WITH ROCK FRAGMENTS
- WEATHERED ROCK
- ▽ WATER TABLE AND DATE OBSERVED

GENERAL NOTES

1. BLOWS PER FOOT ARE FROM STANDARD PENETRATION TEST WHICH IS PERFORMED BY DROPPING A WEIGHT OF 140 POUNDS FROM A HEIGHT OF 30 INCHES ON A CAP ATTACHED TO THE UPPER END OF THE DRILL ROD. A 2" O.D. SPLIT SPOON IS USED ON THE LOWER END.
2. SOILS ARE CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM, MILITARY STANDARD 619(CE) DATED 30 JUNE 1960.

AS BUILT

REV.	BY	DATE		C. I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING

M S F C - HUNTSVILLE, ALABAMA

LOG OF BORINGS

NASA AE CONT. NO. NAS8-12,015			FILE NO. M S F C 8888
SUBMITTED: CHIEF, A&E DATE 5/13/64	APPROVAL RECOMMENDED: LAB. DATE:		APPROVED: R O Ramsay Jr. CHIEF, DESIGN BRANCH NASA DATE 5-16-64
DESIGNED	APPROVAL RECOMMENDED: CHIEF, CIVIL SECTION		DRWG. NO.
DRAWN SMITH			F&D-A4202-C6
CHECKED HARRIS	DESIGN DATE: 6 MARCH 64		
SCALE: AS NOTED	SPEC. NO. F&D-441		

REF. NO. C-6

MSFC-FORM 232 (REV. APRIL 1962)

4202

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LEGEND

NEW		EXISTING
	BUILDING	
	P.C. CONCRETE SIDEWALK	
	CURB	
	CURB & GUTTER	
	STORM DRAIN	SD
	CONTOUR	G50
F.H. YARD HYD. VALVE & C.I. VALVE BOX	INDUSTRIAL WATER	F.H. YARD HYD. VALVE
P	POTABLE WATER	P
S MH.	SANITARY SEWER	
	POST INDICATOR VALVE	
SS	SERVICE STOP	

SCALE: 1" = 30'

EXISTING 2" LINE

1¼" SERVICE STOP & DRAIN IN VALVE BOX W/1¼" TO FLOAT VALVE ON COOLING TOWER

REMOVE 2" INDUSTRIAL WATER LINE & LINE FROM THIS POINT SOUTH

RELOCATE 2" VALVE & BOX

1½" NON-FREEZE YARD HYDRANT

EXIST. CONC. SIDEWALK

1½" NON-FREEZE YARD HYDRANT

ADJUST VALVE BOX TO GRADE

4" OVERFLOW & DRAIN TO STORM DRAIN

COOLING TOWER

SUMP FOR BASIN

NEW 14" INDUSTRIAL WATER LINE

1½" S.S. & BOX

45° BENDS

14" x 14" x 6" TEE

REMOVE EXISTING 14" INDUSTRIAL WATER LINE

4" FORCE MAIN

PROJECT ENGINEER OFFICE

1ST FLOOR EL. 648.50

STA. 3+30 M.H. NO. 3

COMM. DUCTS SEE SHEET E-1

CLEANOUT INV. EL. 643.82

1½" NON-FREEZE YARD HYDRANT

STEAM & COND. RETURN LINES

1½" NON-FREEZE YARD HYDRANT

8-4" CONC. ENCASED DUCTS SEE SH. NO. E-1

ELECTRIC M.H. SEE SH. NO. E-1

EXISTING CONC. ENCASED DUCTS

EXIST. COVERED CONC. WALK

STA. 1+80 M.H. NO. 2

EXIST. 4' WALK

REPLACE 4" ELBOW WITH 4" x 4" TEE

2-4" CONDUITS SEE SH. NO. E-1

EXIST. 21" STORM DRAIN

STEAM LINES

4-4" CONC. ENCASED DUCTS - SEE SH. NO. E-1

STA. 0+86 M.H. NO. 1

STA. 0+00 EXIST. SANITARY SEWER MANHOLE INV. EL. 639.0

EXISTING SIDEWALKS

6" SANITARY SEWER

4" INDUST. WATER

4" POTABLE WATER

CENTRAL LABORATORY & BLDG. AND OFFICE BLDG.

ENGINEERING AND ADMINISTRATION BLDG.

1ST FLOOR EL. 647.00

EXIST. TOP OF WALL EL. 645.0

N 1,515,350

N 1,515,175

N 1,515,100

N 1,515,000

N 1,514,850

E 248,115

E 248,365

E 248,615

E 248,865

T.E. G45.09
R. G48.55
INV. G39.0

R. G45.58

EAST ROAD

T.E. G44.05
INV. G40.2

LAWN HYDRANT T.E. G40.58

NEAL ROAD NORTH

1½" NON-FREEZE YARD HYDRANT

EXIST. 8' CONC. WALK

EXISTING LAWN HYDRANT

GROVE OF PINE TREES

OLD NEAL RD.

COMMUNICATIONS M.H. EXISTING

EXIST. 14" INDUSTRIAL WATER LINE

ADJUST TOP OF EXIST. YARD HYDRANT TO FINISH GRADE

COMMUNICATIONS DUCT INV. G38.14

EXISTING PARKING AREA

EXISTING PARKING AREA

42 SPACES @ 9'-0" = 378'

56 SPACES @ 9.0' = 502'

272'

AS BUILT

REV.	BY	DATE	
	JAP	1-21-66	ASBUILT
△	RLL	5-14-66	ADDED SAN. SEWER, DELETED STEPS.

C.I. NO. 16038-18 APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC INC ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING

MSFC - HUNTSVILLE, ALABAMA

PLOT PLAN-UTILITIES

NASA AE CONT. NO.	NAS 8-12,015	FILE NO. MSFC	8889
SUBMITTED: CHIEF	APPROVAL RECOMMENDED:	APPROVED: CHIEF, DESIGN BRANCH	
A/E DATE: 3/13/64	LAB. DATE:	R&QA DATE: 3/16/64	
DESIGNED SMITH	APPROVAL RECOMMENDED: CHIEF, CIVIL ENGINEERING SECTION	DRWG. NO.	
DRAWN SMITH			
CHECKED HARRIS	DESIGN DATE: 1/64 MARCH 64	FED-A4202-C7	
SCALE: 1" = 30'	SPEC. NO. FED-44		

REF NO C-7

MSFC-FORM 232 (REV. APRIL 1962)

4202

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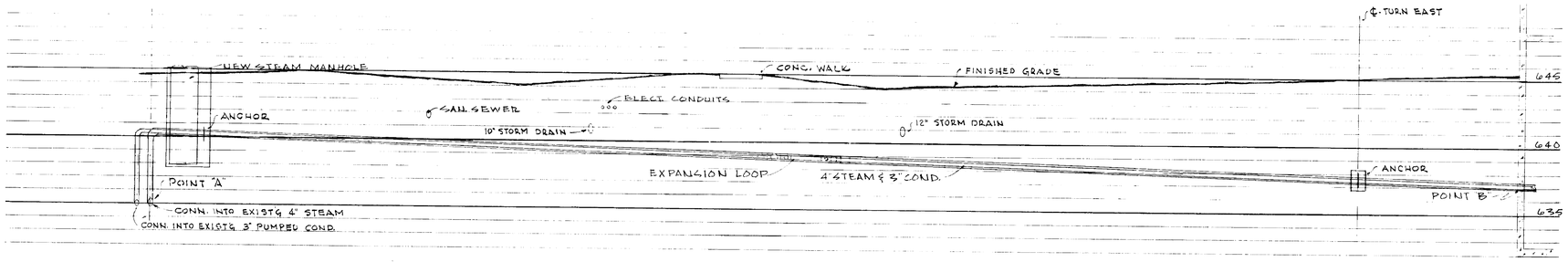
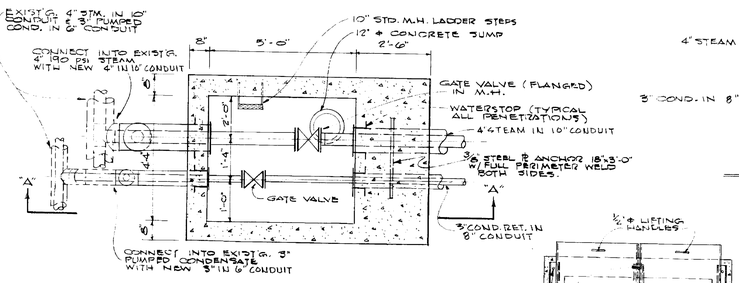
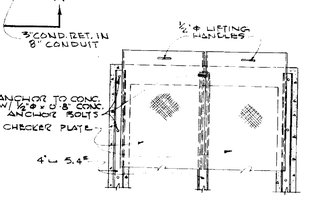


PROFILE OF STEAM & CONDENSATE LINES

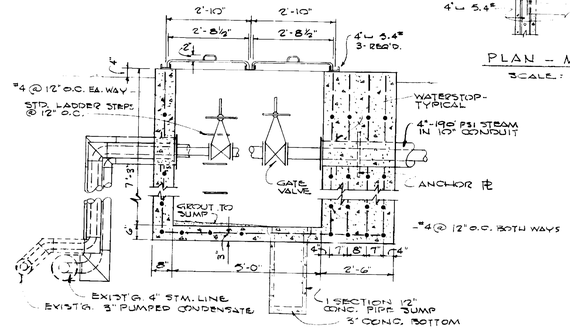
HORIZONTAL SCALE: 1" = 10'-0"
VERTICAL SCALE: 1" = 4'-0"



PLAN

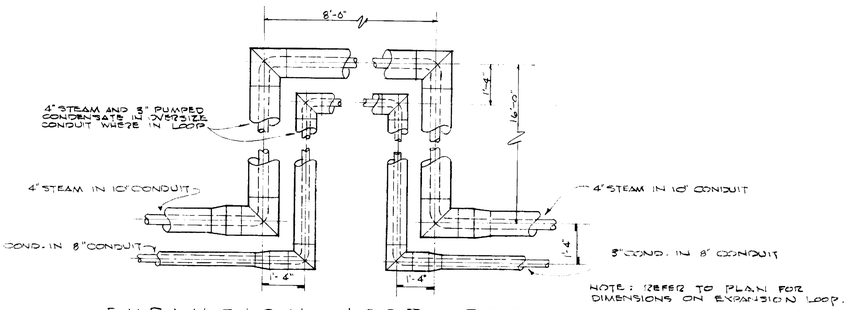


PLAN - MANHOLE COVER
SCALE: ½" = 1'-0"



SECTION "A-A"

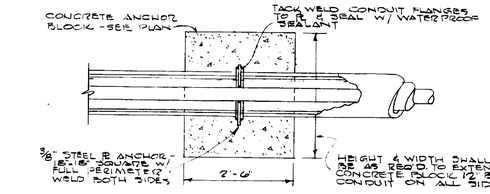
STEAM MANHOLE DETAIL



NOTE: REFER TO PLAN FOR DIMENSIONS ON EXPANSION LOOP.

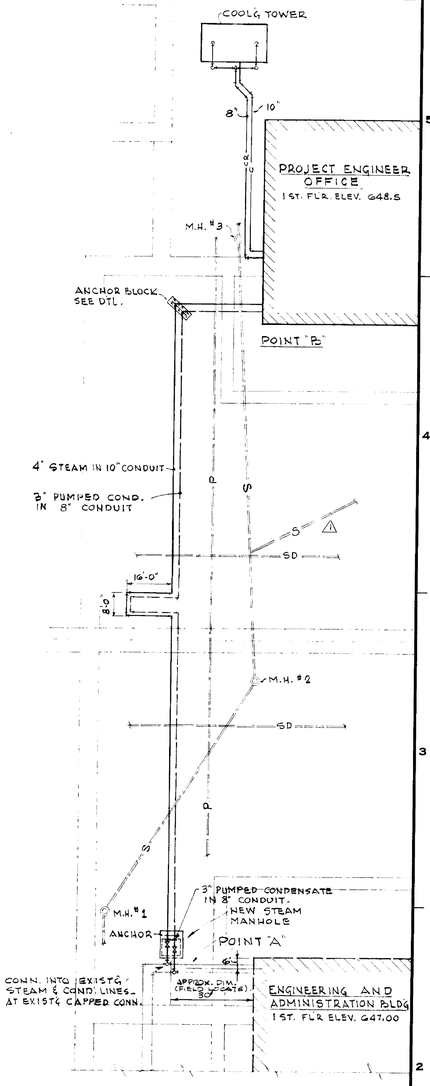
EXPANSION LOOP DETAIL

SCALE: ½" = 1'-0"



STEAM & COND. ANCHOR DETAIL

NOT TO SCALE



PLAN OF STEAM & CONDENSATE ROUTING

SCALE: 1" = 20'-0"

REV.	BY	DATE		C.I. NO.	APPROVED
1	RLL	5-14-65	ADDED SANITARY SEWER	12038-1/3	GH B

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA.

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

STEAM & CONDENSATE PLAN & PROFILE

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. M S F C 8890

SUBMITTED: CHIEF — APPROVAL RECOMMENDED: — APPROVED: G. D. Ramsey Jr. CHIEF DESIGN BRANCH

AE — DATE 3/13/64 — LAB. — DATE: — NASA — DATE: 3-16-64

REF NO. C-8

DESIGNED RRE
DRAWN MFH
CHECKED W.J.C.
SCALE: AS NOTE

APPROVAL RECOMMENDED: CHIEF, MECHANICAL SEC.
DESIGN DATE: 16 MAR 1964
SPEC. NO. F&D-441

DRWG. NO. F&D-A 4202-C8

MSFC-FORM 232 (REV. APRIL 1962)

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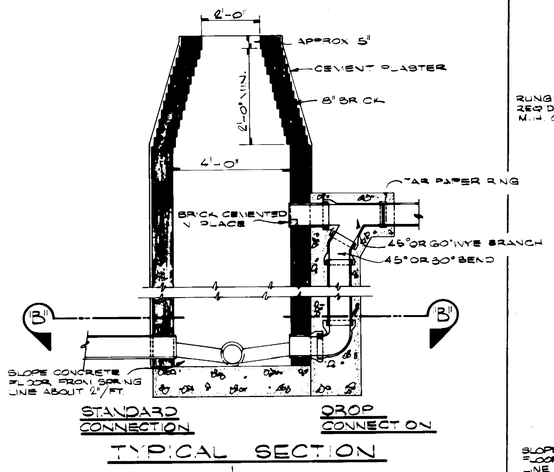
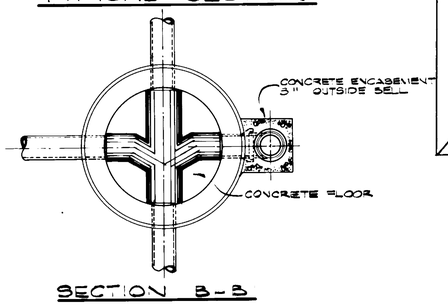


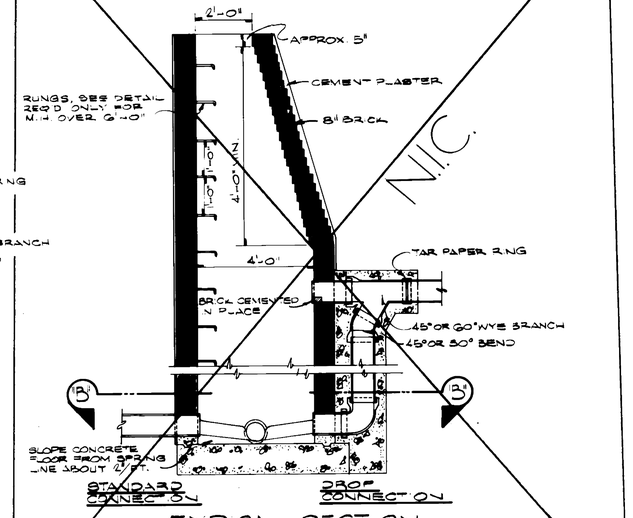
TYPICAL SECTION



SECTION B-B

STANDARD MANHOLE - 6'-0" MAX. DEPTH

SCALE: 1/2" = 1'-0"

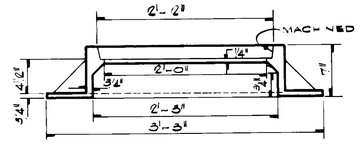


TYPICAL SECTION

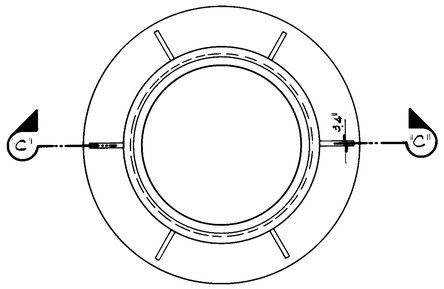
STANDARD MANHOLE OVER 6'-0" DEEP

SCALE: 1/2" = 1'-0"

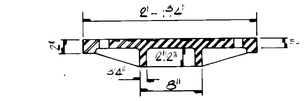
N.I.C.



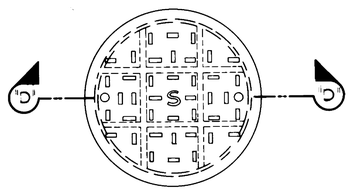
SECTION "C-C"



PLAN OF FRAME



SECTION "D-D"

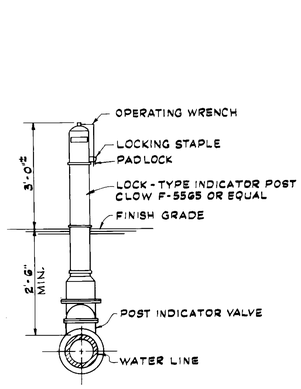


PLAN OF COVER

NOTE:
CAST IRON COVERS & FRAMES DESIGN IS BASED ON A WHEEL LOAD OF 16,000 POUNDS PLUS A 25% ALLOWANCE FOR IMPACT AND THE USE OF CLASS 20 CAST IRON (FED SPEC. QQ-I-652). OTHER DESIGNS DIFFERING ONLY IN NON-ESSENTIAL DETAILS AND AS APPROVED BY THE CONTRACTING OFFICER MAY BE USED. TOTAL WEIGHT SHALL NOT BE LESS THAN 400 POUNDS.

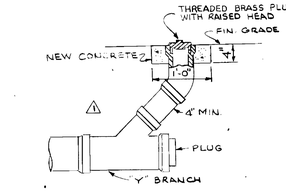
CAST IRON COVERS & COVER FRAMES

NOT TO SCALE



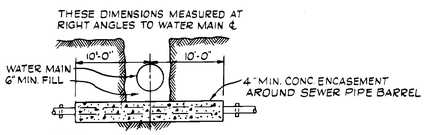
POST INDICATOR VALVE DETAIL

NOT TO SCALE



CLEANOUT DETAIL

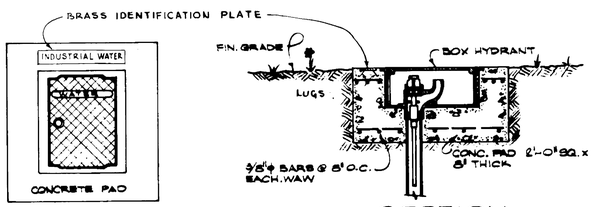
NOT TO SCALE



NOTE:
SEWERS AND WATER LINES SHALL BE AT LEAST 10' APART HORIZONTALLY, EXCEPT WHERE THE BOTTOM OF THE WATER PIPE WILL BE AT LEAST 12" ABOVE THE TOP OF SEWER THE HORIZONTAL SPACING MAY BE A MINIMUM OF 6'. THE 4" CONCRETE ENCASEMENT AROUND SEWER PIPE BARREL TO APPLY WHERE CONDITIONS REQUIRE SEWER TO CROSS ABOVE A WATER LINE OR AS INDICATED ON THE PLANS.

SANITARY SEWER ENCASEMENT DETAIL

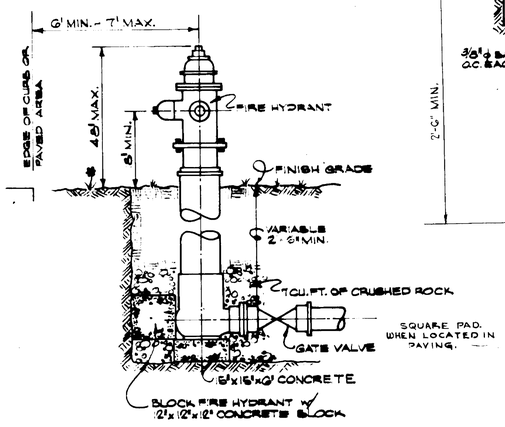
NOT TO SCALE



PLAN SECTION

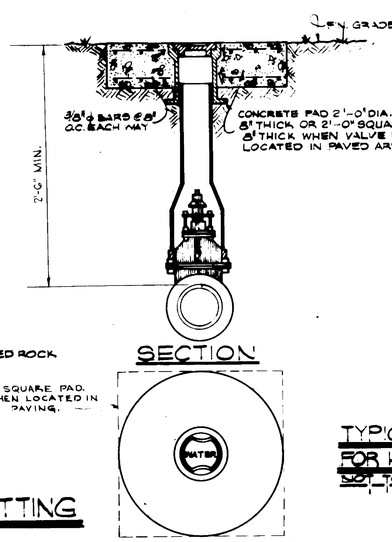
YARD HYDRANT DETAIL

NOT TO SCALE



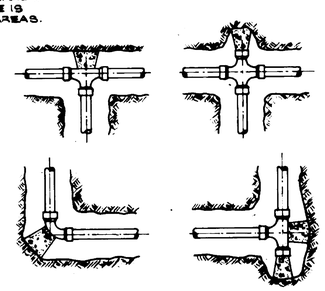
TYPICAL FIRE HYDRANT SETTING

NOT TO SCALE



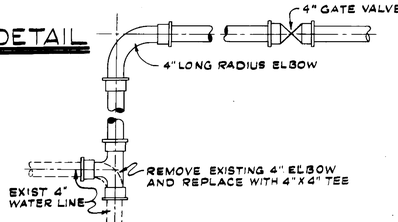
VALVE BOX DETAIL

NOT TO SCALE



TYPICAL THRUST BLOCK LOCATIONS FOR HORIZONTAL CHANGES IN DIRECTION

NOT TO SCALE



TYPICAL CONNECTION FOR WATER SERVICE

NOT TO SCALE

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS - ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV	BY	DATE		C.I. NO.	APPROVED
1	RLL	6-14-65	ADDED CLEANOUT DETAIL	12038-18	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT-ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

UTILITIES DETAILS

NASA AE CONT. NO. NAS8-12,015 — FILE NO. MSFC 8891

SUBMITTED CHIEF	Wyatt Hedrick	APPROVAL RECOMMENDED	APPROVED CHIEF, DESIGN BRANCH
AE DATE	11/17/62	DATE	NASA DATE 3-16-64
DESIGNED KEITH		APPROVAL RECOMMENDED	DRWG. NO.
DRAWN HOLD		CHIEF, CIVIL SECTION	F&D-A-4202-C9
CHECKED HILLER		DESIGN DATE	
SCALE AS NOTED		SPEC. NO. F&D-441	

REF. NO. C-9

MSFC-FORM 232 (REV. DEC., 1960)

4202

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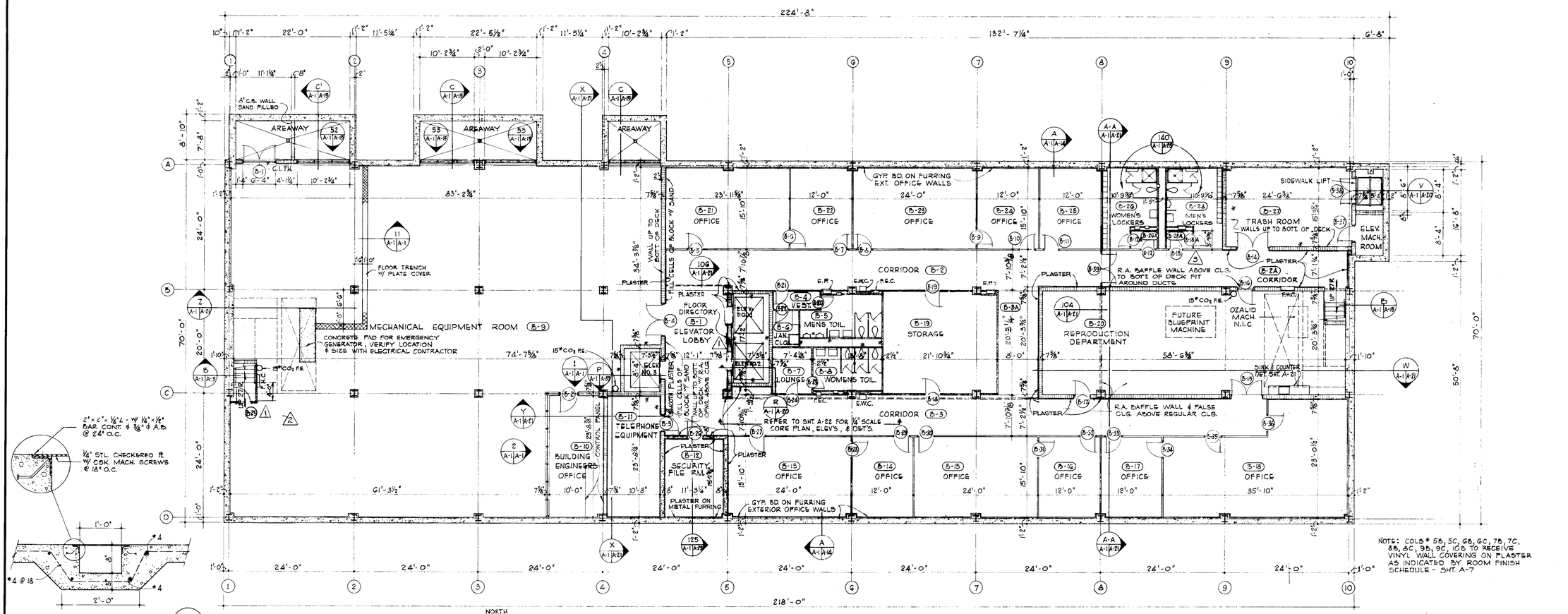
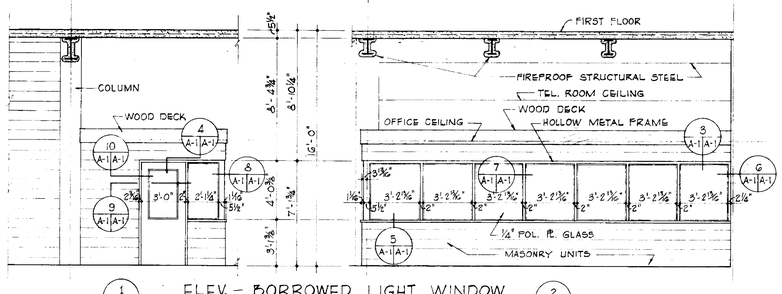


NOTE: COLS # 5B, 5C, 6B, 6C, 7B, 7C, 8B, 8C, 9B, 9C TO BE TO RECEIVE VINYL WALL COVERING ON PLASTER AS INDICATED BY ROOM FINISH SCHEDULE - SHT. A-7

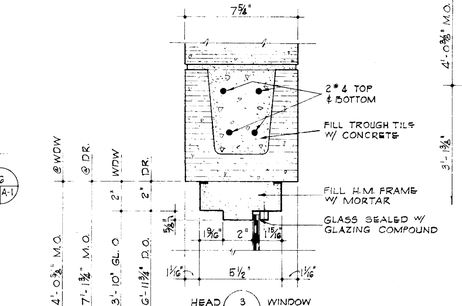
TRENCH SECTION (11 / 5-1 / A-1)
SCALE 1" = 1'-0" FOR FUEL LINES TO EMERGENCY GENERATOR

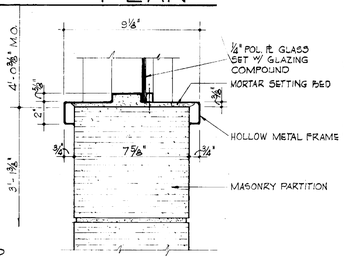
NORTH

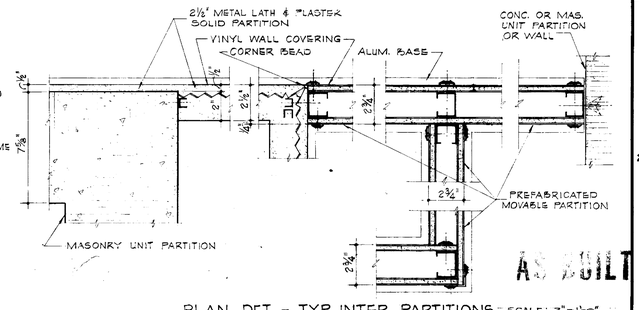
BASEMENT FLOOR PLAN
SCALE ⅛" = 1'-0"

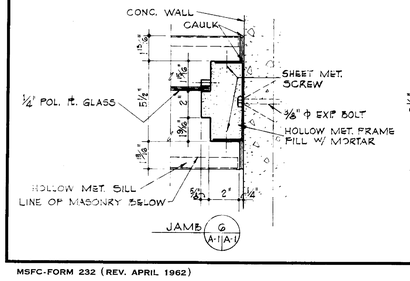


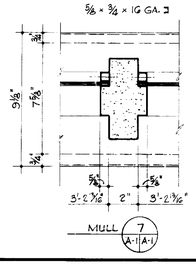
ELEV. – BORROWED LIGHT WINDOW
SCALE ⅛" = 1'-0"

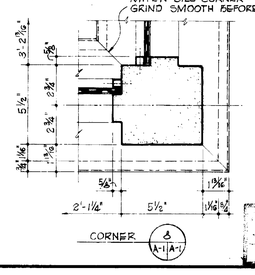


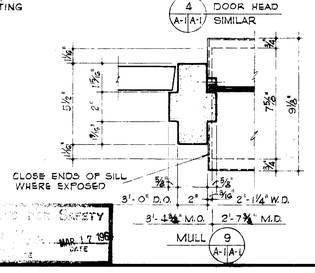


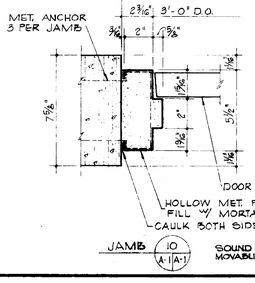












DETAILS BORROWED LIGHT WINDOWS
SCALE 3" = 1'-0"

WALLS FULL HT. TO BOTTOM OF DECK ABOVE
2½" MET. LATH & PLASTER SOLID PARTITIONS
PREFABRICATED MOVABLE PARTITIONS
S.P. SOUND PROOF PREFABRICATED MOVABLE PARTITIONS
F.E. FIRE EXTINGUISHER

PLAN DET. – TYP. INTER. PARTITIONS SCALE: 3"=1'-0"

REV.	BY	DATE		C.I. NO.	APPROVED
3	G.H	4-30-65	ADDED FURRED WALL IN B-28	12036-17	G.H.
2	G.H	3-2-65	ADDED DOOR B-25	12038-14	G.H.
1	J.F.S	6-13-64	MODIFIED ELEVS. NO. 1 & 2 RELOCATED FLOOR DIR. & REMOVED DOOR D-28		G.H.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

BASEMENT PLAN & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8892

SUBMITTED CHIEF		APPROVAL RECOMMENDED:	APPROVED: CHIEF, DESIGN BRANCH
A.E.	DATE: 3/13/64	LAB.	DATE: NASA DATE: 3-16-64
DESIGNED T.G. & B.J. DRAWN B.S. CHECKED W.S.		APPROVAL RECOMMENDED: CHIEF, ARCH SECTION	DRWG. NO. F&D-A4202-A1
SCALE AS NOTED		DESIGN DATE: 3-16-64	SPEC. NO. F&D-441

REF NO. A-1

AS BUILT

MSFC-FORM 232 (REV. APRIL 1962)

4202

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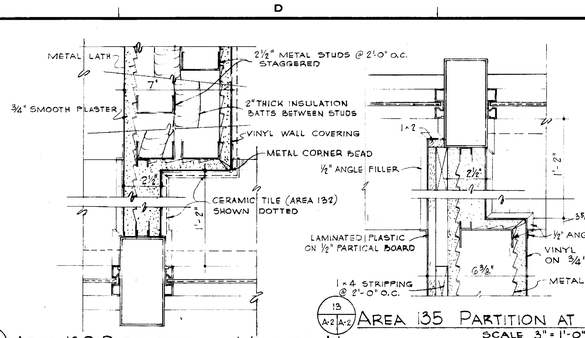
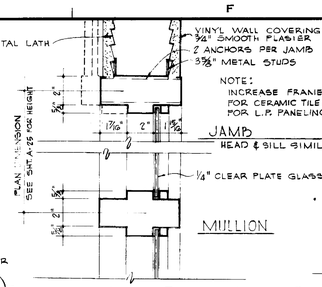
FLOOR AREA SUMMARY

SPACE	FLOOR (SQ. FT.)								
	BASEMENT	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	PENTHOUSE	TOTAL
LOBBIES, CORRIDORS & SPECIAL AREAS	11,817	2,400	3,326	3,223	3,326	3,192	3,196	618	30,841
CORE, STAIRS & DUCT SPACE	872	1590	1,702	1,684	1,684	1,648	1,648	915	11,883
CONFERENCE ROOM	-0-	1064	-0-	640	-0-	640	-0-	-0-	4,290
NET OFFICE SPACE	3,764	3,258	10,425	9,907	10,425	9,978	10,425	-0-	62,187
KITCHEN & SERVICE AREA	-0-	2,096	-0-	-0-	-0-	-0-	-0-	-0-	2,096
DINING AREA	-0-	4,542	-0-	-0-	-0-	-0-	-0-	-0-	4,542
GROSS AREA	15,453	14,950	15,453	15,453	15,453	15,453	15,453	1533	109,201

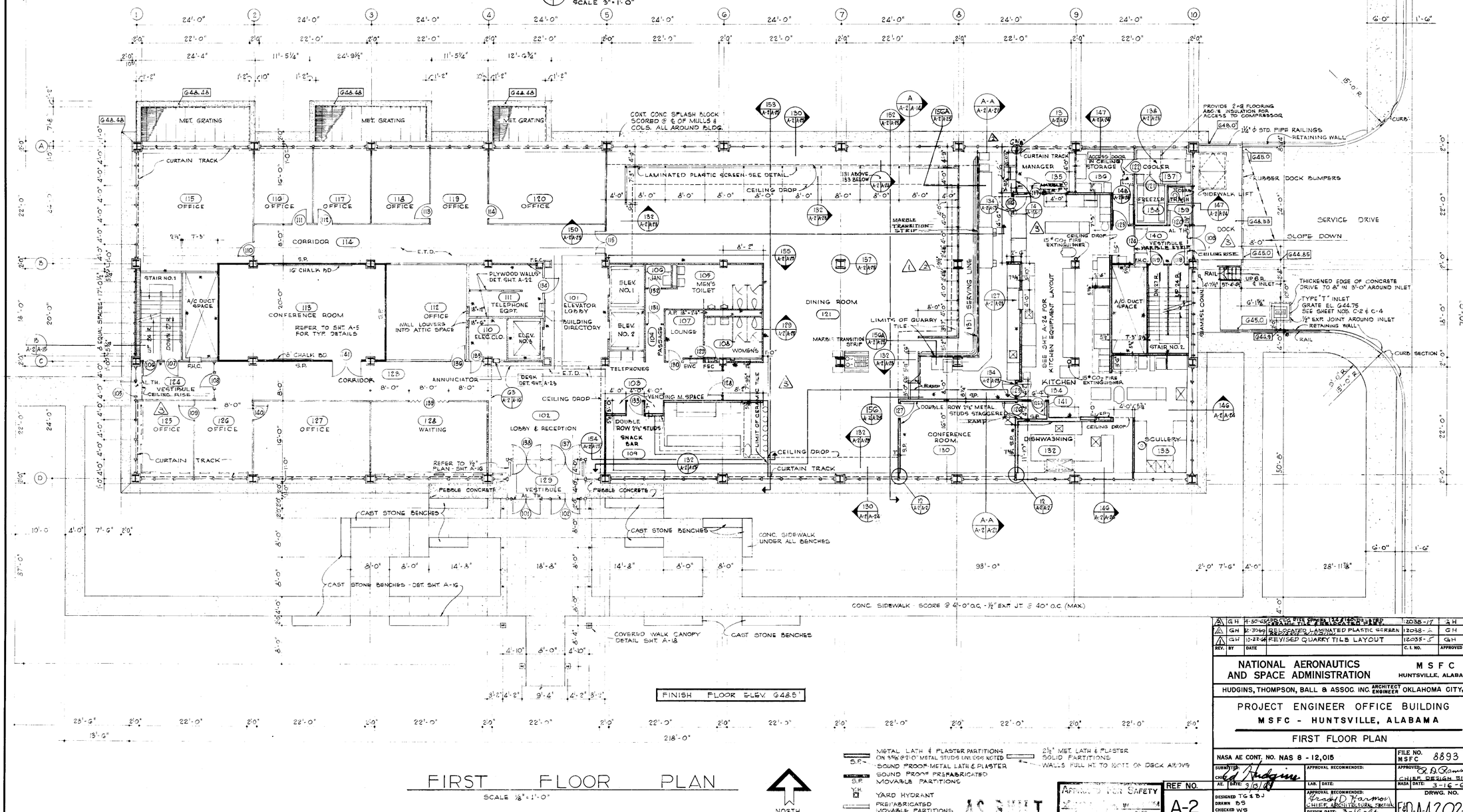


13 A-2 A-2 AREA 135 PARTITION AT WINDOW MULLION
SCALE 3" = 1'-0"



14 A-2 A-2 BORROWED LIGHT DETAIL - AREA 135
SCALE 3" = 1'-0"

12 A-2 A-2 AREA 130 PARTITIONS AT WINDOW MULLION
SCALE 3" = 1'-0"



FIRST FLOOR PLAN
SCALE ⅛" = 1'-0"

NORTH

S.P. METAL LATH & PLASTER PARTITIONS ON 3⅝" @ 2'-0" METAL STUDS UNLESS NOTED
S.P. SOUND PROOF METAL LATH & PLASTER
S.P. SOUND PROOF PREFABRICATED MOVABLE PARTITIONS
Y.H. YARD HYDRANT
PREFABRICATED MOVABLE PARTITIONS
2½" MET. LATH & PLASTER SOLID PARTITIONS
WALLS FULL HT. TO BOTT. OF DECK ABOVE

AS BUILT

APPROVED FOR SAFETY — DATE

REF NO. A-2

REV.	BY	DATE		C.I. NO.	APPROVED
4	GH	4-30-64	ADD'L CTG FIRE ERPOSE 124/140 CHG'D CERAMIC TILE TO QUARRY TILE	12038-17	GH
3	GH	2-20-64	RELOCATED LAMINATED PLASTIC SCREEN	12038-2	GH
2	GH	10-22-63	REVISED QUARRY TILE LAYOUT	12038-5	GH
1	GH	10-1-63	ISSUED FOR BID	12038-1	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FIRST FLOOR PLAN

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. MSFC 8893

SUBMITTED: Ed Hudgins — APPROVAL RECOMMENDED: — APPROVED: R. A. Ramey Jr. CHIEF, DESIGN BRANCH

AE DATE: 3/13/64 — LAB. DATE: — MSFC DATE: 3-16-64

DESIGNED TG & BJ — DRAWN BS — CHECKED WS — APPROVAL RECOMMENDED: Grady D Farmer CHIEF, ARCHITECTURAL SECTION — DESIGN DATE: 3-16-64

SCALE: ⅛" = 1', AS NOTED — SPEC. NO. FED-D-441

DRWG. NO. FED-A-4202-A-2

MSFC-FORM 232 (REV. APRIL 1962)

4202

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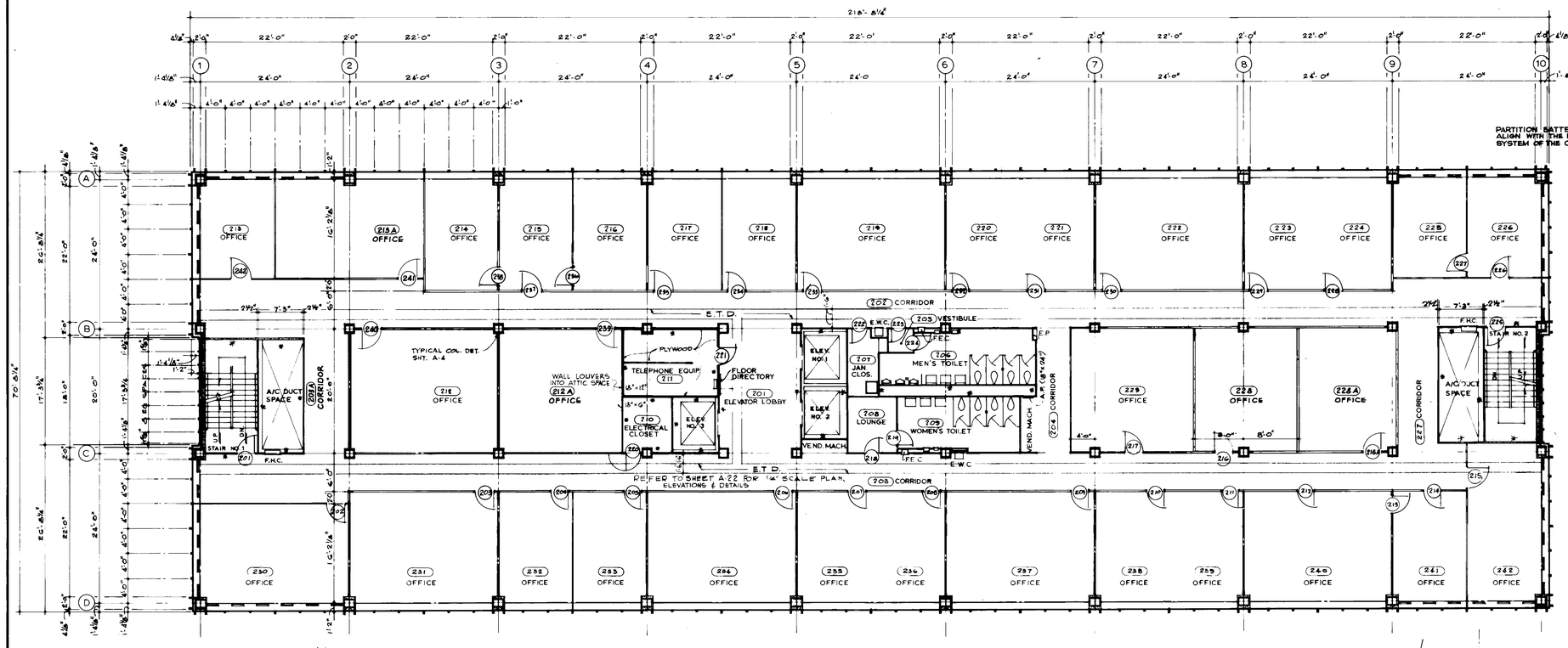
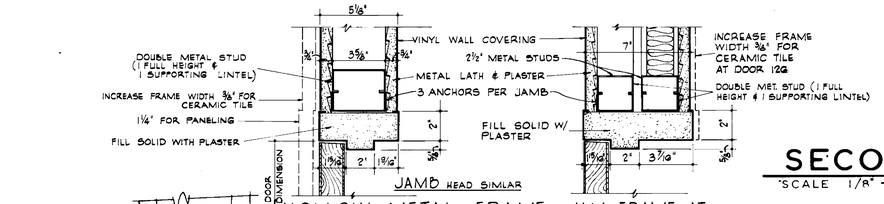
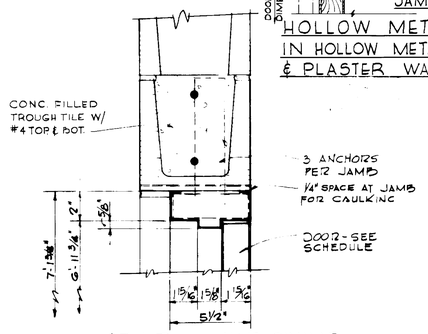




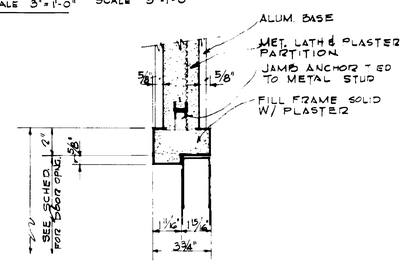
JAMB HEAD SIMLAR

HOLLOW METAL FRAME IN HOLLOW METAL STUD & PLASTER WALL SCALE 3"=1'-0"

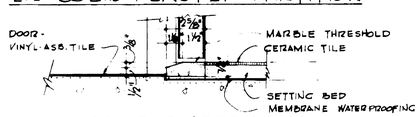
H.M. FRAME AT DOORS 126 & 127
SCALE 3"=1'-0"



HEAD JAMB SIMILAR
SCALE - 3"= 1'-0"
HOLLOW METAL FRAME IN MASONRY WALL



JAMB HEAD SIMILAR
SCALE - 3"= 1'-0"
HOLLOW METAL FRAME IN 2½" SOLID PLASTER PARTITION



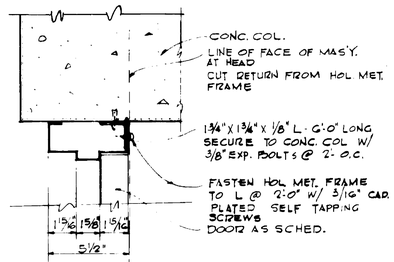
MARBLE THRESHOLD
SCALE - 3"= 1'-0"

SECOND FLOOR PLAN

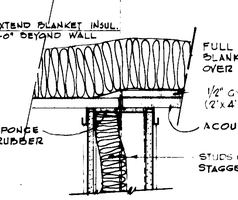
SCALE 1/8" - 1'-0"

NORTH

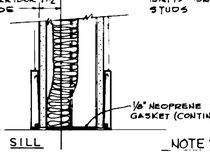
WALL FULL HT. TO BOTT. OF DECK ABOVE
⅝" MET. LATH & PLASTER SOLID PARTITIONS
PREFABRICATED MOVABLE PARTITIONS
SOUND PROOF PREFABRICATED MOVABLE PARTITION
S.P.



JAMB
SCALE - 3"= 1'-0"
HOLLOW METAL FRAME AT CONC. COLUMN



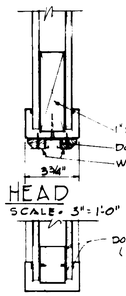
HEAD



SILL

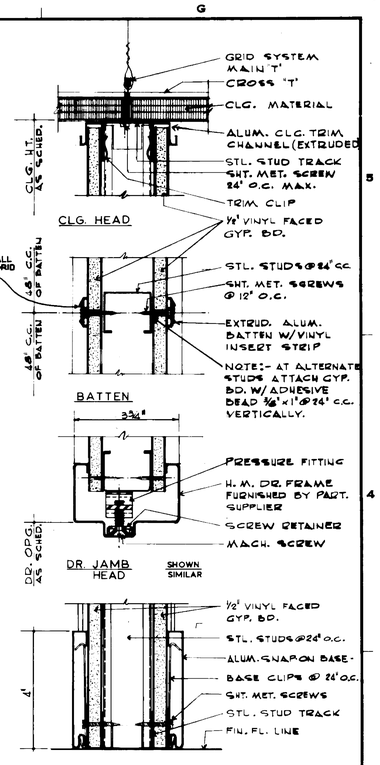
NOTE: REFER ALSO TO DETAILS ON SHEET A-5 FOR ADDITIONAL S.P PARTITION CONDITIONS.

SOUND PROOF PREFABRICATED MOVABLE PARTITION DETAILS
SCALE 3" = 1'0"

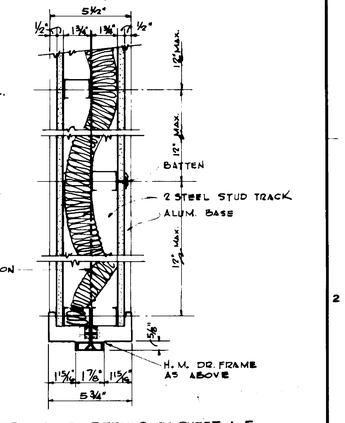


HEAD
SCALE - 3"= 1'-0"

JAMB
SCALE - 3"= 1'-0"
HOLLOW METAL FRAME FOR FOLDING WD. DOOR



MOVABLE PARTITION DETAILS
SCALE 1/2" = 1" (HALF-FULL SIZE)



REV	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SECOND FLOOR PLAN & DETAILS

NASA AE CONT. NO. NAS 8-[illegible] — FILE NO. MSFC 8894

SUBMITTED CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED — APPROVED CHIEF DESIGN BRANCH — AE DATE 11-17-62 — LAB DATE — MASA DATE 3/Hal Kroll

DESIGNED — DRAWN J.L.-J.S.-H.N.S. — CHECKED W.L.A. — APPROVAL RECOMMENDED CHIEF ARCH & STR. — DESIGN DATE — SCALE AS NOTED — SPEC. NO. FE-D-441

DRWG. NO. F&D-A-4202-A3

REF. NO. A-3

AS BUILT

APPROVED FOR SAFETY — MAR 1 1964 — DATE

SITE ADAPTED BY HUDGINS, THOMPSON, BALL & ASSOC., INC. ARCHITECTS-ENGINEERS OKLAHOMA CITY, OKLAHOMA

MSFC-FORM 232 (REV. DEC., 1960)

4202

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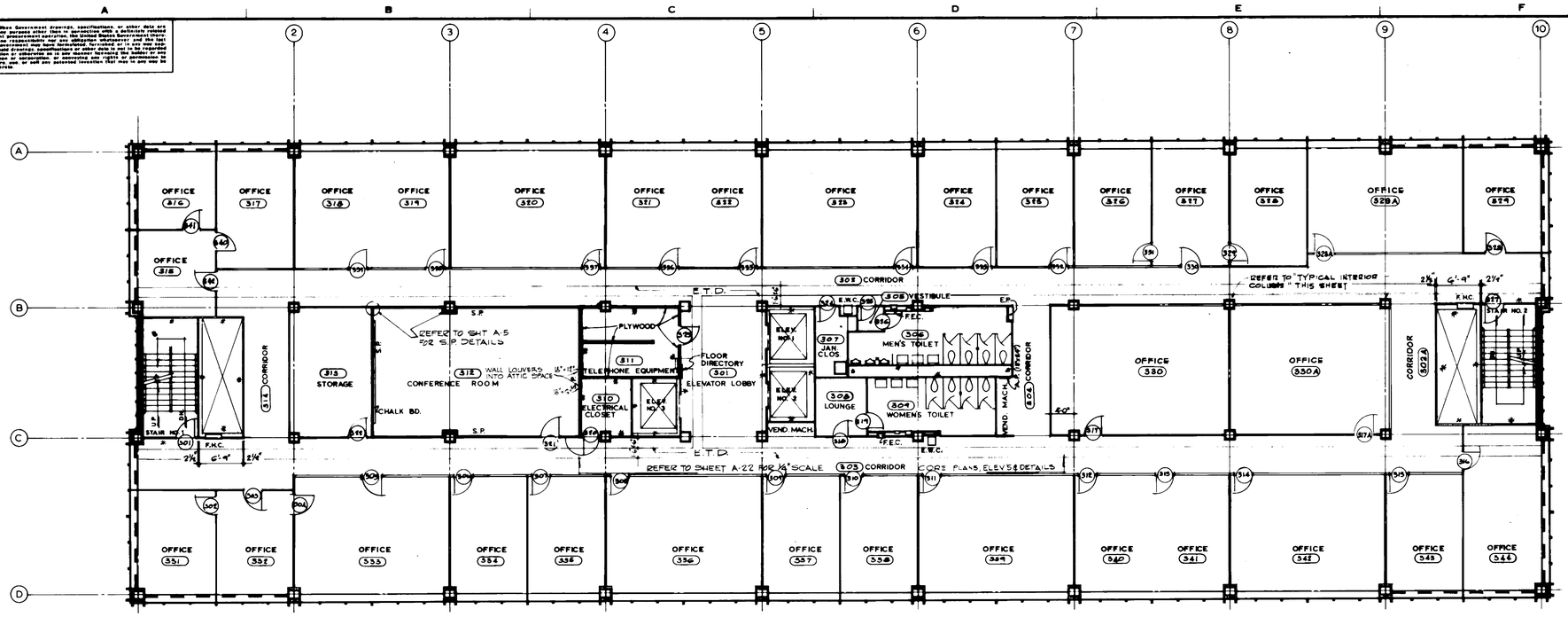
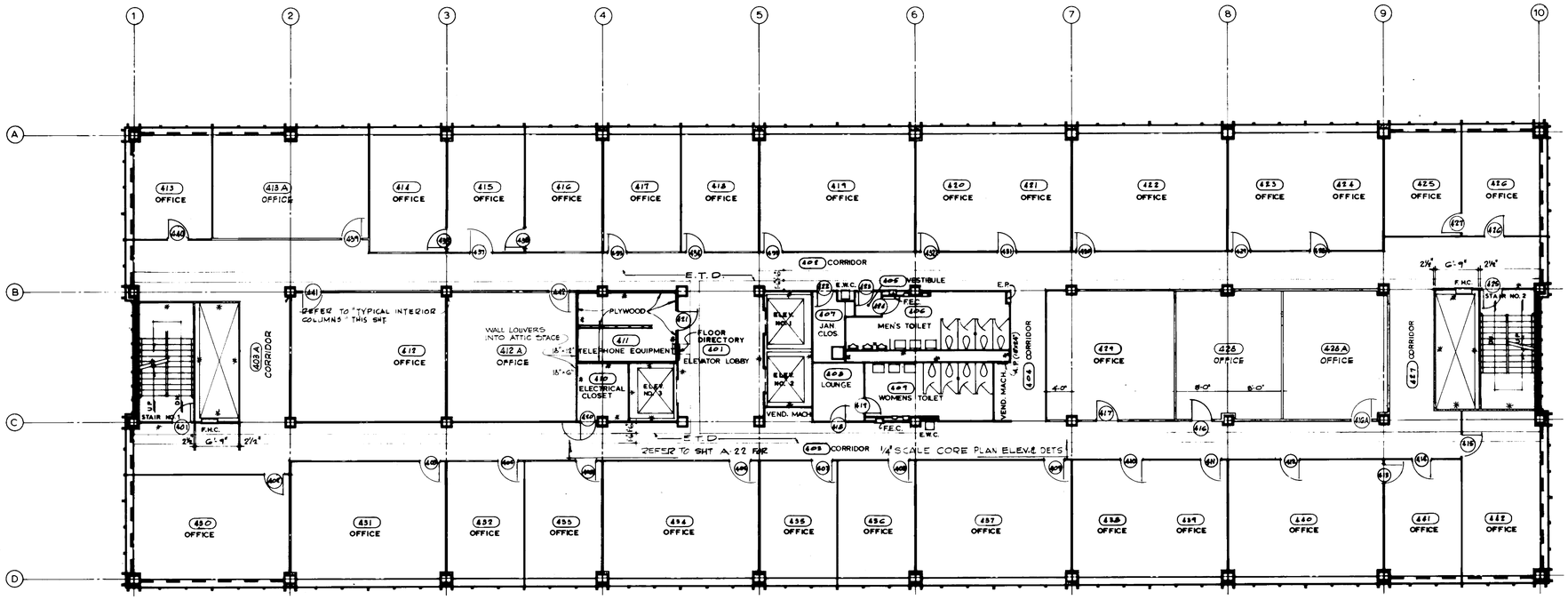


THIRD FLOOR PLAN

SCALE 1/8" - 1'-0"

NORTH

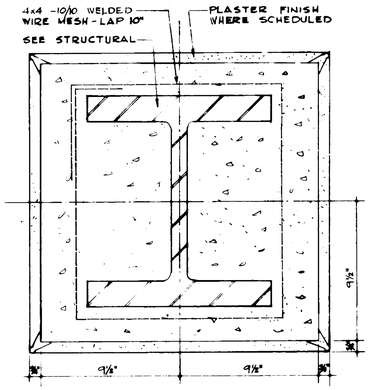


FOURTH FLOOR PLAN

SCALE 1/8" - 1'-0"

NORTH

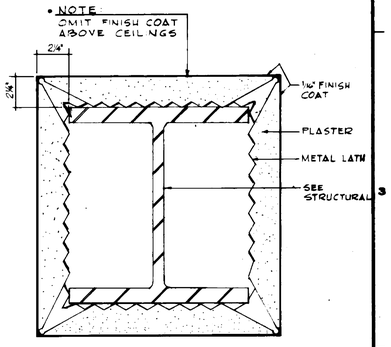
1. CONC. FIREPROOFING TO BE POURED BEFORE METAL DECK IS PLACED. PLASTER FIREPROOFING TO BE APPLIED AFTER METAL DECK IS PLACED.
2. ALL CONC. COLUMNS & PILASTERS NOT PLASTERED TO HAVE MIN. ¾" CHAMFERED CORNERS.
3. CONC. FIREPROOFING TO BE CONTINUOUS FROM BASEMENT TO 2½" BELOW 2ND FLOOR.



CONCRETE ENCASED COLUMNS AT BASEMENT & FIRST FLOOR

SCALE : 3"=1'-0"

• NOTE
OMIT FINISH COAT ABOVE CEILINGS



TYPICAL INTERIOR COLUMNS

SCALE : 3"= 1'-0"

WALL FULL HT. TO BOTT OF DECK ABOVE
¾" MET. LATH & PLASTER SOLID PARTITIONS
PREFABRICATED MOVABLE PARTITIONS
S.P. SOUND PROOF PREFABRICATED MOVABLE PARTITIONS

AS BUILT

REV	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

THIRD & FOURTH FLOOR PLANS

MASA AE CONT. NO. NAS 8-[illegible]

FILE NO. MSFC 8895

Submitted: Wyatt C. Hedrick — Approval Recommended: — Approved: Chief, Design Branch

AE DATE: 12-17-64 — Lab. DATE: — Mgmt. Off. DATE: — M&S DATE: 12-28-64

Designed — Drawn: J.L. — Checked: W.C.A. — Chief, Arch. Section — Design Date: — Spec. No. F-D-141

Scale: AS NOTED — DRWG. NO. F&D-A4202-A4

REF. NO. A-4

APPROVED FOR SAFETY — MAR 1 1965 — DATE

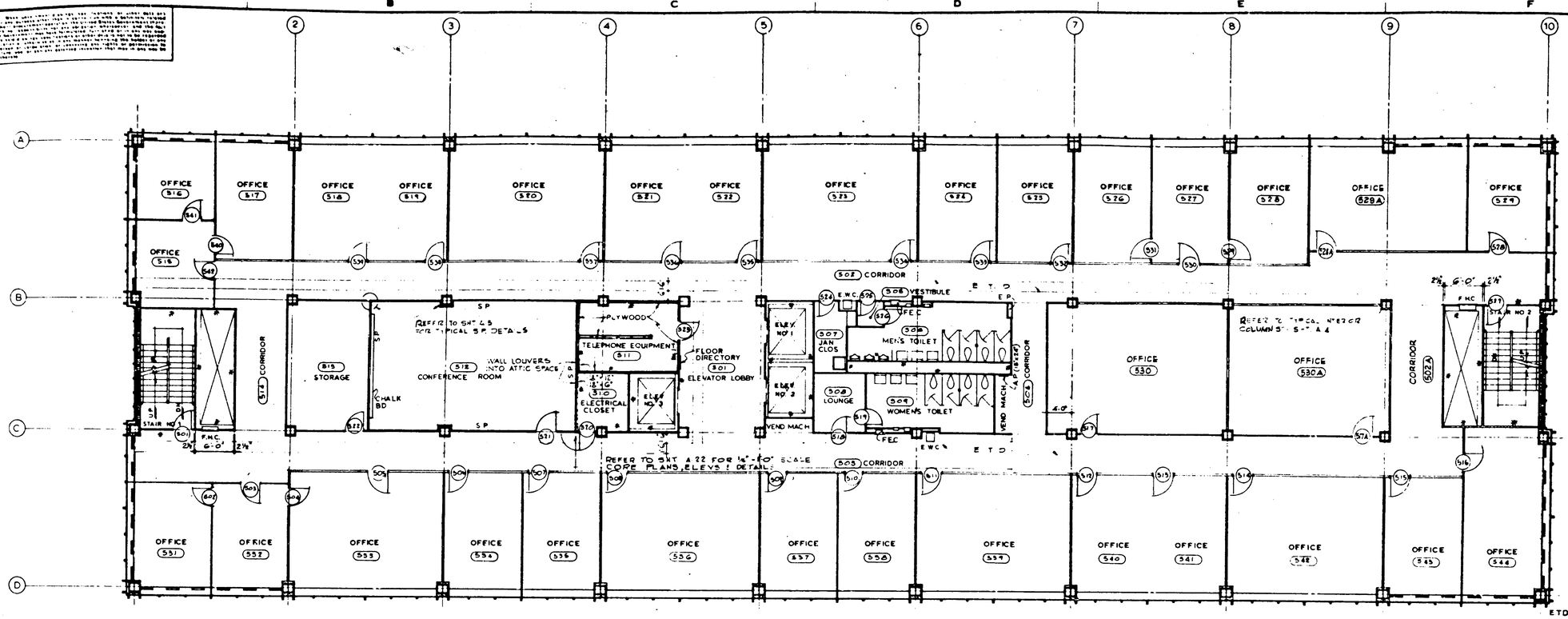
SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

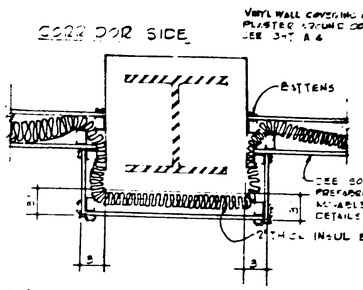
MSFC-FORM 232 (REV. DEC., 1960)

4202

FIFTH FLOOR PLAN

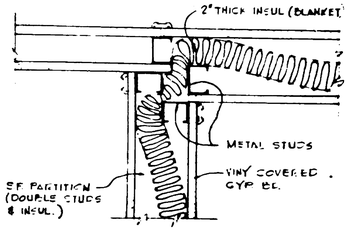
SCALE 1/8" = 1'-0"





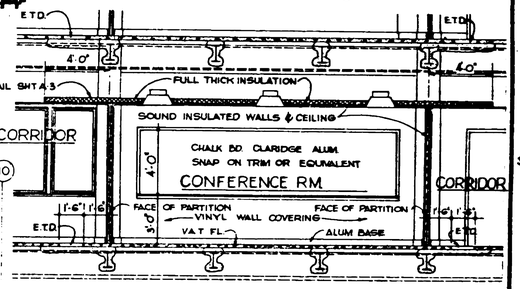
TYPICAL SOUNDPROOFING AROUND COLUMNS IN CONFERENCE ROOMS

SCALE 1½" = 1'-0"



TYPICAL DETAIL OF TRANSITION FROM STANDARD TO S.P. PARTITION

SCALE 3" = 1'-0"



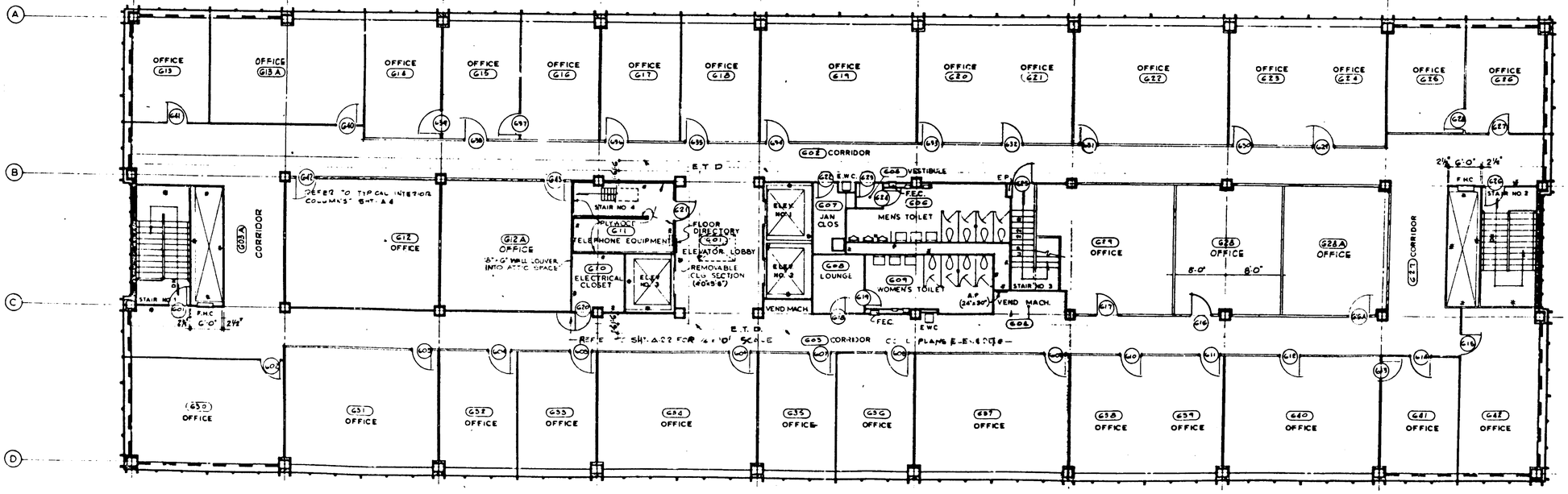
TYPICAL SECTION THRU CONFERENCE RM.

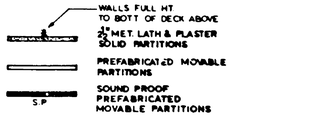
(512) & (312) CONFERENCE ROOM (115) SIMILAR

SCALE ½"-1'-0"

SIXTH FLOOR PLAN

SCALE 1/8" = 1'-0"





REV	BY	DATE	C & G NO	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FIFTH & SIXTH FLOOR PLANS

NASA AE CONT. NO.

FILE NO. MSFC 8896

SUBMITTED CHIEF Wyatt C Hedrick — APPROVAL RECOMMENDED — APPROVED — CHIEF DESIGN BRANCH — DATE 3 Feb 62

DESIGNED — DRAWN — CHECKED — QUANTITIES — DATE — LAB — DATE — APPROVED AS A CONFORMING CONSTRUCTION — DRWG NO. F-DA-4202-A5

REF. NO. A-5

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

MSFC-FORM 232 (REV DEC. 1960)

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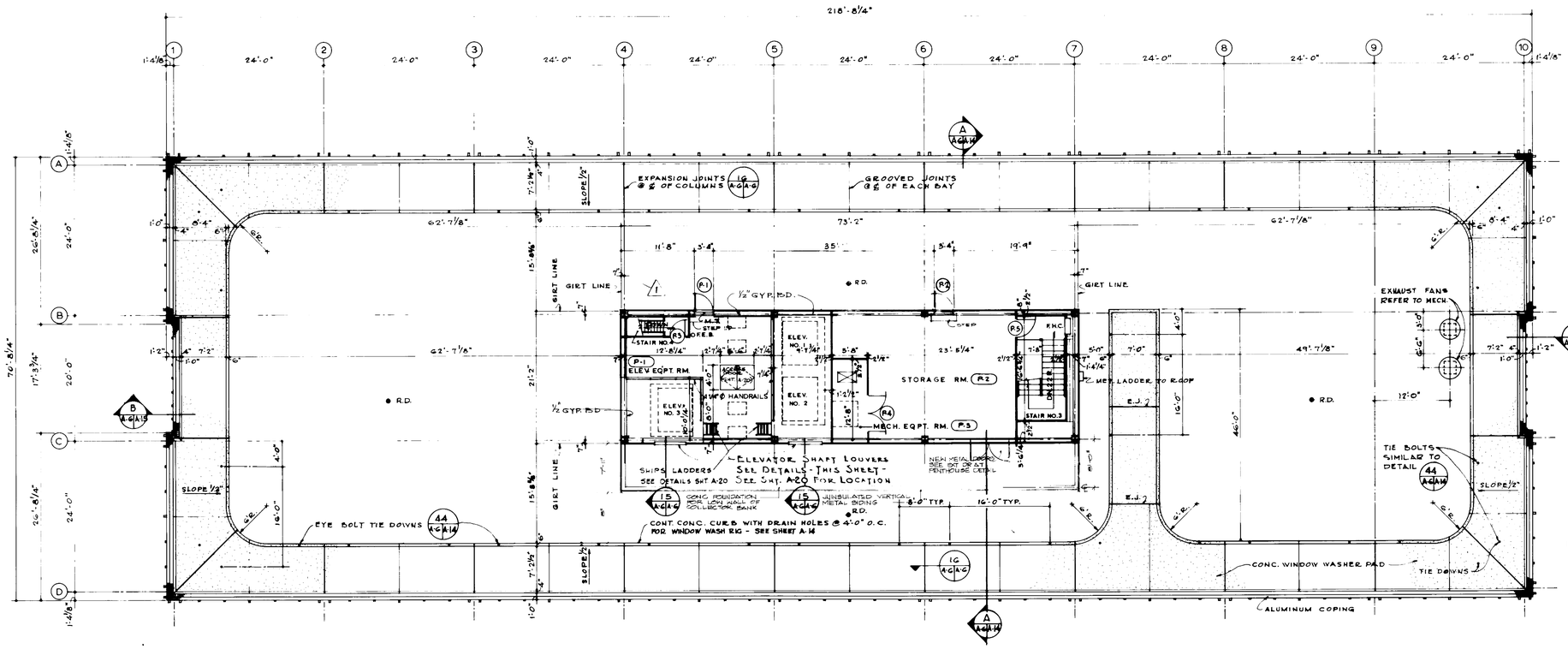
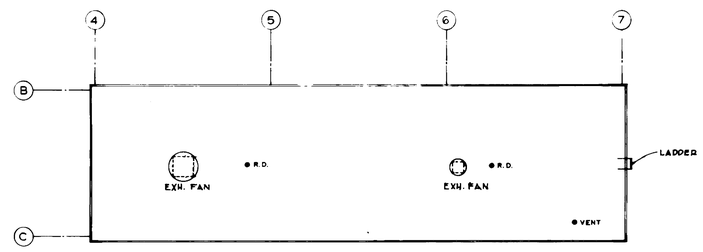
NOTE:
GYP-BD IN ELEVATOR EQUIP RM, P-1 SHALL HAVE JOINTS TAPED, SANDED AND FINISH PAINTED TWO COATS OF PAINT.



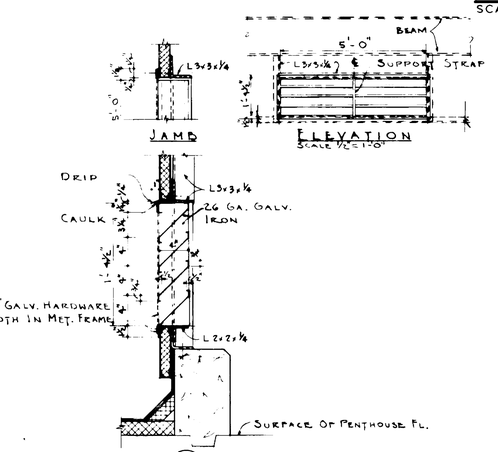
ELEVATOR PENTHOUSE & TOWER ROOF PLAN

SCALE 1/8" 1'-0"

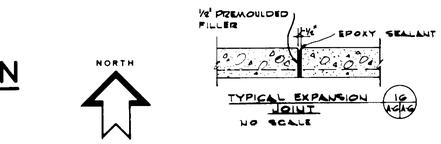


ELEV. PENTHOUSE ROOF PLAN

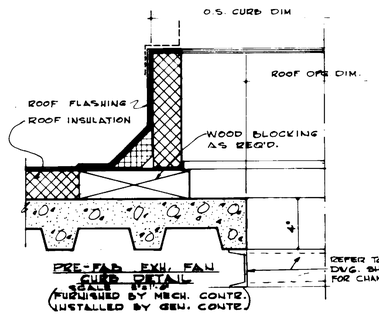
SCALE :— 1 8" = 1'-0"



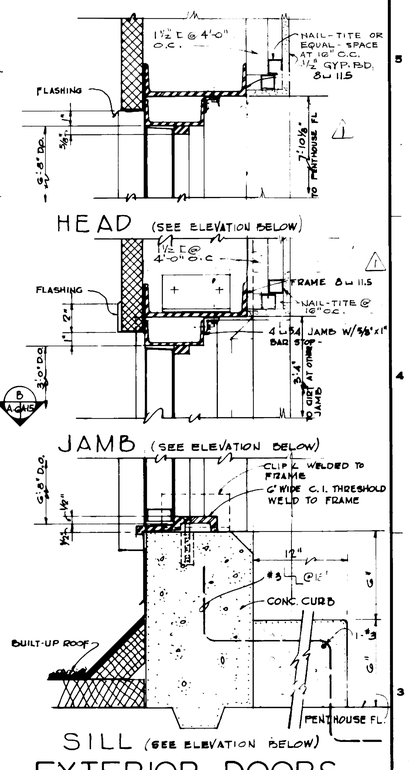
DETAIL 15 A-G14-G THRU ELEVATOR SHAFT LOUVERS IN PENTHOUSE
SCALE ½"=1'-0"



TYPICAL EXPANSION JOINT 16 A-G14-G
NO SCALE

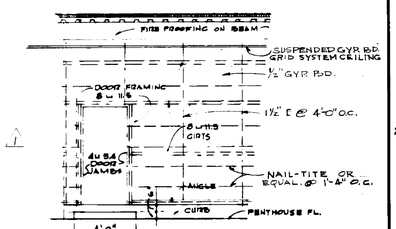


NORTH



EXTERIOR DOORS AT PENTHOUSE

SCALE : 3" = 1'-0"



INTERIOR ELEVATION OF DOOR FRAMING - DOORS P-1 (P-2 SIMILAR EXCEPT OMIT GYP. BD)
SCALE : 1/4" = 1'-0"

REV.	BY	DATE		CI. NO.	APPROVED
2	JBH	1-23-67	ADDED DOOR SCHEDULE TO PENTHOUSE		
1	G.H.	8-19-66	ADD GYP BD ON WALLS & CEILING	10052-65	G.H.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

PENTHOUSE & ROOF PLANS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8897

SUBMITTED CHIEF: Wyatt C. Hedrick — APPROVAL RECOMMENDED: — APPROVED CHIEF, DESIGN BRANCH: — DATE: 3/16/67

AE — DATE: 11-17-66 — LAB. — DATE:

DESIGNED: DRAWN J.L., H.M.B. CHECKED W.L.A. — APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION — DESIGN DATE:

SCALE: AS NOTED — SPEC. NO. FE-D-441 — DRWG. NO. F&D-A4202-A6

REF. NO. A-6

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS - ENGINEERS
OKLAHOMA CITY, OKLAHOMA

SAFETY — DATE

MSFC-FORM 232 (REV. DEC., 1960)

4202

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ROOM FINISH MATERIAL & COLOR SCHEDULE

SPACE		FLOOR		BASE		WAINSCOT		HT.	WALLS		CEILING		HT.	DOOR		DOOR FRAME		WINDOW STOOL		REMARKS
NO	DESIGNATION	MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR	
	BASEMENT																			
B-1	ELEVATOR LOBBY	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	DARK CORAL	M.S.C.	WHITE	8'0"	METAL	27778	METAL	27778			
B-2 & B-2A	CORRIDOR	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE		VD/MET.	27778	METAL	27778			
B-3 & B-3A	CORRIDOR	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE								
B-4	VESTIBULE	V.A.T.	876	RUBBER	BLACK	—	—	—	V.W.C.	SAND	S.F.P.	37778		WOOD	27778	METAL	27778			
B-5	MEN'S TOILET	C.T.	NO. 1	C.T.	NO. 1	C.T.	NO. 3	4'0"	S.P.	27875	S.P.	27875			27778		27778			TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
B-6	JANITOR'S CLOSET	C.T.	NO. 1	RUBBER	BLACK	—	—	—	S.P.	21643	S.P.	27875	DO	DO	27778		27778			
B-7	LOUNGE	V.A.T.	711	RUBBER	BLACK	—	—	—	S.F.P.	35622	S.F.P.	35622			25622		25622			
B-8	WOMEN'S TOILET	C.T.	NO. 2	C.T.	NO. 2	C.T.	NO. 4	4'0"	S.P.	25622	S.P.	25622			25622		25622			TOILET PART. - WEISS #34
B-9	MECH. EQUIPT. ROOM	CONC.	—	NONE	—	—	—	—	CONC./C.B.	26622	EXP.	26622	MAX	WD. MET	26622		26622			
B-10	OFFICE	V.A.T.	876	RUBBER	BLACK	—	—	—	CONC./C.B.	37778	GYP. BD.	37778	8'-6"	WOOD	27778		27778			TAPE, BED & TEXTURE CLG.
B-11	TELEPHONE EQUIPT.	CONC.	—	NONE	—	—	—	—	C.B./PLYWD.	27778	S.F.P.	27778	11'-0"	WOOD						
B-12	SECURITY FILE ROOM	V.A.T.	876	RUBBER	BLACK	—	—	—	V.W.C.	SAND	AC.	WHITE	8'-0"	METAL						
B-13	OFFICE			ALUM.		—	—	—			M.S.C.	WHITE	8'-0"	WOOD						
B-14						—	—	—												
B-15	DO					—	—	—												
B-16				DO	DO	—	—	—	DO		DO	DO	DO							
B-17						—	—	—												
B-18						—	—	—												
B-19	STORAGE					—	—	—												
B-20	REPRODUCTION DEPT.			RUBBER	BLACK	—	—	—	C.B.		S.F.P.	27778	8'-6"							
B-21	OFFICE	DO	DO	ALUM.	NAT.	—	—	—	V.W.C.*	DO	M.S.C.	WHITE	8'-0"	DO	DO	DO	DO			
B-22						—	—	—												
B-23						—	—	—												
B-24	DO			DO	DO	—	—	—	DO		DO	DO	DO							
B-25						—	—	—												
B-26 & B-26A	WOMEN'S LOCKERS	C.T.	NO. 2	C.T.	NO. 2	C.T.	NO. 4	4'-0"	S.P.	25622	S.P.	25622		WOOD	25622		25622			TOIL & SHOWER PART. WEIS. #34
B-27	TRASH ROOM	CONC.	—	NONE	—	—	—	—	CONC./C.B.	26622	EXP.	26622	MAX	METAL	26622		26622			
B-28 & B-28A	MEN'S LOCKERS	C.T.	NO. 1	C.T.	NO. 1	C.T.	NO. 3	4'-0"	S.P.	27875	S.P.	27778	8'-0"	WOOD	27778		27778			TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
	STAIR NO. 1	V.A.T.	876	RUBBER	BLACK	—	—	—	S.F.P.	37778	S.F.P.	37778	MAX.	METAL	26622		26622			PAINT HANDRAILS NO 16473
	STAIR NO. 2	V.A.T.	876	RUBBER	BLACK	—	—	—	S.F.P.	37778	S.F.P.	37778	MAX	METAL	26622	METAL	26622			" " NO 16473
	FIRST FLOOR																			
101	ELEVATOR LOBBY	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	BLUE	M.S.C.	WHITE	8'-6"	METAL	*	METAL	*			(*ELEVATOR DOORS & FRAMES OTIS
102	LOBBY & RECEPTION	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	9'-8"	WOOD	27778		27778	METAL	27778	S.S #25, OTHERS PAINT 27778)
103	CORRIDOR	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"							
104	PASSAGE	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE			DO		DO			
105	MEN'S TOILET	C.T.	NO. 1	C.T.	NO. 1	C.T.	NO. 3	4'0"	S.P.	27875	S.P.	27778	DO							TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
106	JANITOR'S CLOSET	C.T.	NO. 1	RUBBER	BLACK	—	—	—	S.P.	21643	S.P.	27778			27778		27778			
107	LOUNGE	V.A.T.	711	RUBBER	BLACK	—	—	—	S.F.P.	35622	S.F.P.	35622			25622		25622			
108	WOMEN'S TOILET	C.T.	NO. 2	C.T.	NO. 2	C.T.	NO. 4	4'0"	S.P.	25622	S.P.	25622	8'-6"		25622		25622			TOILET PART. - WEISS #34
109	SNACK BAR	C.T.	163	ALUM	NAT.	—	—	—	V.W.C.	SAND	A.C.	WHITE	8'-6"	ALUM.	NAT.	ALUM.	NAT.	METAL	27778	CERAMIC TILE SET BY THIN-SET METHOD - THIS AREA ONLY
110	ELECTRIC CLOSET	CONC.	—	NONE	—	—	—	—	S.F.P.	27778	EXP.	27778	MAX.	DO	27778	DO	27778			
111	TELEPHONE EQUIPT.	CONC.	—	NONE	—	—	—	—	S.F.P.	27778	EXP.	27778	MAX.							
△1 112	OFFICE	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"		DO		DO			
113	CONFERENCE ROOM												DO							
114	CORRIDOR								DO											
115	OFFICE												8'-6"					METAL	27778	
116	OFFICE												8'-6"		27778	METAL	27778			
117	OFFICE												8'-6"	WOOD	27778	METAL	27778			
118	OFFICE												8'-6"	WOOD	27778	METAL	27778			
119	OFFICE													WOOD	27778	METAL	27778	DO	DO	
120	OFFICE			ALUM										WOOD	27778	METAL	27778			
△1 121	DINING AREA			ALUM / RUBBER	NAT / BLACK				VWC / PL	SAND / 417-858R	A.C.		VARIES	ALUM. (WOOD)	NAT. / 23617	ALUM. (METAL)	NAT. / 23617			SEE DETAILS SHEET A-25
122	(NOT USED)	—	—	—	—				—	—	—	—	8'-6"	—	—	—	—	—	—	
123	CORRIDOR	VAT	876	ALUM	NAT				VWC	SAND	MSC	WHITE		WOOD	27778	METAL	27778	—	—	
124	VESTIBULE													ALUM.	NAT.	ALUM.	NAT.	—	—	
125	OFFICE								DO	DO	DO	DO		WOOD	27778	METAL	27778	METAL	27778	
126	OFFICE	DO	DO																	
127	OFFICE																			
128	WAITING												DO	FOLDING	DO	DO	DO	DO.	DO.	
△2 129	VESTIBULE	PEB. CONC.	—	—					GLASS		GLASS	—	7'-1"	ALUM.	—	ALUM.	—	—	—	DETAIL SHEET A-16
130	CONFERENCE	V.A.T.	896	RUBBER	BLACK				V.W.C.	N.W.-BLUE OTHERS-SAND	AC	WHITE	9'-8"	WOOD	23617	METAL	23617	METAL	27778	
131	SERVING LINE	Q.T.	SUMMITVILLE #GG	Q.T.	#GG				P.L.	869 BUTTERSCOTCH	AC	"	8'-6"	WOOD	33434	DO	33434			
132	DISH WASHER	DO	"	Q.T.	#GG				C.T.	6448	SFP	27778	8'-6"	—	—	—	—			
133	SCULLERY		"	Q.T.	"				C.T.	"	S.P. △	WHITE	9'-8"	—	—	—	—			
134	KITCHEN		"	Q.T.	"		6448		C.T.	"	MSC (PS)		9'-8"	WOOD	27778	METAL	27778			
135	MANAGER	V.A.T.	876	RUBBER	BLACK	—	—	—	V.W.C.	CHINO	MSC		8'-6"	WOOD	27778	METAL	27778			
136	STORAGE	Q.T.	#GG	Q.T.	#GG	—	—	—	S.P.	23617	S.P.	27778	8'-6"	WOOD	27778	METAL	27778	—	—	
137	COOLER	Q.T.	#GG	Q.T.	—	—	—	—	C.R.P.	—	C.R.P.	—	7'-4"	PLASTIC	WHITE		—	—	—	DETAILS SHT - A-23
	STAIR NO. 1	V.A.T.	876	RUBBER	BLACK				S.F.P.	37778	S.F.P.	37778	MAX.	METAL	27778	METAL	27778	METAL	27778	PAINT HANDRAILS No. 16473
	STAIR NO. 2	V.A.T.	876	RUBBER	BLACK				S.F.P.	37778	S.F.P.	37778	MAX.	METAL	27778	METAL	27778	METAL	27778	PAINT HANDRAILS No 16473
	SECOND FLOOR																			
201	ELEVATOR LOBBY	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	DARK CORAL	M.S.C.	WHITE	8'-6"	METAL	L4-8*	METAL	L4-8*			* OTIS ELEVATOR COLOR
202	CORRIDOR	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE		WOOD	27778		27778	METAL	27778	
203	CORRIDOR	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE						DO.	DO.	
204	CORRIDOR	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE								
205	VESTIBULE	V.A.T.	719	RUBBER	BLACK	—	—	—	V.W.C.	CHINO	S.F.P.	37778			DO		DO			
206	MEN'S TOILET	C.T.	NO. 1	C.T.	NO. 1	C.T.	NO. 3	4'-0"	S.P.	27875	S.P.	27778	DO							TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
207	JANITOR'S CLOSET	C.T.	NO. 1	RUBBER	BLACK	—	—	—	S.P.	21643	S.P.	35622			27778		27778			
208	LOUNGE	V.A.T.	711	RUBBER	BLACK	—	—	—	S.F.P.	35622	S.F.P.	35622			25622		25622			
209	WOMEN'S TOILET	C.T.	NO. 2	C.T.	NO. 2	C.T.	NO. 4	4'-0"	S.P.	25622	S.P.	25622	8'-6"	DO	25622	DO	25622			TOILET PART. - WEISS #34
210	ELECT. CLOSET	CONC.	—	NONE	—	—	—	—	S.F.P.	27778	EXP.	27778	MAX.		27778		27778			
211	TELEPHONE EQUIPT.	CONC.	—	NONE	—	—	—	—	S.F.P.	27778	EXP.	27778	MAX.							
212	OFFICE	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE	8'-6"					METAL	27778	
213																				
214	DO	DO	DO	DO	DO				DO	DO	DO	DO	DO		DO		DO	DO	DO	
215																				
216																				
217	OFFICE	V.A.T.	719	ALUM.	NAT.				V.W.C.	CHINO	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	METAL	27778	
138	FREEZER (SAME AS 137)	Q.T.	SUMMITVILLE #GG	Q.T.	#GG	—	—	—	C.R.P.	—	C.R.P.	—	7'-0"							
139	TRASH	Q.T.	"	Q.T.	#GG	—	—	—	SP	37778	S.P.	37778	8'-6"							
140	VESTIBULE	USE SAME FIN AS IN VESTIBULE #124																		
141	SOUND LOCK	Q.T.	SUMMITVILLE #GG	Q.T.	#GG	—	—	—	C.T.	6448	S.P.	37778	8'-6"							

NOTE: ALL MASONRY WALLS WHICH RECEIVE V.W.C. SHALL BE PLASTERED, (SMOOTH FINISH)

SPACE		FLOOR		BASE		WAINSCOT		HT.	WALLS		CEILING		HT.	DOOR		DOOR FRAME		WINDOW STOOL		REMARKS
NO	DESIGNATION	MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR	
	SECOND FLOOR (CONT.)																			
218	OFFICE	V.A.T.	719	ALUM.	NAT.				V.W.C.	CHINO	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	METAL	27778	
219																				
220																				
221																				
222	DO																			
223																		DO	DO	
224																				
225																				
226																		METAL		
227	CORRIDOR																	NONE	—	
228	OFFICE																			
229	OFFICE																			
230																		METAL	27778	
231	DO	DO	DO	DO	DO				DO	DO	DO	DO	DO	DO	DO	DO	DO			
232																				
233																				
234																				
235																		DO	DO	
236																				
237																				
238																				
239																				
240																				
241																				
242	OFFICE	V.A.T.	719	ALUM.	NAT.				V.W.C.	CHINO	M.S.C.	WHITE	8'-6"	WOOD				METAL	27778	
	STAIR NO. 1	V.A.T.	876	RUBBER	BLACK				S.F.P.	37778	S.F.P.	37778	MAX	METAL						PAINT HANDRAILS NO. 16473
	STAIR NO. 2	V.A.T.	876	RUBBER	BLACK				S.F.P.	37778	S.F.P.	37778	MAX	METAL	27778	METAL	27778			" " NO. 16473
203A	CORRIDOR	V.A.T.	719	ALUM.	NATURAL	—	—	—	V.W.C.	CHINO	MSC	WHITE	8'-6"	WOOD	27778	METAL	27778	—	—	
212A	OFFICE	V.A.T.	719	ALUM.	NATURAL	—	—	—	V.W.C.	CHINO	MSC	WHITE	8'-6"	WOOD	27778	METAL	27778			
213A	OFFICE	V.A.T.	719	ALUM.	NATURAL	—	—	—	V.W.C.	CHINO	MSC	WHITE	8'-6"	WOOD	27778	METAL	27778	METAL	27778	
228A	OFFICE	V.A.T.	719	ALUM.	NATURAL	—	—	—	V.W.C.	CHINO	MSC	WHITE	8'-6"	WOOD	27778	METAL	27778			
	THIRD FLOOR																			
301	ELEVATOR LOBBY	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	OYSTER WHITE	M.S.C.	WHITE	8'-6"	METAL	LI-10*	METAL	LI-10*			OTIS ELEVATOR COLOR
302	CORRIDOR	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	PEA GREEN	M.S.C.	DO		WOOD	27778		27778	METAL	27778	
303	CORRIDOR	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	DO	M.S.C.	DO						METAL	27778	
304	CORRIDOR	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	DO	M.S.C.	DO								
305	VESTIBULE	V.A.T.	868	RUBBER	BLACK	—	—	—	V.W.C.	DO	M.S.C.	DO	DO		DO		DO			
306	MEN'S TOILET	C.T.	NO. 1	C.T.	NO. 1	C.T.	NO. 3	4'-0"	S.P.	27875	S.P.	27775								TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
307	JANITOR'S CLOSET	C.T.	NO. 1	RUBBER	BLACK	—	—	—	S.P.	21643	S.P.	27778								
308	LOUNGE	V.A.T.	711	RUBBER	BLACK	—	—	—	S.F.P.	35622	S.F.P.	35622			25622		25622			
309	WOMEN'S TOILET	C.T.	NO. 2	C.T.	NO. 2	C.T.	NO. 4	4'-0"	S.P.	25622	S.P.	25622			25622		25622			TOILET PART. - WEIS #32
310	ELECT. CLOSET	CONC.	—	NONE	—	—	—	—	S.F.P.	27778	EXP.	27778	MAX.		27778		27778			
311	TELEPHONE EQUIPT.	CONC.	—	NONE	—	—	—	—	S.F.P.	27778	EXP.	27778	MAX							
312	CONFERENCE ROOM	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"							
313	STORAGE																			
314	CORRIDOR																			
315	OFFICE																	METAL	27778	
316																				
317																				
318																				
319																				
320																				
321																				
322																				
323														DO		DO				
324																				
325																				
326																				
327																				
328																				
329, 329A																				
330, 330A	DO	DO	DO	DO	DO				DO	DO	DO	DO	DO		DO		DO	METAL	27778	
331																				
332																				
333																				
334																				
335																				
336																				
337																				
338																				
339																				
340																				
341																				
342																				
343																				
344	OFFICE	V.A.T.	868	ALUM.	NAT.				V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"	WOOD				METAL	27778	
	STAIR NO. 1	V.A.T.	876	RUBBER	BLACK				S.F.P.	37778	S.F.P.	37778	MAX	METAL						PAINT HANDRAILS NO. 16473
	STAIR NO. 2	V.A.T.	876	RUBBER	BLACK				S.F.P.	37778	S.F.P.	37778	MAX.	METAL	27778	METAL	27778			" " NO. 16473

VINYL WALL COVERING COLORS

SAND, CHINO, PEA GREEN & OYSTER WHITE
ALL STANDARD COLORS OF "CONTEMPO-WALL" PARTITION SYSTEM, W/ "BURLWALL" TEXTURE.*

* IN AREAS HAVING SOLID PLASTER PARTITIONS AND WHERE V.W.C. IS CALLED FOR, THE V.W.C. SHALL MATCH "CONTEMPO-WALL".

VINYL ASBESTOS TILE - ARMSTRONG EXCELON   PLASTIC LAMINATE - FORMICA
QUARRY TILE - SUMMITVILLE TILES INC.

ABBREVIATIONS

- V.A.T. - VINYL ASBESTOS TILE
- C.T. - CERAMIC TILE
- CONC. - CONCRETE
- PEB. CONC. - PEBBLE CONCRETE
- ALUM. - ALUMINUM
- NAT. - NATURAL
- V.W.C. - VINYL WALL COVERING
- S.P. - SMOOTH PLASTER (PAINTED)
- S.F.P. - SAND FINISH PLASTER (PAINTED)
- M.S.C. - MECHANICALLY SUSPENDED CEILING
- EXP. - EXPOSED STRUCTURE
- MAX. - MAXIMUM HEIGHTH
- DO - DITTO (SAME)
- F.E.B. - FIRE EXTINGUISHER BRACKET
- F.E.C. - FIRE EXT. CABINET.
- A.C. - ACOUSTICAL TILE (12 × 12)
- Q.T. - QUARRY TILE
- C.B. - CONCRETE BLOCK
- PLYWD - PLYWOOD
- S.S. - STAINLESS STEEL
- C.R.P. - COLD ROOM PLASTER
- P.S. - PLASTIC SURFACE
- PL. - PLASTIC LAMINATE

STAIRWAYS

V.A.T. ON ALL STAIR TREADS AND LANDINGS, SEE DETAILS ON SH. A-19

CERAMIC TILE COLORS

NO. 1	- MOSAIC TILE CO	2"x1"	CERAMIC MOSAIC TILE,	#163	TAN
NO. 2	- "	2"x1"	" " "	#181	SALT & PEPPER
NO. 3	- "	6"x 4½"	" " "	#1601	TAN
NO. 4	- "	6"x 4½"	" " "	#1751	LIGHT GRAY

* PAINT COLORS SHOWN (27778, 35622, ETC.) ARE TAKEN FROM FEDERAL STANDARD NO. 595.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED ... COPY
1 7 1964
MAR 1 7 1964

REV.	BY	DATE		C.I. NO.	APPROVED
△2	JWS	6-3-65	REV. BASE RMS 112 THRU 121 & 129	12038-20	[illegible]
△1	G.D.H.	2-18-64	REV. C/C IN RM. 133 AS PER AMEND #2		GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

ROOM FINISH & COLOR SCHEDULE

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. MSFC 8898

SUBMITTED: CHIEF Wyatt Hedrick — AE DATE: 11-17-62
APPROVAL RECOMMENDED: — LAB: DATE:
APPROVED: CHIEF, DESIGN BRANCH — NASA DATE: 3/16/64
APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION
DESIGNED T.R.B. — DRAWN W.L.A. — CHECKED W.L.A. — SCALE:
DESIGN DATE: — SPEC. NO. F&D-441

REF. NO. A-7

DRWG. NO. F&D-A-4202-A7

MSFC-FORM 232 (REV. DEC., 1960)

4202

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ROOM FINISH MATERIAL & COLOR SCHEDULE

SPACE		FLOOR		BASE		WAINSCOT		HT	WALLS		CEILING		HT	DOOR		DOOR FRAME		WINDOW STOOL		REMARKS
NO	DESIGNATION	MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR	
	FOURTH FLOOR																			
401	ELEVATOR LOBBY	V.A.T	876	ALUM	NAT	—	—	—	V.W.C	BLUE	MSC	WHITE	8'-6"	METAL	L4-8	METAL	L4-8*	METAL	27778	*OTIS ELEVATOR COLOR
402	CORRIDOR	"	"	"	"	—	—	—	"	SAND	"	"		WOOD	27778		27778	METAL	27778	
403	CORRIDOR	"	"	"	"	—	—	—	"	"	"	"						—	—	
404	CORRIDOR	"	"	"	"	—	—	—	"	"	"	"	DO					—	—	
405	VESTIBULE	"	"	RUBBER	BLACK	—	—	—	"	"	"	37778						—	—	
406	MEN'S TOILET	C.T.	NO. 1	C.T.	NO. 1	C.T.	NO. 3	4'-0"	S.P	27875	S.P	27875						—	—	TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
407	JANITOR'S CLO.	C.T.	NO. 1	C.T.	NO. 1	—	—	—	S.P.	21643	"	"						—	—	
408	LOUNGE	V.A.T	711	RUBBER	BLACK	—	—	—	S.F.P	35622	S.F.P	35622			25622		25622	—	—	
409	WOMEN'S TOILET	C.T.	NO. 2	C.T	NO. 2	C.T	NO. 4	4'-0"	S.P	25622	S.P	25622	8'-6"		25622		25622	—	—	TOILET PART. WEIS* 34
410	ELECTRICAL CLO.	CONC.	—	NONE	—	—	—	—	S.F.P	27778	EXP	27778	MAX		27778		27778	—	—	
411	TELEPHONE EQUIP.	CONC.	—	NONE	—	—	—	—	S.F.P	27778	EXP	27778	MAX.		27778		27778	—	—	
412	OFFICE	V.A.T.	876	ALUM	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6							
413																		METAL	27778	
414																				
415																				
416																				
417																				
418																		DO	DO	
419	DO																			
420																				
421																				
422																				
423																				
424		DO.	DO	DO	DO				DO	DO	DO	DO	DO	DO	DO	DO.	DO			
425																				
426	OFFICE																	METAL	27778	
427	CORRIDOR																	—	—	
428	OFFICE																			
429	OFFICE																			
430																		METAL	27778	
431																				
432																				
433																				
434																				
435	DO																	DO	DO	
436																				
437																				
438																				
439																				
440																				
441																				
442	OFFICE	V.A.T.	876	ALUM.	NAT.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"	WOOD				METAL	27778	
	STAIR No 1	V.A.T	876	RUBBER	BLACK	—	—	—	S.F.P	37778	S.F.P	37778		METAL						PAINT HANDRAILS #16473
	STAIR No 2	V.A.T.	876	RUBBER	BLACK	—	—	—	S.F.P	37778	S.F.P.	37778		METAL	27778	METAL	27778			PAINT HANDRAILS #16473
403A	CORRIDOR	V.A.T.	876	ALUM.	N.A.T.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	—	—	
412A	OFFICE	V.A.T.	876	ALUM.	N.A.T.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778			
413A	OFFICE	V.A.T.	876	ALUM.	N.A.T.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	METAL	27778	
428A	OFFICE	V.A.T.	876	ALUM.	N.A.T.	—	—	—	V.W.C.	SAND	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778			
	FIFTH FLOOR																			
501	ELEVATOR LOBBY	V.A.T.	719	ALUM	NAT	—	—	—	V.W.C	DARK CORAL	M.S.C	WHITE	8'-6"	METAL	L4-8*	METAL	L4-8*	—	—	*OTIS ELEVATOR COLOR
502	CORRIDOR	"	"	"	"	—	—	—	"	CHINO	"	"		WOOD	27778		27778	METAL	27778	
503	CORRIDOR	"	"	"	"	—	—	—	"	"	"	"						METAL	27778	
504	CORRIDOR	"	"	"	"	—	—	—	"	"	"	"						—	—	
505	VESTIBULE	"		RUBBER	BLACK	—	—	—	"	"	S.F.P.	37778	DO		DO.		DO.	—	—	
506	MENS TOILET	CT	No 1	CT	No 1	CT	No 3	4'-0"	S.P	27875	S.P.	27875						—	—	TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
507	JANITOR'S CLO	C.T	No 1	RUBBER	BLACK	—	—	—	"	"	"	"			27778		27778	—	—	
508	LOUNGE	V.A.T.	711	"	"	—	—	—	S.F.P	35622	S.F.P.	35622			25622		25622	—	—	
509	WOMEN'S TOILET	CT	No 2	CT	No 2	C.T.	No 4	4'-0"	S.P	25622	S.P	27875			25622		25622	—	—	TOILET PARTITION-WEIS* 34
510	ELECTRICAL CLOSET	CONC	NONE	NONE		—	—	—	S.F.P	27778	EXP	27778	MAX		27778		27778	—	—	
511	TELEPHONE EQUIP	"		"					"	27778	EXP	27778	"					—	—	
512	CONFERENCE	V.A.T.	719	ALUM.	NAT	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE	8'-6"					—	—	
513	STORAGE																	—	—	
514	CORRIDOR					—	—	—												
515	OFFICE																	METAL	27778	
516																				
517																				
518																				
519																				
520																				
521														DO.	DO.	DO.				
522																				
523																	DO.			
524																				
525																				
526	DO.	DO.	DO.	DO.	DO.				DO.	DO.	DO.	DO.	DO.					DO.	DO.	
527																				
528																				
529																		METAL	27778	
530																				
531																		METAL	27778	
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538																				
539																				
540																				
541																				
542																				
543																				
544	OFFICE	V.A.T.	719	ALUM	NAT.	—	—	—	V.W.C.	CHINO	M.S.C	WHITE	8'-6"	WOOD						
	STAIR No.1	V.A.T.	876	RUBBER	BLACK	—	—	—	S.F.P.	37778	S.F.C.	37778	MAX	METAL						PAINT HANDRAILS #16473
	STAIR No 2	V.A.T.	876	RUBBER	BLACK	—	—	—	S.F.P.	37778	S.F.C.	37778	MAX	METAL	27778	METAL	27778	METAL	27778	PAINT HANDRAILS #16473
502A	CORRIDOR	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	—	—	
529A	OFFICE	V.A.T.	719	ALUM	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	METAL	27778	
530A	OFFICE	V.A.T.	719	ALUM.	NAT.	—	—	—	V.W.C.	CHINO	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778			

SPACE		FLOOR		BASE		WAINSCOT		HT	WALLS		CEILING		HT	DOOR		DOOR FRAME		WINDOW STOOL		REMARKS
NO	DESIGNATION	MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR		MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	COLOR	
	SIXTH FLOOR																			
601	ELEVATOR LOBBY	V.A.T	868	ALUM	NAT	—	—	—	V.W.C.	OYSTER WHITE	M.S.C.	WHITE	8'-6"	METAL	L1-10*	METAL	L1-10*	—	—	*OTIS ELEVATOR COLOR
602	CORRIDOR	"	"	"	"	—	—	—	"	PEA GREEN	"	"		WOOD	27778		27778	METAL	27778	
603	CORRIDOR	"	"	"	"	—	—	—	"	"	"	"			"		"	METAL	27778	
604	VENDING MACHINE	"	"	—	—	—	—	—	"	"	"	"			"		"	—	—	
605	VESTIBULE	"	"	RUBBER	BLACK	—	—	—	"	"	S.F.P.	37778	DO.		"		"	—	—	
606	MEN'S TOILET	C.T	No 1	C.T.	No 1	C.T. #3	No	4'-0"	S.P.	27875	S.P	27875			"		"	—	—	TOILET PARTITIONS - WEISS #71 WHITE WITH BLACK DOORS #91
607	JANITOR'S CLO	"	"	RUBBER	BLACK	—	—	—	"	"	"	"			27778		27778	—	—	
608	LOUNGE	V.A.T.	711	"	"	—	—	—	S.F.P.	35622	S.F.P.	35622			25622		25622	—	—	
609	WOMEN'S TOILET	C.T.	No 2	C.T.	No.2	C.T. #4	No	4'-0"	S.P	25622	S.P	27875	8'-6"		25622			—	—	TOILET PARTITION - WEIS #34
610	ELECTRIC CLO	CONC	—	—	—	—	—	—	S.F.P	27778	EXP.	27778	MAX		27778		27778	—	—	
611	TELEPHONE EQPT	"	—	—	—	—	—	—	"	27778	EXP	27778	MAX					—	—	
612	OFFICE	V.A.T.	868	ALUM.	NAT	—	—	—	V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"							
613																		METAL	27778	
614																				
615																				
616																				
617																				
618	DO																			
619																		DO.	DO	
620																				
621																				
622																				
623																				
624														DO.						
625																				
626	OFFICE	DO	DO.	DO	DO.				DO	DO.	DO	DO.	DO.		DO.	DO.	DO	METAL	27778	
627	CORRIDOR																	—	—	
628	OFFICE																			
629	OFFICE																			
630																		METAL	27778	
631																				
632																				
633																				
634																		DO.	DO	
635	DO																			
636																				
637																				
638																				
639																				
640																				
641																				
642	OFFICE	V.A.T.	868	ALUM.	NAT	—	—	—	V.W.C.	PEA GREEN	M.S.C	WHITE	8'-6	WOOD				METAL	27778	
	STAIR No 1	V.A.T.	876	RUBBER	BLACK	—	—	—	S.F.P	37778	S.F.P.	37778	MAX	METAL						PAINT HANDRAIL #16473
	STAIR No 2	V.A.T.	876	"	"				"	"	"	"	"	"						" " "
	STAIR No 3	V.A.T.	876	"	"				"	"	"	"	"	"				—	—	" " "
	STAIR No 4	MET.	—	—	—	—	—	—	SEE	ROOM	NO. 611							—	—	PAINT HANDRAIL #16473 STAIR #16473 TREADS #13538
603A	CORRIDOR	V.A.T.	868	ALUM.	NAT	—	—	—	V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778			
612A	OFFICE	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778			
613A	OFFICE	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778	METAL	27778	
628A	OFFICE	V.A.T.	868	ALUM.	NAT.	—	—	—	V.W.C.	PEA GREEN	M.S.C.	WHITE	8'-6"	WOOD	27778	METAL	27778			
	PENTHOUSE (1)																			
P-1	ELEVATOR EQUIP	CONC	—	NONE	—	—	—	—	GYP. BOARD S.F.F	26622	SUSPENDED GYP. BD.	26622	MAX	METAL	26622	METAL	26622	—	—	
P-2	STORAGE	"	—	RUBBER	BLACK	—	—	—	S.F.P.	26622	EXP.	26622	"	"	26622	"	26622			
P-3	MECH EQUIP RM	"	—	"	"	—	—	—	S.F.P.	26622	EXP.	26622	"	"	26622	"	26622			
	STAIR No 3	"	876	"	"	—	—	—	S.F.P.	37778	S.F.P.	37778	"	"	27778	"	27778			PAINT HANDRAILS #16473
	STAIR No 4	MET.	—	—	—	—	—	—	S.F.P	27778	S.F.P	27778	"	"	27778	"	27778			PAINT HANDRAILS #16473 STAIR-#16473 TREADS 13538

REV.	BY	DATE		C.I. NO.	APPROVED
1	G.H.	4-19-65	REVISED ELEVATOR EQUIP. RM. P-1	12038-15	G.H. B.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

ROOM FINISH & COLOR SCHEDULE

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8899

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: — APPROVED: CHIEF, DESIGN BRANCH

AE DATE 11-17-62 — LAB DATE — NASA DATE 3/16/64

DESIGNED T.R.B. — DRAWN H.H.S. — CHECKED W.L.A. — APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION — DESIGN DATE: — SPEC. NO. F&D-441 — SCALE:

REF. NO. A-8

DRWG. NO. F&D-A-4202-A8

AS BUILT

APPROVED FOR SAFETY — MAR 17 1964 — DATE — SAFETY OFFICE

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

MSFC-FORM 232 (REV. DEC. 1960)

4202

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DOOR SCHEDULE

DOOR NO.	DOOR TYPE	DOOR OPENING	DOOR MATERIAL	FRAME MATERIAL	HDW. NO.	UL RATE	REMARKS
BASEMENT							
B-1	G	6'-0" x 6'-11¾" x 1¾"	H.M.	H.M.	1		DETAILS ON SHT A-15
B-2	F	3'-0" x 6'-11¾" x 1¾"	WOOD	H.M.	2		SOLID CORE - DET'LS SHT A-1
B-3	C	3'-6" x 6'-11¾" x 1¾"	H.M.	SEE DET.	3	"B"	
B-4	G	6'-0" x 6'-11¾" x 1¾"	H.M.	SEE DET.	4	"B"	
B-5	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
B-6					5		
B-7					5		
B-8	DO.	DO.			5		
B-9			DO.	DO.	5		
B-10					5		
B-11					5		
B-12 & B-12A					6		SOLID CORE W/ LOUVERS
B-13 & B-13A					6		" " " "
B-14	G	6'-0" x 6'-11¾" x 1¾"	H.M.	SEE DET.	4	"B"	
B-15	E	" " "	WOOD	SEE DET.	7		SOLID CORE W/ LOUVERS
B-16	F	3'-0" x 6'-11¾" x 1¾"		H.M.	2		" "
B-17	M	" " "			18		" " (DUTCH DOOR)
B-18	D	3'-0" x 7'-0" x 1¾"			3		
B-19		" " "			3		
B-20		2'-6" x 7'-0" x 1¾"	DO.	DO.	6		SOLID CORE
B-21	DO.	" " "			6		" " - W/LOUVER
B-22		" " "			24		W/ LOUVER
B-23		" " "			6		SOLID CORE - W/LOUVER
B-24		" " "			6		" "
~~B-25~~	~~C~~	~~3'-0" x 7'-0" x 1¾"~~	~~H.A.~~		~~12~~	~~"B"~~	~~¼" WIRE GL. VISION PANEL~~
B-26	J	2'-10" x 6'-7¼" x 2¼"	STEEL	STEEL	—	2 HR.	DETAILS ON SHT. A-23
B-27	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
B-28					5		
B-29					5		
B-30					5		
B-31	DO.	DO.	DO.		5		
B-32					5		
B-33				DO.	5		
B-34					5		
B-35					5		
B-36					5		
B-37	C	3'-0" x 7'-0" x 1¾"	H.M.		9	"B"	
B-38	G	5'-0" x 7'-0" x 1¾"	H.M.		19		SAFETY INTERLOCKING HDWE.
B-39	E	6'-0" x 7'-0" x 1¾"	WOOD		20		12 x 12 VISION PANELS
FIRST FLOOR							
101	A	6'-0" x 7'-0" x 2"	ALUM.	ALUM	10		¼" POL. PL. GLASS
102	"	" " "	"	"	10		" " " "
103	A	5'-0" x 7'-0" x 2"	"	"	10		GREY GLASS
104		(NOT USED)					
105	B	3'-0" x 7'-0" x 2"	"	"	11		GREY GLASS
106	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL. VISION PANEL
107	"	" " "	"	"	12	"	" " " " "
108	B	3'-0" x 7'-0" x 2"	ALUM.	ALUM.	13		¼" POL. PL. GLASS
109	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
110	"				5		
111	"	DO.		DO.	5		
112	"				5		
113	"				5		
114	"				5		
115	A	5'-0" x 7'-0" x 1¾"	ALUM.	ALUM.	10		¼" POL. PL. GLASS
116	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	21		DOUBLE ACTING - PIVOT W/ VISION PANEL & ARMOR PLATE
117	F	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	2		
118	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL. -VISION PANEL
119	"	" " "	"		12	"	" " " - " "
120	D	3'-0" x 7'-0" x 1¾"	WOOD		24		W/ ARMOR PLATE EACH SIDE
121	K	3'-0" x 7'-0" x	PLASTIC	SEE DET.	—		INSULATED DOOR
122	K	3'-0" x 7'-0" x	PLASTIC	" "	—		" "
123	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	3		W/ ARMOR PLATE EACH SIDE
124	E	5'-0" x 7'-0" x 1¾"			14		SOLID CORE ARMOR PLATE 12x12 VISION PANELS
125	D	3'-0" x 7'-0" x 1¾"			21		W/ VISION PANEL & ARMOR PL.
126 & 126A	D	3'-0" x 7'-0" x 1¾"	DO.		22		SOLID CORE
127	D	3'-0" x 7'-0" x 1¾"		DO.	22		SOLID CORE
128	A	5'-0" x 7'-0" x 1¾"	ALUM.	ALUM.	10		- ¼" POL. PL. GLASS
129	D	2'-6" x 7'-0" x 1¾"	WOOD	H.M.	6		SOLID CORE W/ LOUVERS
130	D	2'-6" x 7'-0" x 1¾"			6		" " " "
131	D	2'-6" x 7'-0" x 1¾"	DO.	DO.	6		SOLID CORE
132	D	2'-6" x 7'-0" x 1¾"			24		W/ LOUVER
133	B	3'-0" x 7'-0" x	ALUM.	ALUM.	23		¼" POL. PL. GLASS
134	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	3		SOLID CORE W/LOUVER
135	"	2'-6" x 7'-0" x 1¾"	"		3		" " W/LOUVER
136	"	3'-0" x 7'-0" x 1¾"	"		5		
137	A	6'-0" x 7'-0" x 2"	ALUM	ALUM.	15		DOUBLE ACTING-GREY GL.
138	A	" " "	"	"	15		" " - " "
139	H	8'-0" x 7'-0" x	WOOD	H.M.	—		FOLDING (DET. SHT. A-3)
140	D	3'-0" x 7'-0" x 1¾"	"		5		
141	E	6'-0" x 7'-0" x 1¾"	WOOD		14		W/ VISION PANELS
SECOND FLOOR							
201	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL. VISION PANEL
202	D		WOOD		5		
203					5		
204					5		
205					5		
206					5		
207					5		
208		DO.			5		
209	DO.		DO.	DO.	5		
210					5		
211					5		
212					5		
213					5		
214					5		
215					5		
216					5		
217					5		
218	D	2'-6" x 7'-0" x 1¾"	WOOD	H.M.	6		SOLID CORE
219		" " "			6		" " W/LOUVER
220		" " "			3		SOLID CORE W/LOUVER
221	DO.	3'-0" x 7'-0" x 1¾"	DO.		3		SOLID CORE W/LOUVER
222		2'-6" x 7'-0" x 1¾"			24		W/ LOUVER
223		" " "			6		SOLID CORE
224		" " "			6		" "
225	C	3'-0" x 7'-0" x 1¾"	H.M.		12	"B"	¼" WIRE GL - VISION PANEL
226	D	3'-0" x 7'-0" x 1¾"	WOOD		5		
227				DO.	5		
228					5		
229					5		
230					5		
231					5		
232	DO.	DO.	DO.		5		
233					5		
234					5		
235					5		
236					5		
237					5		
238					5		
239					5		
240	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
241	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
242	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
216A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
THIRD FLOOR							
301	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL. VISION PANEL
302	D		WOOD		5		
303					5		
304					5		
305					5		
306					5		
307					5		
308					5		
309		DO.			5		
310					5		
311					5		
312					5		
313	DO.		DO.		5		
314					5		
315					5		
316					5		
317					5		
318		2'-6" x 7'-0" x 1¾"			6		SOLID CORE
319		" " "			6		" " W/LOUVER
320		" " "			3		SOLID CORE W/LOUVER
321		3'-0" x 7'-0" x 1¾"			3		SOLID CORE
322		" " "			3		
323		" " "			3		SOLID CORE W/LOUVER
324		2'-6" x 7'-0" x 1¾"			24		W/ LOUVER
325		" " "			6		SOLID CORE
326		" " "			6		" "
327	C	3'-0" x 7'-0" x 1¾"	H.M.	DO.	12	"B"	¼" WIRE GL. -VISION PANEL
328	D		WOOD		5		
329					5		
330					5		
331					5		
332					5		
333					5		
334		DO.			5		
335	DO.		DO.		5		
336					5		
337					5		
338					5		
339					5		
340					5		
341					5		
342					5		
317A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
328A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
FOURTH FLOOR							
401	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL. - VISION PANEL
402	D		WOOD		5		
403					5		
404					5		
405					5		
406					5		
407					5		
408					5		
409		DO.			5		
410					5		
411				DO.	5		
412	DO.		DO.		5		
413					5		
414					5		
415					5		
416					5		
417					5		
418		2'-6" x 7'-0" x 1¾"			6		SOLID CORE
419		" " "			6		" " -W/LOUVER
420		" " "			3		SOLID CORE-W/LOUVER
421		3'-0" x 7'-0" x 1¾"			3		SOLID CORE-W/LOUVER
422		2'-6" x 7'-0" x 1¾"			24		W/ LOUVER
423		" " "			6		SOLID CORE
424		" " "			6		" "
425	C	3'-0" x 7'-0" x 1¾"	H.M.		12	"B"	¼" WIRE GL. VISION PANEL
426	D	" " "	WOOD		5		
427	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
428					5		
429					5		
430					5		
431					5		
432					5		
433	DO.	DO.	DO.	DO.	5		
434					5		
435					5		
436					5		
437					5		
438					5		
439					5		
440	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
441	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
442	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
416A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
FIFTH FLOOR							
501	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL - VISION PANEL
502	D		WOOD		5		
503					5		
504					5		
505					5		
506					5		
507					5		
508					5		
509		DO.			5		
510					5		
511					5		SOLID CORE
512					5		
513	DO.		DO.		5		
514					5		
515					5		
516					5		
517					5		
518		2'-6" x 7'-0" x 1¾"			6		SOLID CORE
519		" " "			6		" " W/LOUVER
520		" " "			3		SOLID CORE W/LOUVER
521		3'-0" x 7'-0" x 1¾"		DO.	3		SOLID CORE
522		" " "			3		
523		" " "			3		SOLID CORE W/LOUVER
524		2'-6" x 7'-0" x 1¾"			24		W/ LOUVER
525		" " "			6		SOLID CORE
526		" " "			6		" "
527	C	3'-0" x 7'-0" x 1¾"	H.M.		12	"B"	¼" WIRE GL. VISION PANEL
528	D		WOOD		5		
529					5		
530					5		
531					5		
532					5		
533					5		
534					5		
535	DO.	DO.	DO.		5		
536					5		
537					5		
538					5		
539					5		
540					5		
541					5		
542					5		
517A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
528A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
SIXTH FLOOR							
601	C	3'-0" x 7'-0" x 1¾"	H.M.	H.M.	12	"B"	¼" WIRE GL. -VISION PANEL
602	D		WOOD		5		
603					5		
604					5		
605					5		
606					5		
607					5		
608					5		
609		DO.			5		
610					5		
611					5		
612	DO.		DO.		5		
613					5		
614					5		
615					5		
616					5		
617				DO.	5		
618		2'-6" x 7'-0" x 1¾"			6		SOLID CORE
619		" " "			6		" " -W/LOUVER
620	D	" " "			3		SOLID CORE-W/LOUVER
621	C	3'-0" x 7'-0" x 1¾"	H.M.		12	"B"	
622	D	2'-6" x 7'-0" x 1¾	WOOD		24		W/ LOUVER
623	"	" " "	"		6		SOLID CORE
624	"	" " "	"		6		" "
625	C	3'-0" x 7'-0" x 1¾"	H.M.		12	"B"	¼" WIRE GL. - VISION PANEL
626	"		"		12		" " " - " "
627	D		WOOD		5		
628					5		
629					5		
630		DO.			5		
631	DO.		DO.		5		
632					5		
633					5		
634					5		
635					5		
636	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
637					5		
638	DO.	DO.	DO.	DO.	5		
639					5		
640					5		
641	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
642	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
643	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
616A	D	3'-0" x 7'-0" x 1¾"	WOOD	H.M.	5		
PENTHOUSE							
P-1	C	3'-0" x 6'-8" x 1¾"	H.M.	SEE DET.	16		¼" WIRE GL. - VISION PANEL
P-2	C	" " "		" "	16		" " " - " "
P-3	C	3'-0" x 7'-0" x 1¾"	DO.	H.M.	12	"B"	" " " - " "
P-4	G	6'-0" x 7'-0" x 1¾"		"	17		———
P-5	C	3'-0" x 7'-0" x 1¾"		"	12	"B"	¼" WIRE GL- VISION PANEL
COOLING TOWER							
C-1	C	3'-0" x 6'-6" x 1¾"	H.M.	H.M.	16		

MSFC-FORM 232 (REV. DEC., 1960)

DOOR TYPES

SEE SCHEDULE FOR DIMENSIONS

SCALE - 3/8" = 1'-0"

FOR DOOR DETAILS-

DOOR B-2	SHT.-A- 1
H.METAL FRAME IN MASONRY	SHT.-A- 3
H.METAL FRAME IN 2½" PLASTER PART'N.	SHT.-A- 3
H.METAL FRAME AT CONC. COLUMN	SHT.-A- 3
H.METAL FRAME IN PREFAB. MOVABLE PART'N.	SHT.-A- 3
EXTERIOR DOORS AT PENTHOUSE	SHT.-A- 6
H. METAL FRAME IN H.METAL STUD & PLASTER WALL	SHT.-A- 3
H. METAL FRAME FOR FOLDING DOOR	SHT.-A - 3
SECURITY FILE DOOR DETAIL	SHT.-A-23
PLASTIC REFRIGERATOR DOOR DETAIL	SHT.-A-23
DETAIL OF DOORS 116 & 125	SHT. A-23

ABBREVIATIONS:

H.M.	-HOLLOW METAL-
ALUM.	-ALUMINUM
POL. PL.	-POLISHED PLATE
DO.	-DITTO
W/	-WITH

AS BUILT

APPROVED ... SAFETY ... DATE

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED
2	GH	3-2-65	ADDED DOOR B-26	12038-14	GH
1	J.F.S.	4-13-64	DELETED DOOR NO. B-25		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

DOOR SCHEDULE

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8900

SUBMITTED: Wyatt C. Hedrick, CHIEF — AE DATE: 11-17-62

APPROVAL RECOMMENDED: — LAB: DATE:

APPROVED: CHIEF DESIGN BRANCH — NASA DATE: 3/16/64

DESIGNED — DRAWN H.H.S. — CHECKED W.L.A. — SCALE:

APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION — DESIGN DATE: — SPEC. NO. FE-D-441

REF. NO. A-9

DRWG. NO. F&D-A-4202-A9

4202

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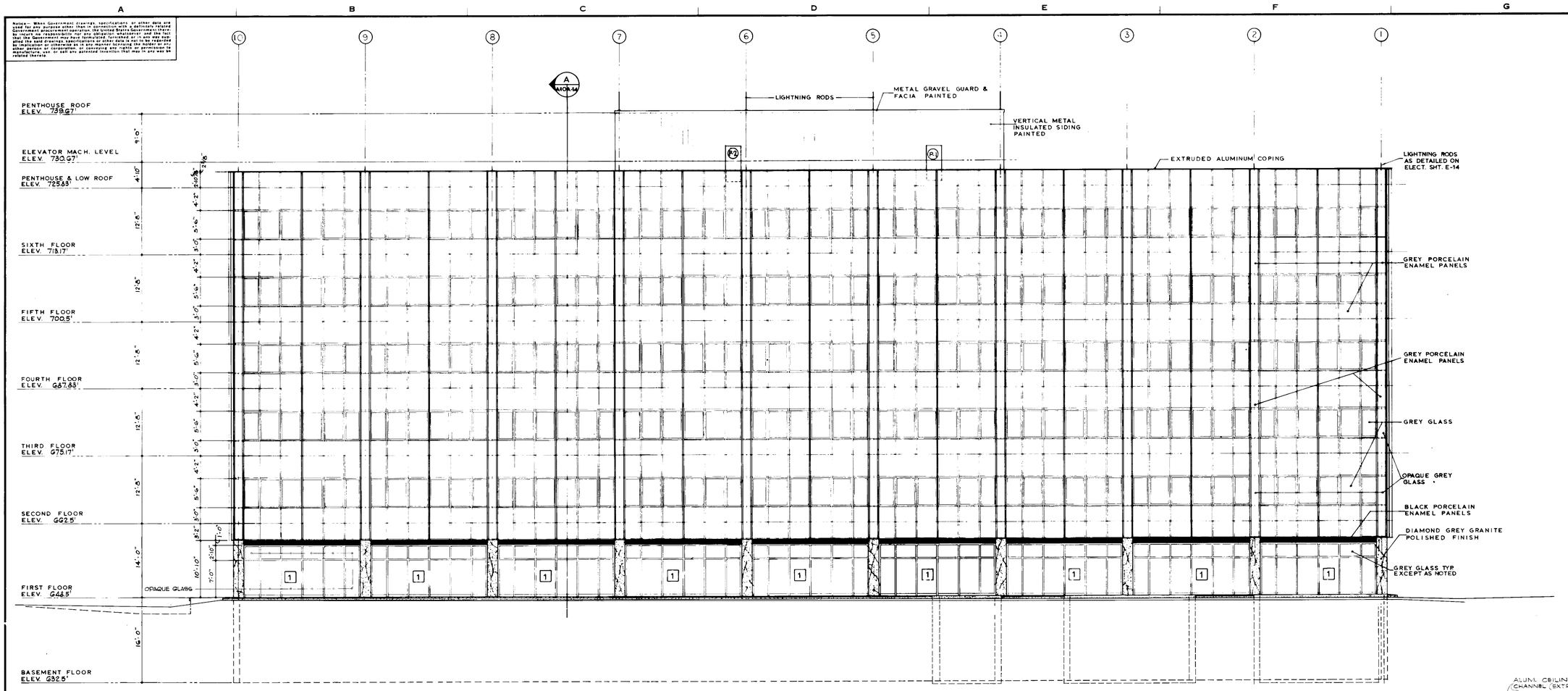
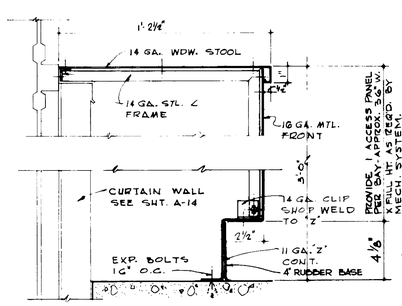
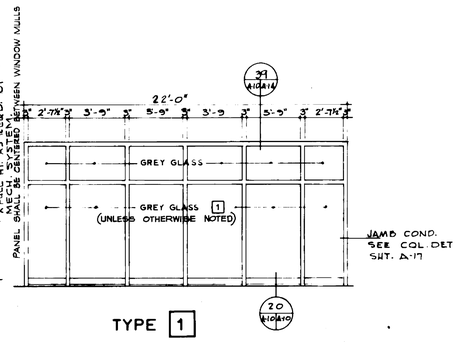


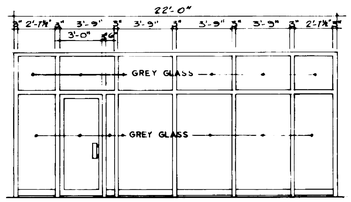




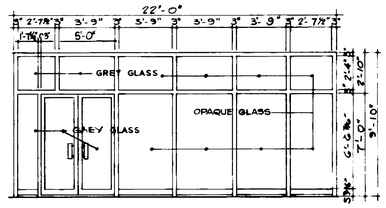
TYPE 1

NORTH REAR ELEVATION

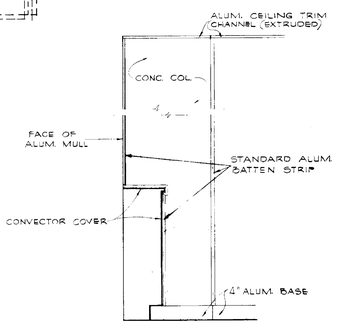
SCALE 1/8"= 1'-0"



TYPE 3



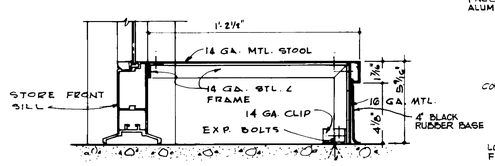
TYPE 4



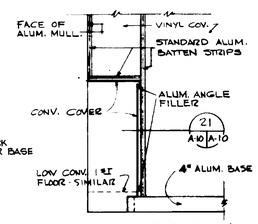
ELEVATION of INTERSECTION of PARTITION, COLUMN & CONVECTOR COVER SCALE 1½"= 1'-0"

TYPICAL CONVECTOR COVER - WNDW. STOOL

SCALE 3"=1'-0"



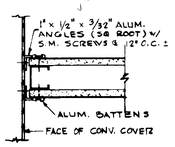
DETAIL SCALE: 3"=1'-0" 2D A10/A10 A-14



ELEV. OF PARTITION AT CONVECTOR COVER SCALE: 3"=1'-0"

FIRST FLOOR WINDOW SCHEDULE

SCALE 1/8"= 1'-0"



DETAIL 21 3"=1'-0" A-10/A-10 A-17

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED FOR SAFETY
MAR 17 1964
DATE

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

NORTH REAR EXTERIOR ELEVATION

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8901

SUBMITTED: Wyatt Hedrick — APPROVAL RECOMMENDED: — APPROVED: C.H. Remaugh, CHIEF, DESIGN BRANCH

AE DATE: 11-17-62 — LAB DATE: — NASA DATE: 3/16/64

DESIGNED — DRAWN: D.F.D., J.L., W.L.A. — CHECKED: W. L. A. — APPROVAL RECOMMENDED: W. M. Hutchinson, CHIEF, ARCH. SECTION — DESIGN DATE:

SCALE: AS NOTED — SMC NO. F&D-141

REF. NO. A-10

DRWG. NO. F&D-A-4202-A10

4202

MSFC-FORM 232 (REV. DEC., 1960)

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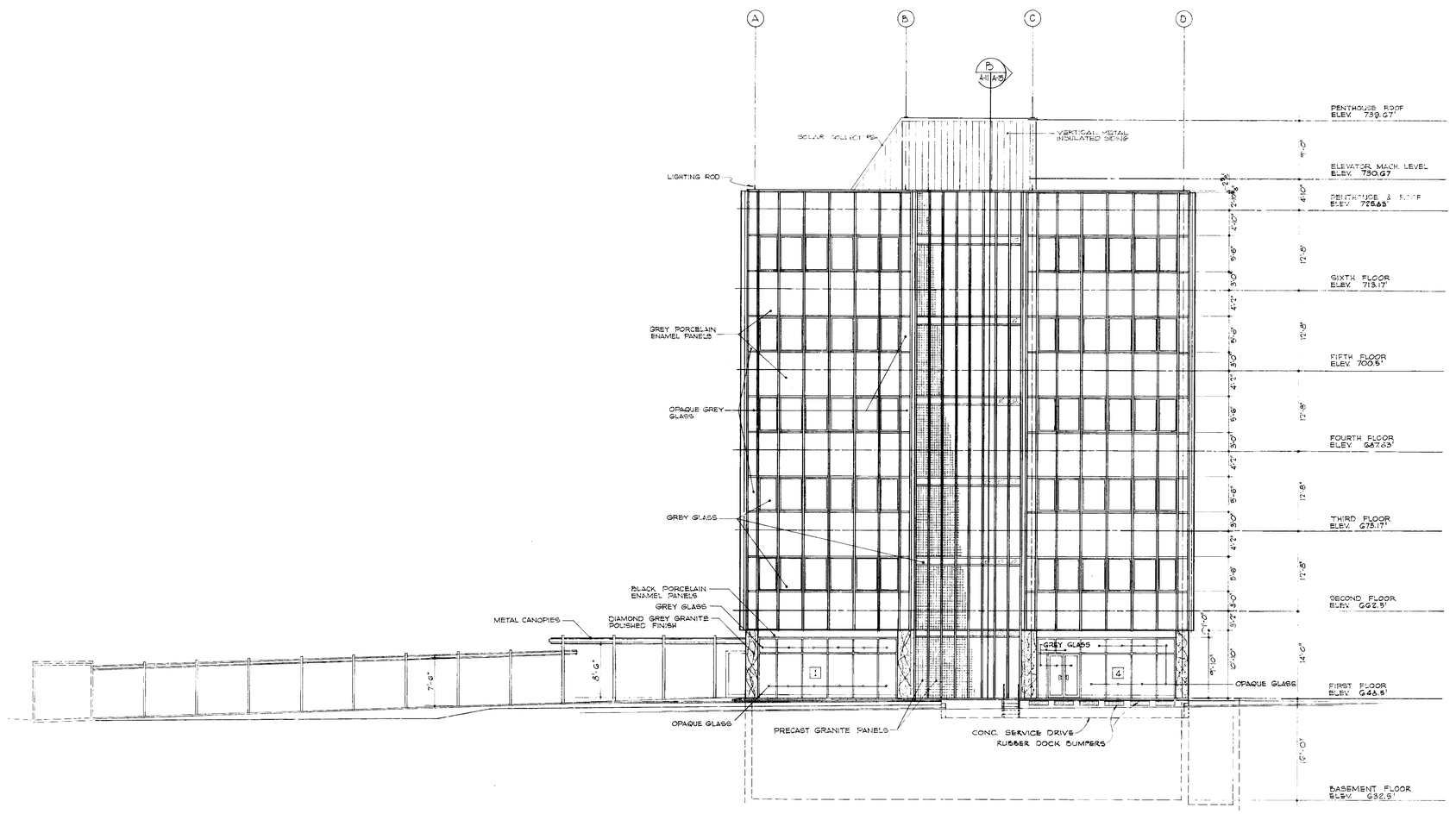
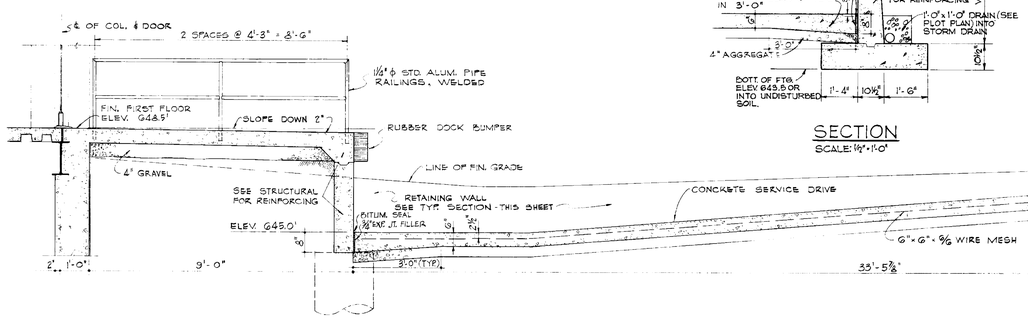


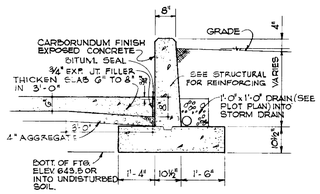
EAST END ELEVATION

SCALE ⅛" = 1'-0"



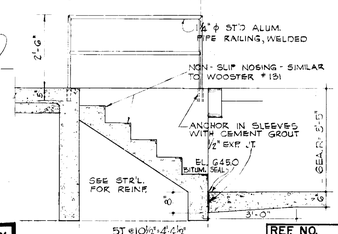
SECTION THRU SERVICE DRIVE

SCALE ½" = 1'-0"



SECTION

SCALE: ½" = 1'-0"



SECTION OF STAIR

SCALE ½" = 1'-0"

APPROVED FOR SAFETY
MAR 17 1964
DATE

AS BUILT

REV.	BY	DATE		C. I. NO.	APPROVED
1	JEH	2-28-77	ADDED SOLAR COLLECTORS		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

EAST END EXTERIOR ELEVATION

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8902

SUBMITTED: CHIEF — APPROVAL RECOMMENDED: AE. DATE: 3/15/64 — APPROVED: S. D. Chaney Jr. CHIEF, DESIGN BRANCH — NASA DATE: 3-16-64

DESIGNED B.J. DRAWN D.S. CHECKED W.S. — APPROVAL RECOMMENDED: Woodly D. Harrison CHIEF - ARCH. SECT. — LAB. DATE: — DESIGN DATE: 2-16-64

SCALE: AS NOTED — SPEC. NO. FE-D-441

REF NO. A-11 — DRWG. NO. F&D-A-4202-A-11

MSFC-FORM 232 (REV. APRIL 1962)

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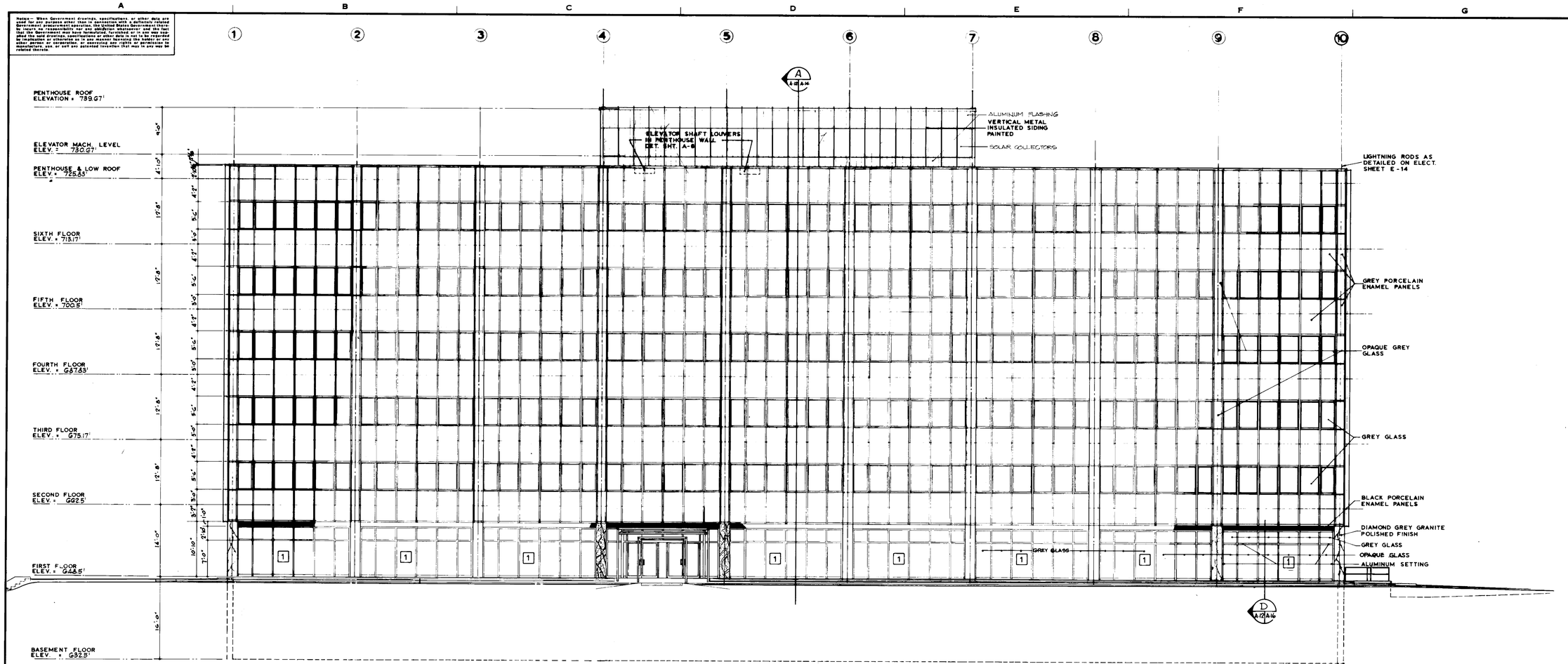

SOUTH FRONT ELEVATION

SCALE: 1/8" = 1'-0"

AS BUILT

REV	BY	DATE		C.I. NO.	APPROVED
1	RLL	5-14-65	DELETED STAIR DETAILS	12038-16	GH
2	JBN	2-23-77	ADDED SOLAR COLLECTORS		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SOUTH FRONT EXTERIOR ELEVATION

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8903

SUBMITTED: CHIEF Wyatt C. Hedrick — APPROVAL RECOMMENDED: — APPROVED: R. D. Rainey Jr. CHIEF, DESIGN BRANCH

AE: DATE 11-7-62 — LAB: DATE: — NASA: DATE 3-16-64

DESIGNED: DRAWN D.F.D., J.L., A.T.T. CHECKED W.L.A. — APPROVAL RECOMMENDED: W.M. Wohlschlegel CHIEF, ARCH. SECTION — DRWG. NO. F&D-A4202-A12

SCALE: AS NOTED — DESIGN DATE: — SPEC. NO. FE.D-441

APPROVED FOR SAFETY — MAR 17 1964 — DATE

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OKLAHOMA CITY, OKLAHOMA

REF. NO. A-12

MSFC-FORM 232 (REV. DEC., 1960)

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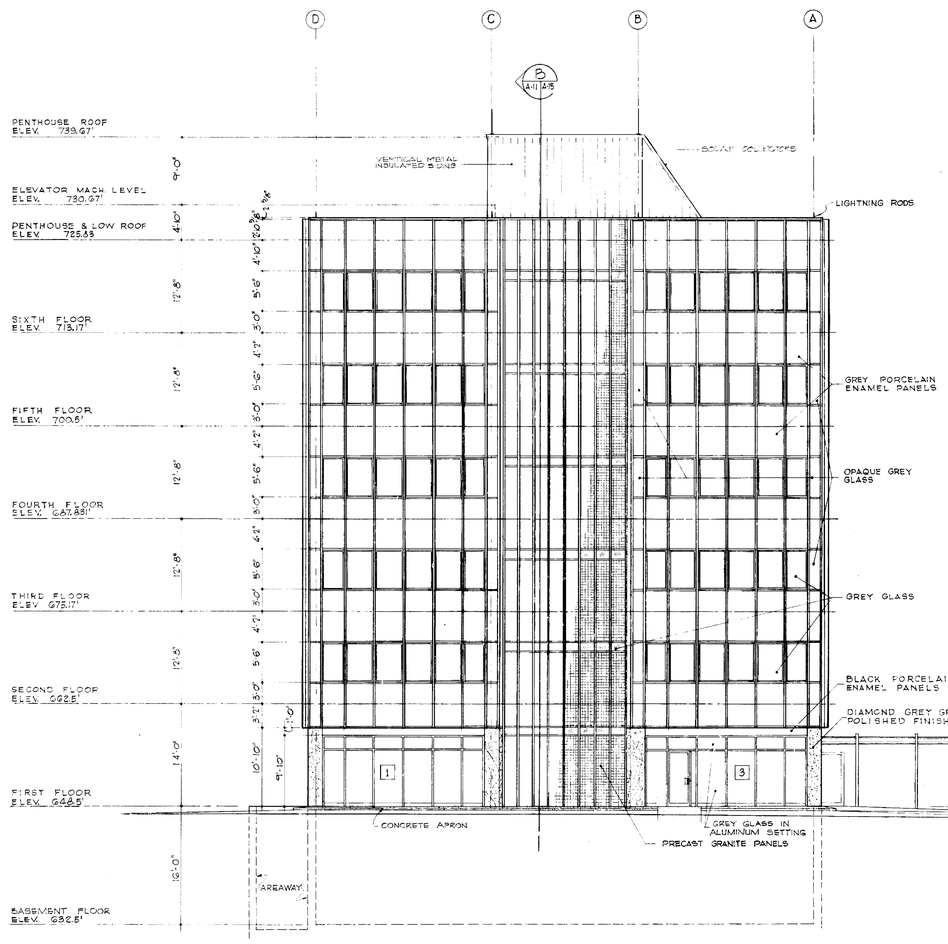
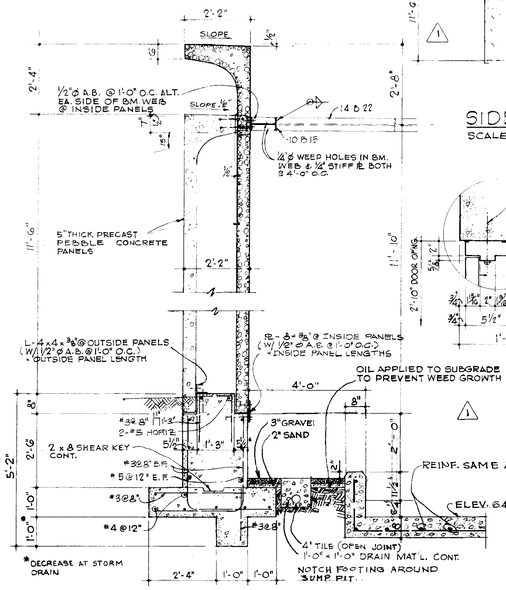
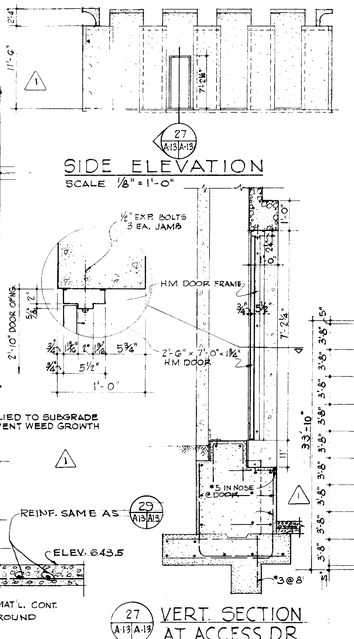


WEST END ELEVATION
SCALE 1/8" = 1'-0"



VERT. SECTION
(26 A-13 A-13) SCALE ½" = 1'-0"

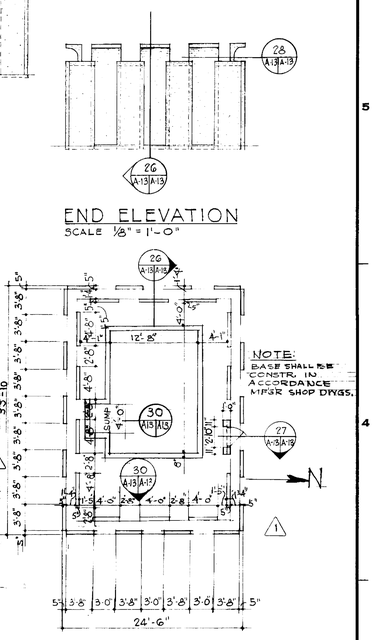
Notes:
1. ALL STRUCTURAL STEEL SECTIONS USED IN COOLING TOWER CONSTRUCTION TO BE HOT DIPPED GALVANIZED.
2. COOLING TOWER AND BASIN SHALL BE ADJUSTED AS REQUIRED TO ACCOMODATE APPROVED COOLING TOWER. THIS WORK WILL BE ACCOMPLISHED AT NO ADDITIONAL COST TO THE GOVERNMENT. ADJUSTMENT SHALL BE DISTRIBUTED EVENLY AMONG PANELS ON A SIDE. DESIGN SHALL BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE.
3. GALVANIZE ANY METALS THAT ARE USED IN COOLING TOWER SCREEN AFTER FABRICATION.
4. REINFORCE & ANCHOR PRECAST PANELS PER MANUFACTURERS RECOMMENDATION.



SIDE ELEVATION
SCALE ⅛" = 1'-0"

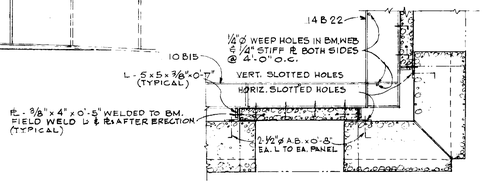
VERT. SECTION AT ACCESS DR
(27 A-13 A-13) SCALE ½" = 1'-0"

NOTE: MATERIALS, DIMENSIONS & REINFORCING NOT NOTED ARE SAME AS (26 A-13 A-13)

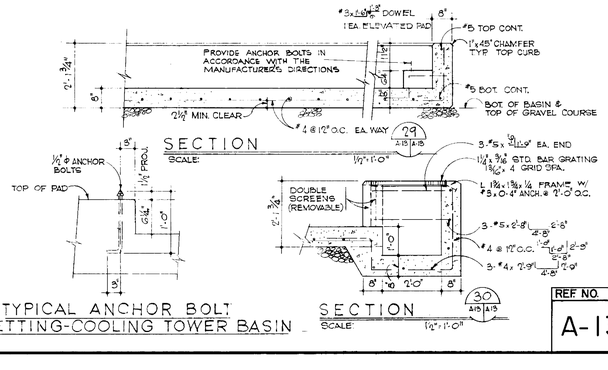


END ELEVATION
SCALE ⅛" = 1'-0"

PLAN OF COOLING TOWER SCREEN
SCALE ⅛" = 1'-0"



PLAN SECTION AT ST. BEAM
(28 A-13 A-13) SCALE ½" = 1'-0"



TYPICAL ANCHOR BOLT SETTING-COOLING TOWER BASIN

APPROVED FOR SAFETY
MAR 17 1964
DATE

AS BUILT

REV.	BY	DATE	
2	JEH	2-25-77	ADDEL. SOLAR COLLECTORS
1	GH	1-21-65	REVISED COOLING TOWER

C. I. NO. 12038-11 APPROVED GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

WEST END EXTERIOR ELEVATION

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8904

SUBMITTED: CHIEF [signature] AE. DATE 3/13/69 — APPROVAL RECOMMENDED: DESIGNED TG, DRAWN DW JC, CHECKED FEW — LAB. DATE: — SCALE: AS NOTED — SPEC. NO. F&D-441

APPROVED: [signature] CHIEF, DESIGN BRANCH — NASA DATE: 3-16-64

REF NO. A-13 — DRWG. NO. F&D-A47202-A13

MSFC-FORM 232 (REV. APRIL 1962)

4202

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AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED FOR SAFETY — MAR 17 1964 — DATE

REV.	BY	DATE		C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — **MSFC** HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

WALL SECTIONS & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8905

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: — APPROVED: CHIEF, DESIGN BRANCH

AE DATE 11-17-62 — LAB. DATE — NASA DATE 3-16-64

REF. NO. A-14

DESIGNED — DRAWN L.R.G. — CHECKED W.L.A. — APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION — DESIGN DATE: — DRWG. NO. F&D-A-4202-A14

SCALE: AS NOTED — SPEC. NO. FE-D-441

MSFC-FORM 232 (REV. DEC., 1960)

4202

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½ Elevation Of Granite Mosaic Panels - East & West Elevations Of Building

Scale ⅛"=1'-0"

Detail Of Granite Mosaic Panels Units

Scale 1½"=1'-0"

Anchorage Details For Granite Mosaic Panels

Scale 1½"=1'-0"

Section

Scale ½"=1'-0"

Louver Details

Scale ½"=1'-0"

AS BUILT

Sound attenuators in upper ½ part of areaway - detail mech. dwgs.

Grating

Cont. 2"x2"x¼" L this side & both ends. Anchor with ½ϕ anchors @ 24-½" bent.

Sim. to Sect. 1/A4

Built-up roof on 2" rigid insulation

Galvanized insulated ribbed metal siding

Joist

Line of fireproofing around column

Cont. L 5"x3½"x7/16

Similar to Section 1/A4

Note: Lightning terminals in effect (contract - see sht. E-1)

Symmetrical about ℄

Grey Glass

Grey Opaque Glass

Lt. Grey Porcellain

Granite

Granite Mosaic

Light Grey Porcelain Enameled Panels

Expansion joint

Type 1 Welded to ℄

Type 2 Welded to ℄

Type 3 Welded to ℄

Type 1 Anchorage

Type 2 Anchorage

Type 3 Anchorage

See Det. A/15 A15

Third Then Sixth Fl.

Second Floor

Roof

Galvanized insulated ribbed metal siding

Main Section 100 Shown

Face of 8" Girt ℄

7½" Cured

Fireproofing

Plaster

Ext. Corner Bead

℄ Col.

Section

Scale ½"=1'-0"

Detail

Scale 3"=1'-0"

Close end of 3"x6" Alum. Tubing

Extruded Aluminum Coping

Cont. Wood Blocking

½ϕ Bolts @ 2'-8" ℄

Alum. Flashing

Roofing Felt

Sealant

¾" Granite Mosaic

2'-10⅝" to Roof

2'-11¾"

Hangar Rods @ 8'-0" ℄

8 C 11.5

Met. Corner Bead

L 5"x3½"x⅞

Casing Bead

3"x4" Alum. Tubing

Plaster

½" Grey Glass

Braced 8"x6"x8.5

14-Ga. Steel Top

Blocking 6" Long 2'-8" ℄ Secure with ⅝ϕ Bolts

Damp Proofing

Cont. ½ϕ Rod Welded to L

Caulk

Granite Mosaic

Areaway Door - Sill

See Det. A/15 for other frame details

Scale 3"=1'-0"

Sched. Door

Met. Frame

Wooster Type 102 Threshold or Equal

Conc. Slab

Membrane Waterproofing

Rigid Insulation

Gravel Fill

Conc. Cap

Conc. Block Baffle Wall for Sound Attenuation - Millers w/ Dry Sand

8" Lt. Wt. Conc. Blk.

Hollow Metal Doors - See Sched.

See Areaway Door Sill Above

Exterior Elevation of Louver Opening

Scale ½"=1'-0"

Expanded Lead Anchors & ½ϕ Bolts @ 3'-0" ℄

Caulk

6" & 8" Cont. Around Louver Openings

Head

L 2½"x2½"x⅜ Cont. Around Fixed Louvers

Jamb

3"x¾" Cont. Plate

Mullion

Note: Louvers Are To Be 16 Ga. Galv. Iron & Made Removable

Waterstop

Membrane Waterproofing

Slab Sloped Gravel

16 Ga. Metal Sill

½ϕ Bolts See Elevation

29 Spaces @ 4'-9" = 111'-6"

22'-0" of 10'-2" See Elev.

Elevation of Louver Openings

Scale ½"=1'-0"

Site adapted by

Hudgins, Thompson, Ball & Assoc., Inc.

Architects-Engineers

Oklahoma City, Oklahoma

Approved For Safety

Mar 17 1964

Date

Ref. No. A-15

Rev.	By / Date / C.I. No. / Approved
National Aeronautics and Space Administration	MSFC Huntsville Alabama
Wyatt C. Hedrick (Architect Engineer)	Fort Worth, Texas
Project Engineer Office Building	
MSFC - Huntsville, Alabama	
Wall Sections & Details	
NASA AE Cont. No. NAS 8 - 12,015	File No. MSFC 8906
Submitted: Wyatt Hedrick — Approval Recommended — Approved: D. Ramsey — Chief, Design Branch	
Chief — AE Date: 11-17-62 — Lab. Date: — NASA Date: 3-11-64	
Designed — Drawn J.R.G. — Checked W.L.A. — Approval Recommended — Chief, Arch. Section — Design Date:	
Scale: As Noted — Spec. No. FE-D-441	Drwg. No. F&D-A4202-A15

MSFC-Form 232 (Rev. Dec., 1960)

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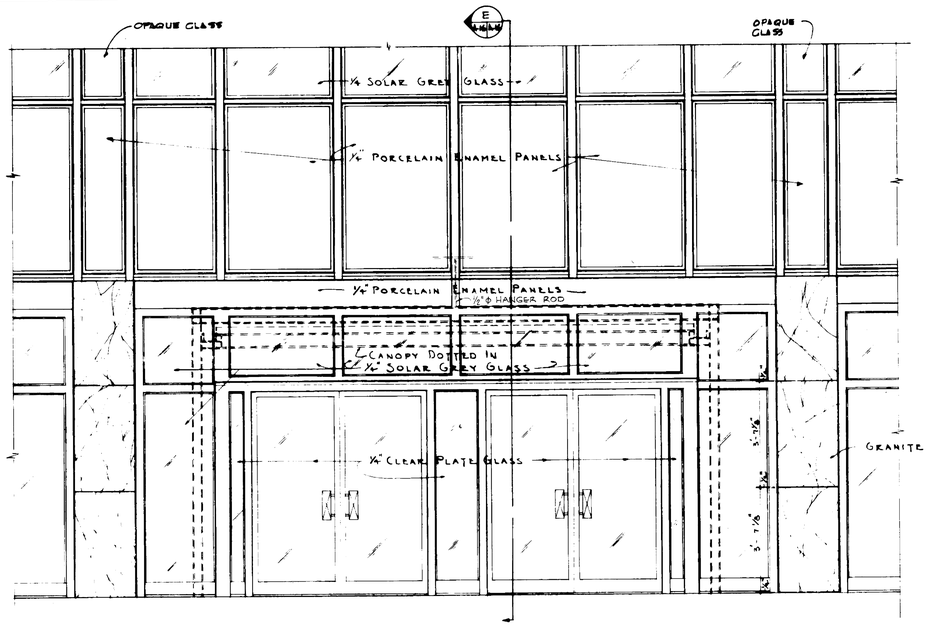
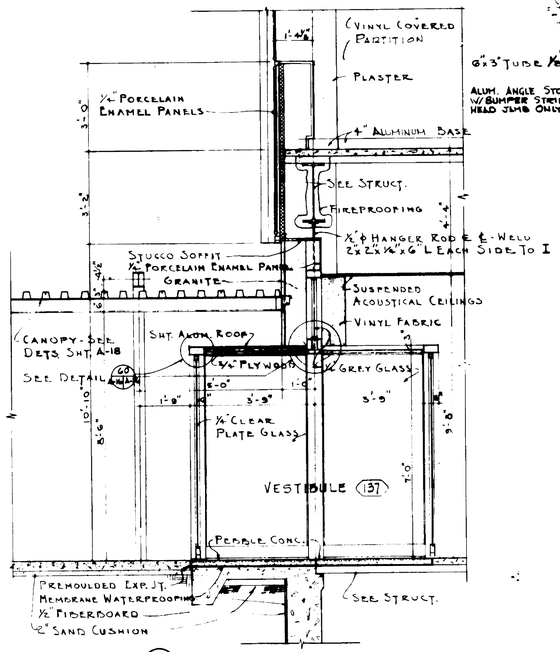
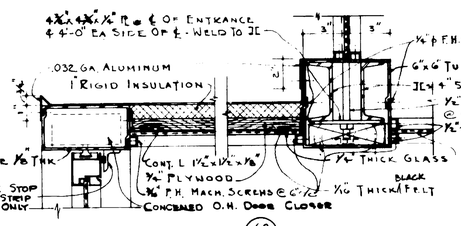


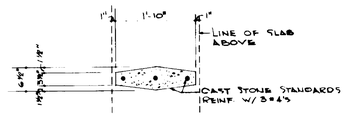
ELEVATION OF FRONT ENTRANCE
SCALE ¼"=1'-0"



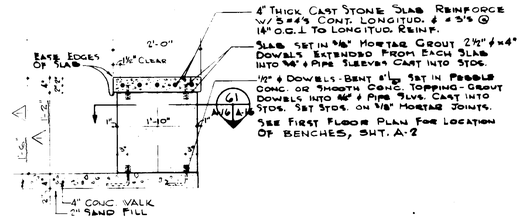
SECTION E A/16 A/16 THRU FRONT ENTRANCE
SCALE ½"=1'-0"

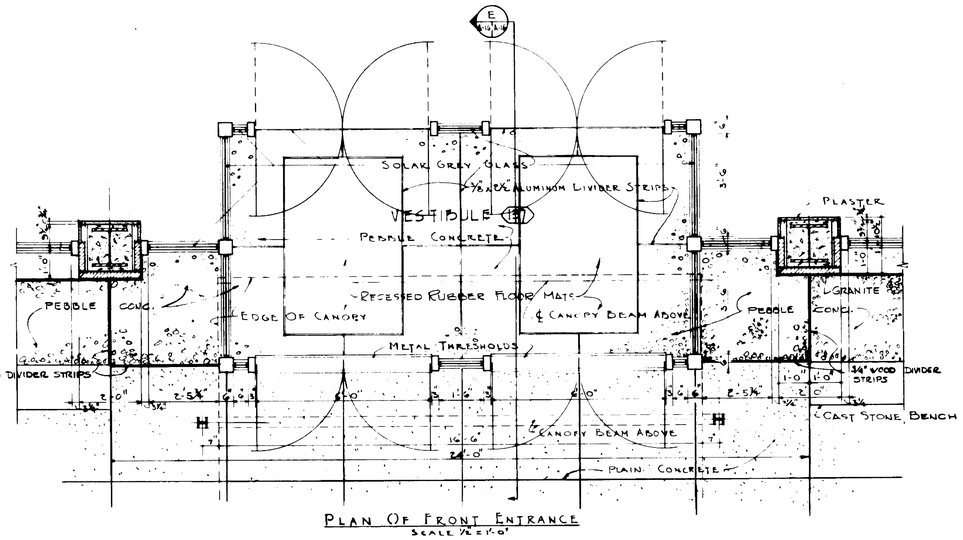


DETAIL 60 A/16 A/16

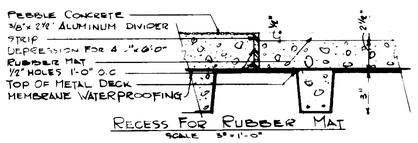


SECTION 61 A/16 A/16

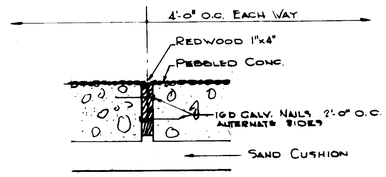




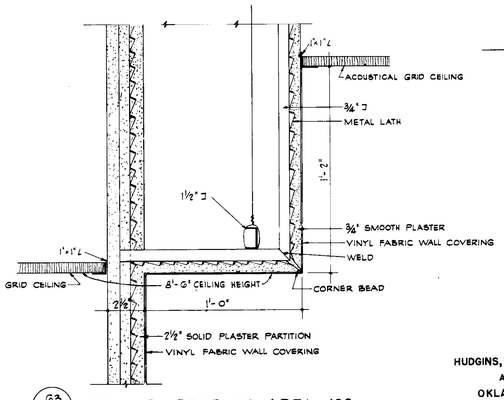
PLAN OF FRONT ENTRANCE
SCALE ½"=1'-0"



RECESS FOR RUBBER MAT
SCALE 3"=1'-0"

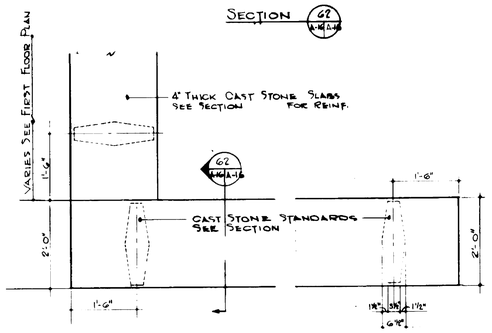


STRIP DET. @ PEBBLED CONCRETE SIDE WALK
SCALE 3"=1'-0"



63 A-2 A/16 CEILING DROP IN AREA 102
SCALE 3"=1'-0"

SECTION 62 A/16 A/16



TYPICAL CORNER PLAN TYPICAL PLAN OF STANDARD

CAST STONE BENCH DETAILS - MAIN ENTRANCE
SCALE ¾"=1'-0"

AS BUILT

REV. BY	DATE		C.I. NO.	APPROVED
△	3-64	ADDED DIMENSION		GM 3

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FRONT ENTRANCE DETAILS

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

NASA AE CONT. NO. NAS 8-12,C15 — FILE NO. MSFC 8907

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: — APPROVED: CHIEF, DESIGN BRANCH — NASA DATE: 3-16-64

AE DATE 11-17-62 — LAB DATE: — DRWG. NO. F&D-A-42021A16

DESIGNED — DRAWN J.E.G., D.M. — CHECKED W.L.A. — APPROVAL RECOMMENDED: CHIEF, ARCH'L SECTION — DESIGN DATE: — SPEC NO. F&D-441

SCALE: AS NOTED

REF. NO. A-16

RECOMMENDED FOR SAFETY — MAR 1 7 1964 — DATE

MSFC-FORM 232 (REV. DEC., 1960)

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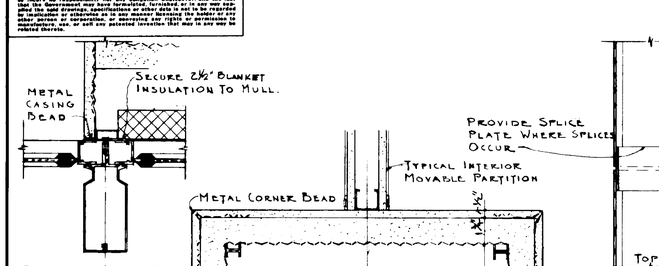
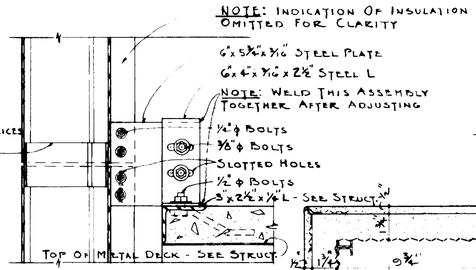
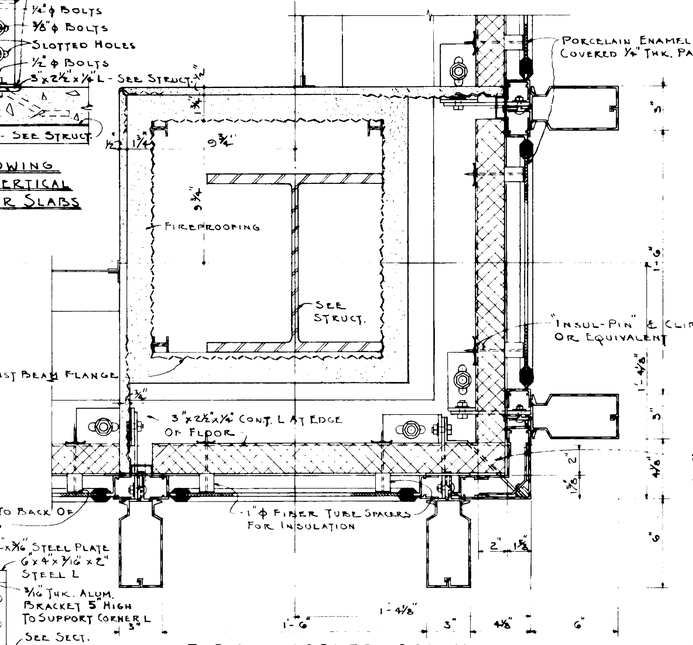


SECTION THRU MULLION AT SIDE OF TYPICAL COLUMN AT WINDOW LEVEL
SCALE 3"=1'-0"

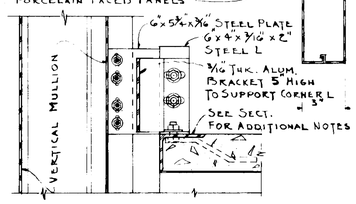
TYPICAL EXTERIOR COLUMN - 2ND THRU 6TH FLOORS
SCALE 3"=1'-0"



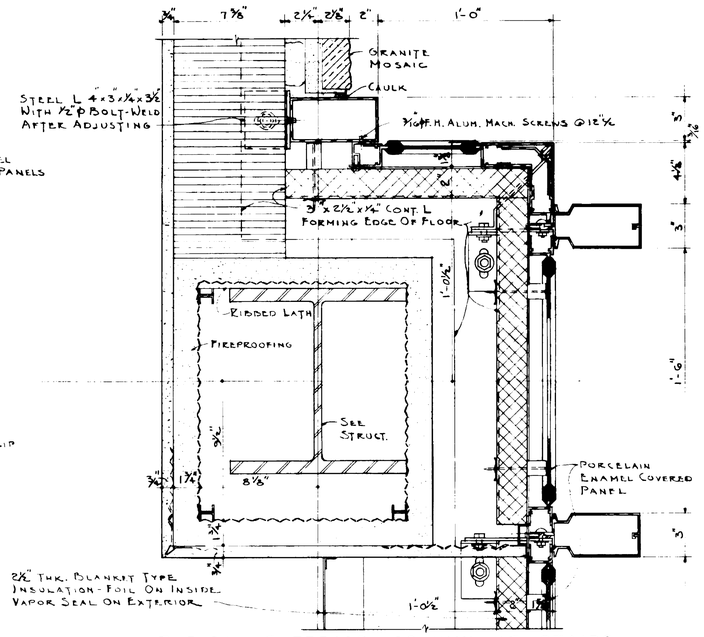
SECTION SHOWING ANCHORAGE OF VERTICAL MULLIONS TO FLOOR SLABS
SCALE 3"=1'-0"



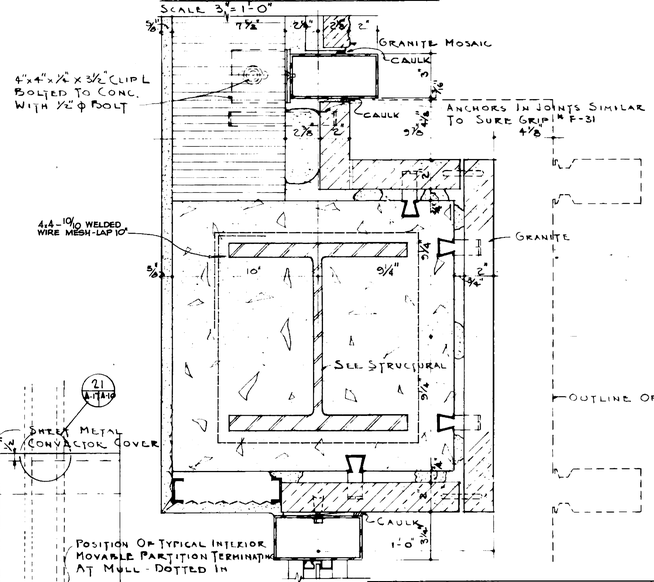
TYPICAL CORNER COLUMN 2ND THRU 6TH FLOORS
SCALE 3"=1'-0"

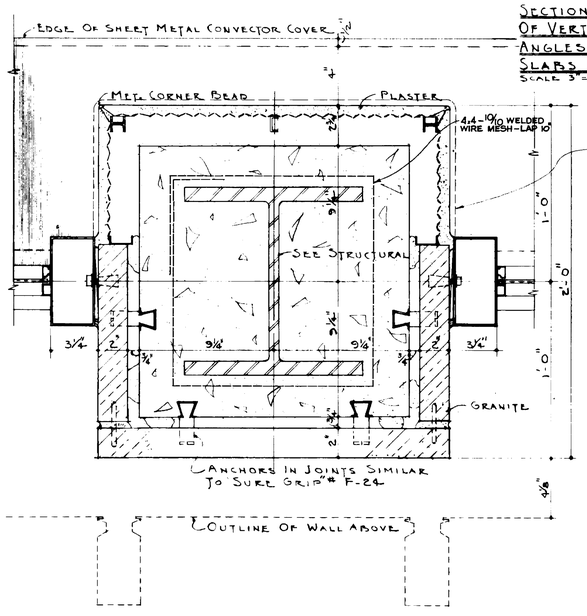


SECTION SHOWING ANCHORAGE OF VERTICAL MULL'S & ALUM. ANGLES TO SUSPENDED FLOOR SLABS AT CORNERS
SCALE 3"=1'-0"

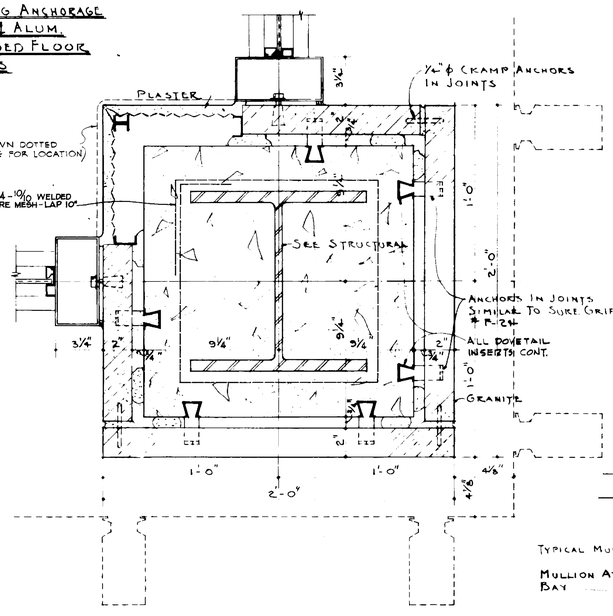


TYPICAL EXTERIOR COLUMN AT STAIRS 2ND THRU 6TH FLOORS
SCALE 3"=1'-0"

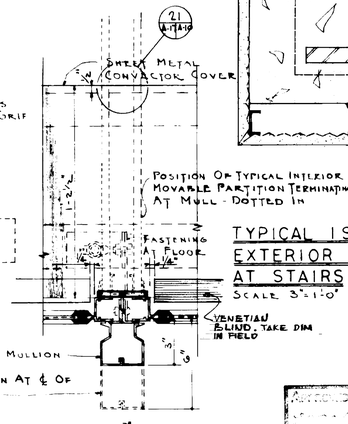




TYPICAL 1ST FLOOR EXTERIOR COLUMN
SCALE 3"=1'-0"



TYPICAL 1ST FLOOR CORNER COLUMN
SCALE 3"=1'-0"



PLAN OF TYPICAL VERTICAL MULLION - AT WINDOW LEVEL
SCALE 3"=1'-0"

TYPICAL 1ST FLOOR EXTERIOR COLUMN AT STAIRS
SCALE 3"=1'-0"

APPROVED FOR SAFETY
DATE

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

TYPICAL COLUMN DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8908

SUBMITTED CHIEF: Wyatt C. Hedrick — APPROVAL RECOMMENDED — APPROVED: CHIEF, DESIGN BRANCH

A/E DATE: 11-17-62 — LAB DATE: — NASA DATE: 2-16-63

DESIGNED — DRAWN: J.R.G., J.L. — CHECKED: W.L.A. — APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION — DESIGN DATE:

SCALE: AS NOTED — SPEC NO. FE-D-41

REF. NO. A-17

DWG NO. F&D-A4202-A17

MSFC-FORM 232 (REV. DEC., 1960)

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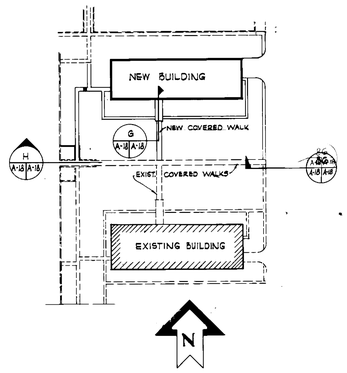
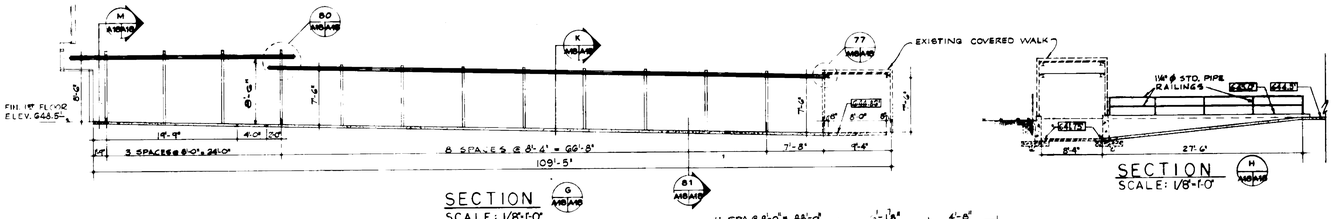
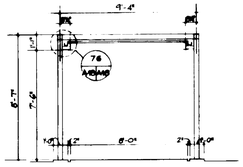


KEY PLOT PLAN
SCALE 1" = 100'-0"



SECTION
SCALE: 1/8"-1'-0"



SECTION
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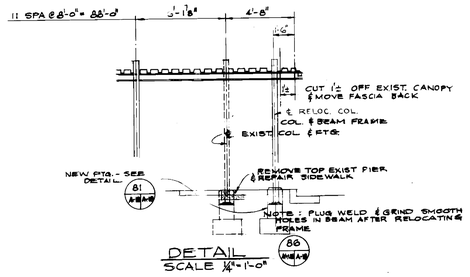
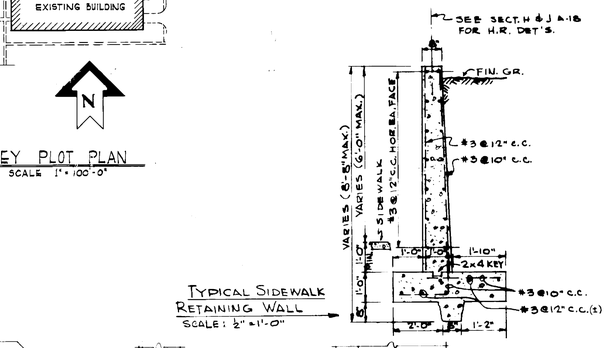
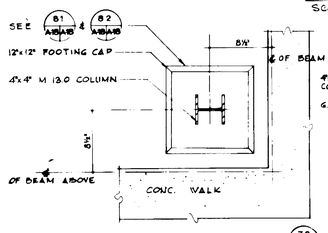


DETAIL
SCALE ½"=1'-0"

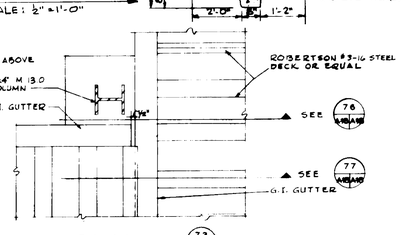
SECTION
SCALE: 1/8"-1'-0"



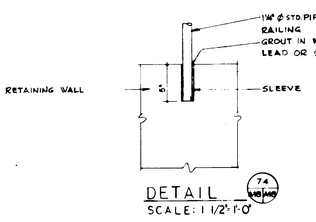
TYPICAL SIDEWALK RETAINING WALL
SCALE: ½"=1'-0"



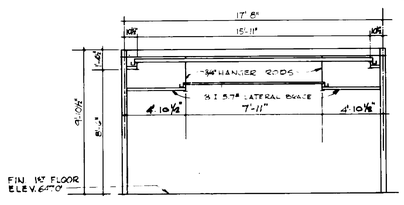
DETAIL
SCALE: 1 1/2"-1'-0"



PLAN
SCALE: 1 1/2"-1'-0"



DETAIL
SCALE: 1 1/2"-1'-0"



SECTION
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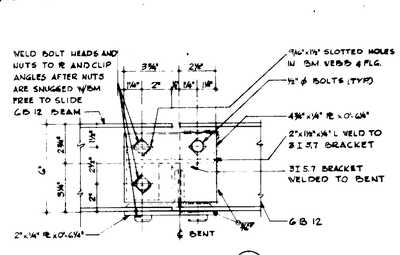
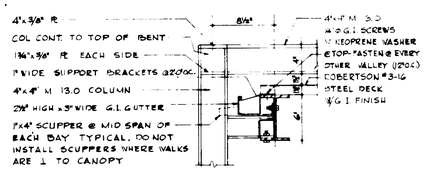
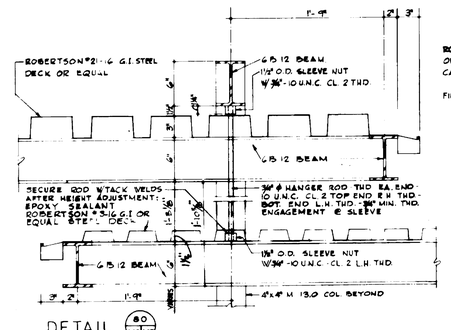


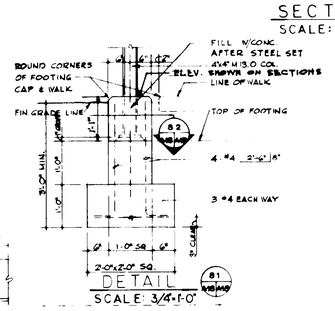
DETAIL
SCALE: 3"-1'-0"



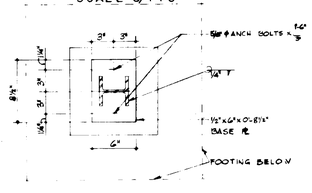
DETAIL
SCALE: 1 1/2"-1'-0"



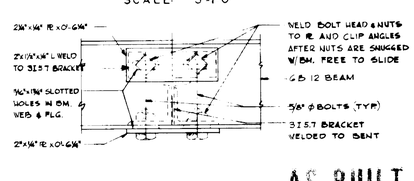
DETAIL
SCALE: 1 1/2"-1'-0"



DETAIL
SCALE: 3/4"-1'-0"



PLAN DETAIL
SCALE: 1 1/2"-1'-0"



DETAIL
SCALE: 3"-1'-0"

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC. INC.
ARCHITECTS - ENGINEER
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

COVERED WALK CANOPY DETAILS

NASA AE CONT. NO. NAS 8 -12,015 — FILE NO. MSFC 8909

SUBMITTED: Wyatt Hedrick, CHIEF, AE — DATE: 11-17-62
APPROVAL RECOMMENDED: CHIEF, DESIGN BRANCH — LAB: — DATE:
APPROVED: C.O. Kennedy, CHIEF, DESIGN BRANCH — NASA — DATE: 3-16-64
APPROVAL RECOMMENDED: CHIEF, ARCH. SECTION — DESIGN DATE:

DESIGNED —
DRAWN D.F.D.
CHECKED W.L.A.
SCALE: AS NOTED
SPEC. NO. F&D-D 661

DRWG. NO. F&D-A4202 A18

REF. NO. A-18

RECEIVED FOR SAFETY 7 1964 DATE

4202

MSFC-FORM 232 (REV. DEC., 1960)

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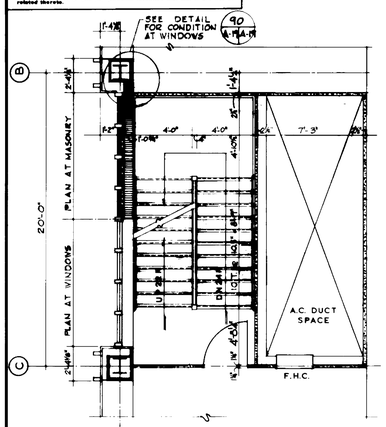
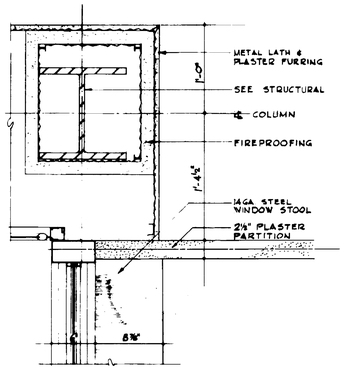
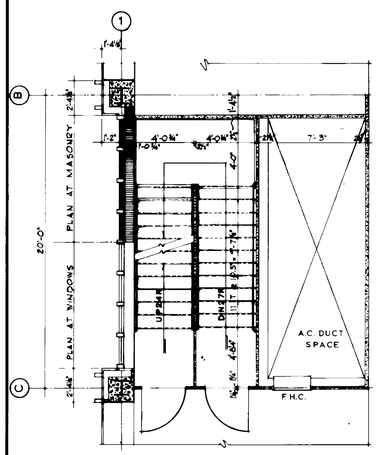


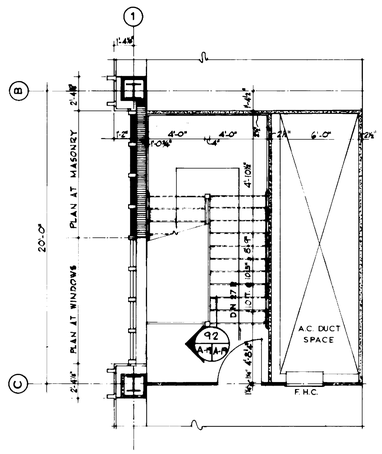
STAIRS Nº1 - 2nd. FLOOR PLAN
SCALE: 1/4"=1'-0"



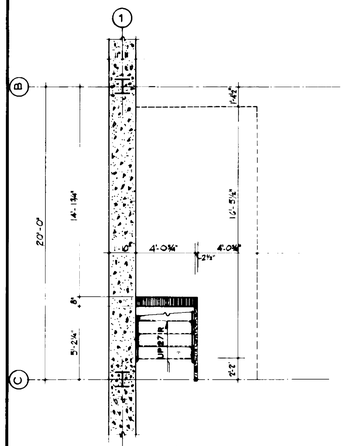
DETAIL 90 A-19A-19
SCALE: 1 1/2"=1'-0"



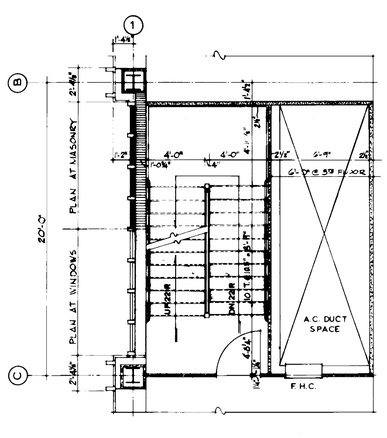
STAIRS Nº1 - 1st. FLOOR PLAN
SCALE: 1/4"=1'-0"



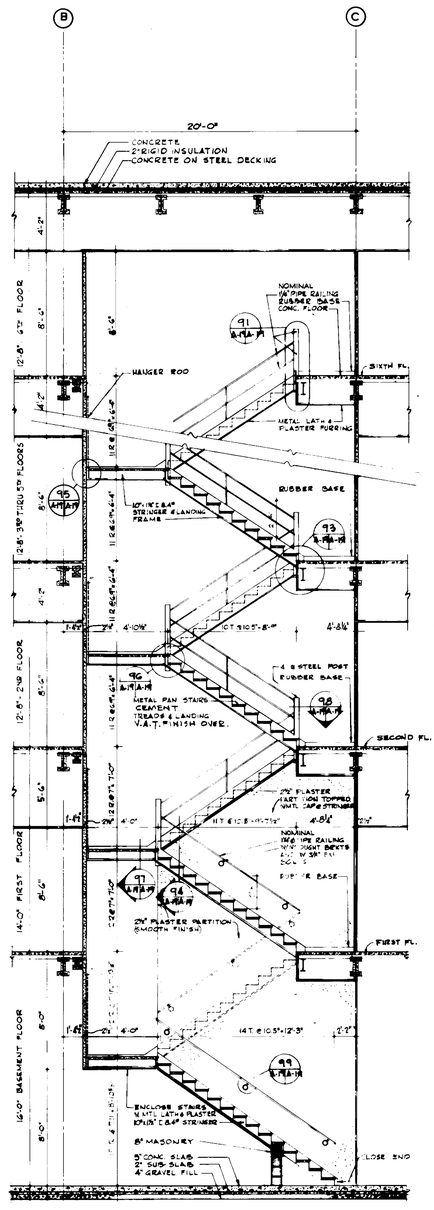
STAIRS Nº1 - 6th. FLOOR PLAN
SCALE: 1/4"=1'-0"



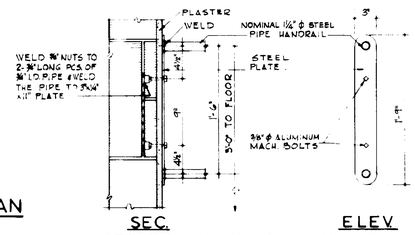
STAIRS Nº1 - BSMT. PLAN
SCALE 1/4"=1'-0"



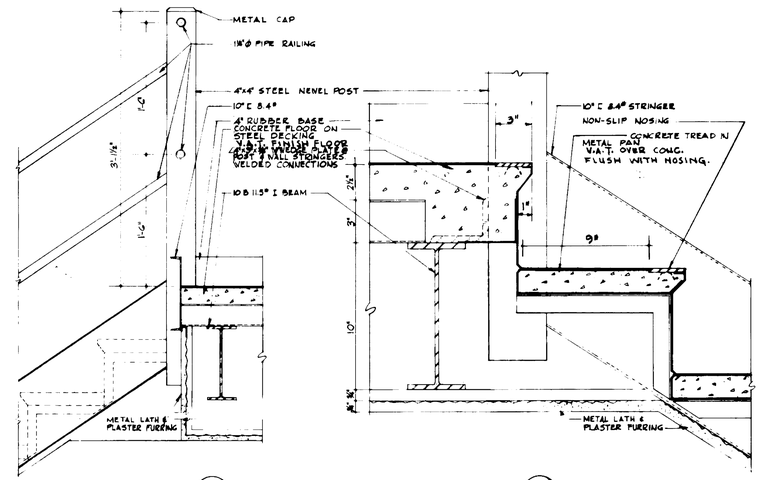
STAIRS Nº1 - 3rd thru 5th F'L. PLAN
SCALE 1/4"=1'-0"



SECTION AT STAIRS Nº1 - STAIRS Nº2 SIMILAR
SCALE: 1/4"=1'-0"

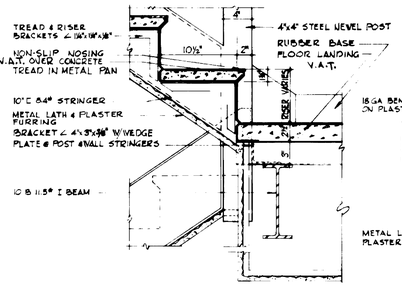


ATTACHMENT OF RAILINGS AT WALL
SCALE: 1 1/2"=1'-0"

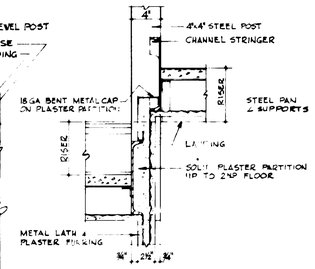


DETAIL 91 A-19A-19
SCALE: 1 1/2"=1'-0"

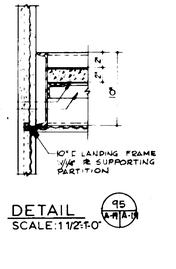
DETAIL 92 A-19A-19
SCALE: 3"=1'-0"



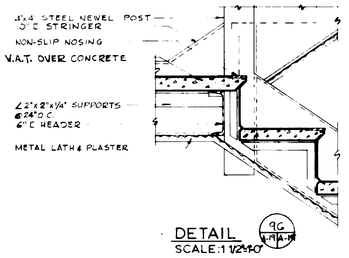
DETAIL 93 A-19A-19
SCALE: 1 1/2"=1'-0"



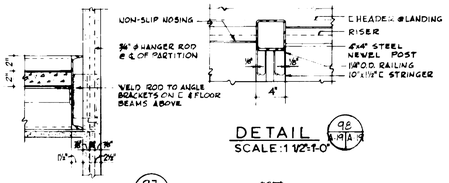
DETAIL 94 A-19A-19
SCALE: 1 1/2"=1'-0"



DETAIL 95 A-19A-19
SCALE: 1 1/2"=1'-0"

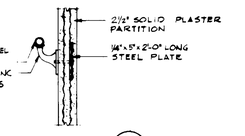


DETAIL 96 A-19A-19
SCALE: 1 1/2"=1'-0"



DETAIL 98 A-19A-19
SCALE: 1 1/2"=1'-0"

DETAIL 97 A-19A-19
SCALE: 1 1/2"=1'-0"



DETAIL 99 A-19A-19
SCALE: 1 1/2"=1'-0"

AS BUILT

SITE ADAPTED BY:
HUDGINS, THOMPSON, BALL & ASSOC., INC
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

STAIR SECTIONS & DETAILS

NASA AE CONT. NO. NAS 8 - 12,015	FILE NO. MSFC 8910
SUBMITTED: Wyatt C. Hedrick, CHIEF DESIGN BRANCH	APPROVAL RECOMMENDED: CHIEF, DESIGN BRANCH
A/E DATE: 11-17-64	NASA DATE: 3-11-64
DESIGNED: D. F. D.	APPROVAL RECOMMENDED: CHIEF, MECH. SECTION
DRAWN: V. L. A.	DESIGN DATE
CHECKED	SPEC. NO. FE-D-441
SCALE: AS NOTED	DRWG NO. F&D-A12024-19
REF. NO. A-19	

MSFC-FORM 232 (REV. DEC., 1960)

4202

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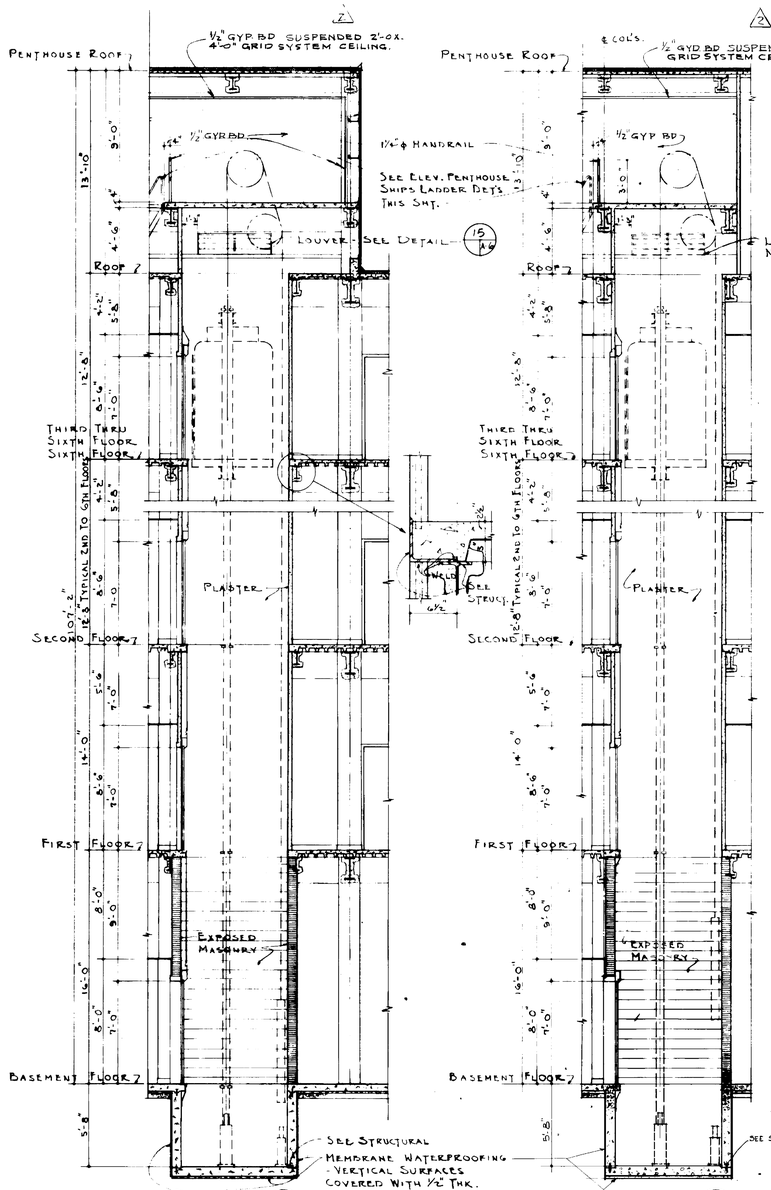
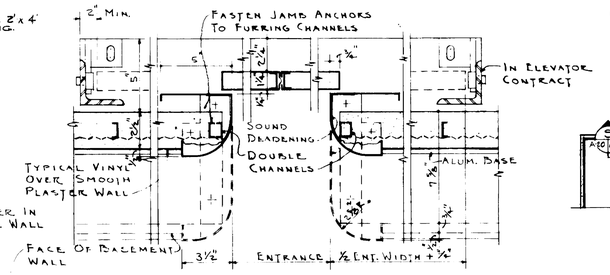
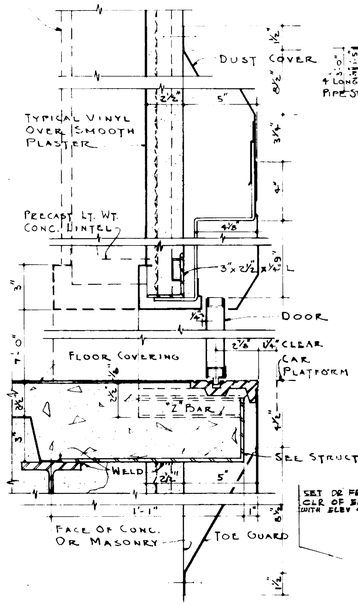


SECTIONS THRU PASSENGER ELEVATORS
Scale ¼" = 1'-0"

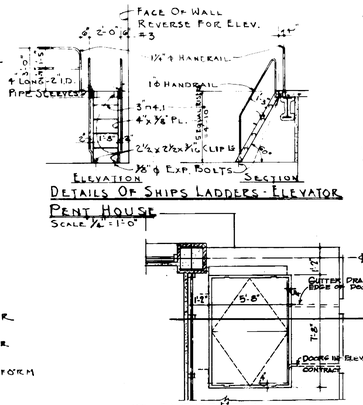


PLAN
Scale 3" = 1'-0"



VERTICAL SECTION
Scale 3" = 1'-0"

PASSENGER ELEVATOR DETAILS
Scale 3" = 1'-0"



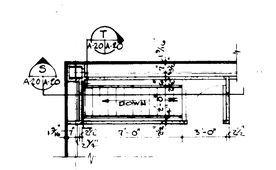
DETAILS OF SHIPS LADDERS - ELEVATOR PENT HOUSE
Scale ½" = 1'-0"

SECTION S A-20/A-20
Scale ½" = 1'-0"

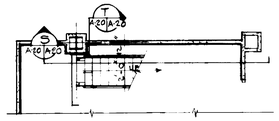
SECTION T A-20/A-20

SECTION U A-20/A-20

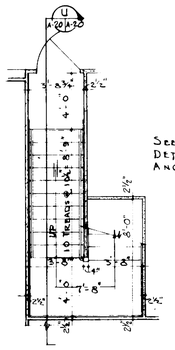
DETAILS OF STAIRS NO. 3 AND NO. 4



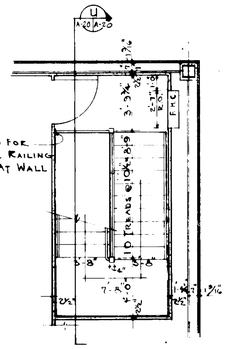
PENT HOUSE PLAN OF STAIR #4



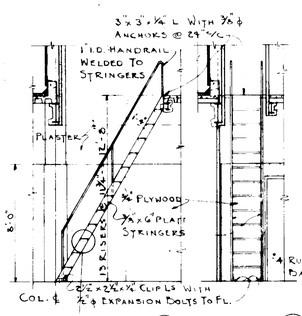
6TH FLOOR PLAN OF STAIR #4
SCALE ½" = 1'-0"

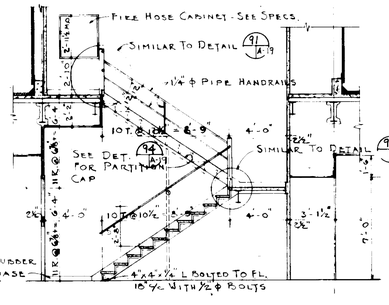


6TH FLOOR PLAN OF STAIR #3
SCALE ½" = 1'-0"



PENT HOUSE PLAN OF STAIR #3





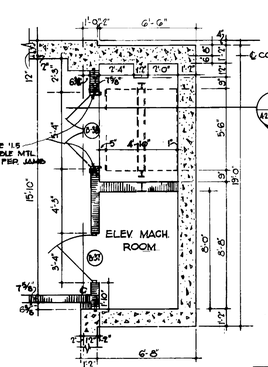
SECTION V A20/A20

SECTION W A20/A20

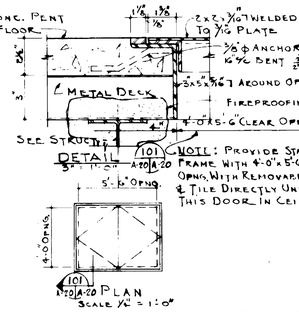
SECTION X A20/A20

DETAILS OF STAIRS NO. 3 AND NO. 4

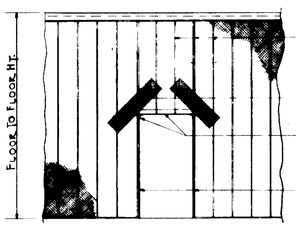
1ST FLOOR PLAN



BASEMENT PLAN
SCALE - ¼" = 1'-0"



DETAILS OF ACCESS DOOR IN PENTHOUSE FLOOR



PLASTER WALL FRAMING AT ELEVATOR DOORS
Scale ¼" = 1'-0"

SIDEWALK ELEVATOR DETAILS
Scale ¼" = 1'-0"

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS - ENGINEERS
OKLAHOMA CITY, OKLAHOMA

FOR SAFETY
DATE
REF. NO.
A-20

REV.	BY	DATE		C.I. NO.	APPROVED
5	GH	4-19-65	ADD GYP BD ON WALL CEILING IN PENTHOUSE	12058-15	GH
4	JFS	4-13-64	REV. SEC. R TO REFLECT ELEV. PIT & DOOR		GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MSFC HUNTSVILLE, ALABAMA
WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

ELEVATOR SECTIONS & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8911
SUBMITTED Wyatt Hedrick — APPROVAL RECOMMENDED — APPROVED — CHIEF DESIGN BRANCH
A/E DATE 11-17-62 — LAB. DATE — MSFC DATE 2-16-64
DESIGNED — DRAWN J.J.G. — CHECKED W.L.A. — APPROVAL RECOMMENDED — CHIEF SPECS. SECTION — DESIGN DATE — SCALE AS NOTED — SPEC. NO. FE-D-441
DRWG. NO. F-D-A4202-A20

MSFC-FORM 232 (REV. DEC., 1960)

4202

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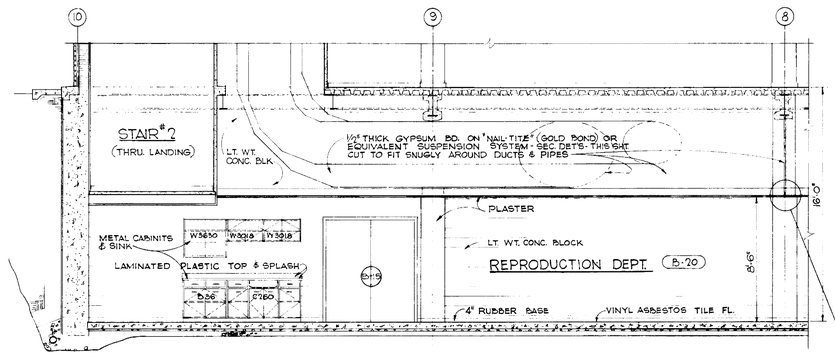
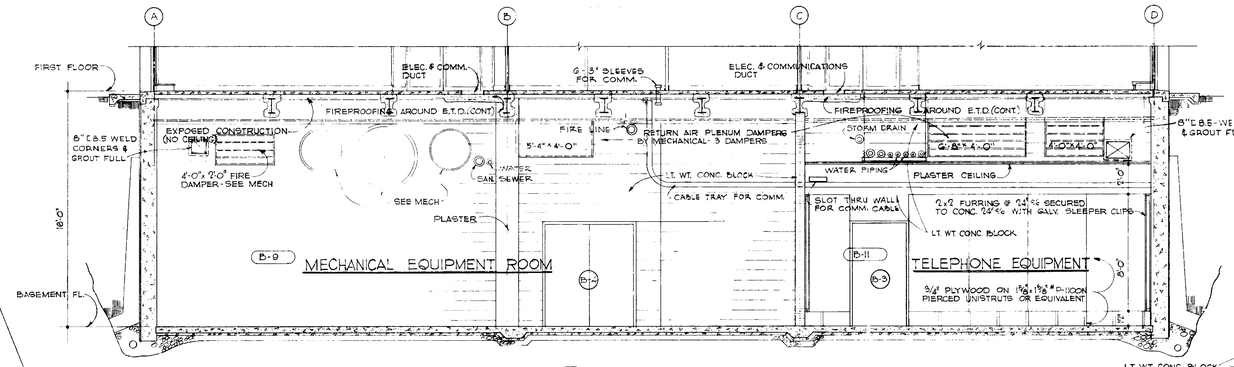
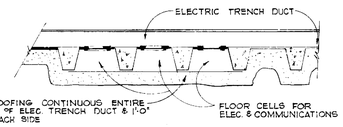


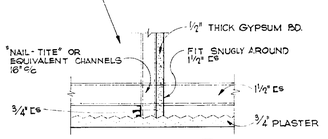
SECTION
SCALE: 1/4" = 1'-0"
W | A-1 | A-21



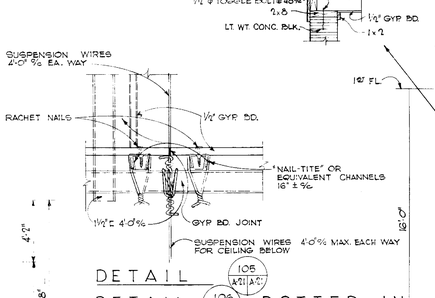
X | A-1 | A-21 SECTION
SCALE: 1/4" = 1'-0"



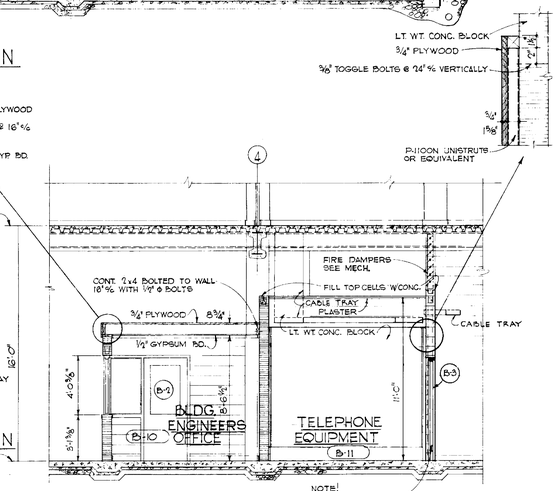
DETAIL OF FIREPROOFING AT ELECTRIC TRENCH DUCT · SCALE: 1 1/2" = 1'-0"



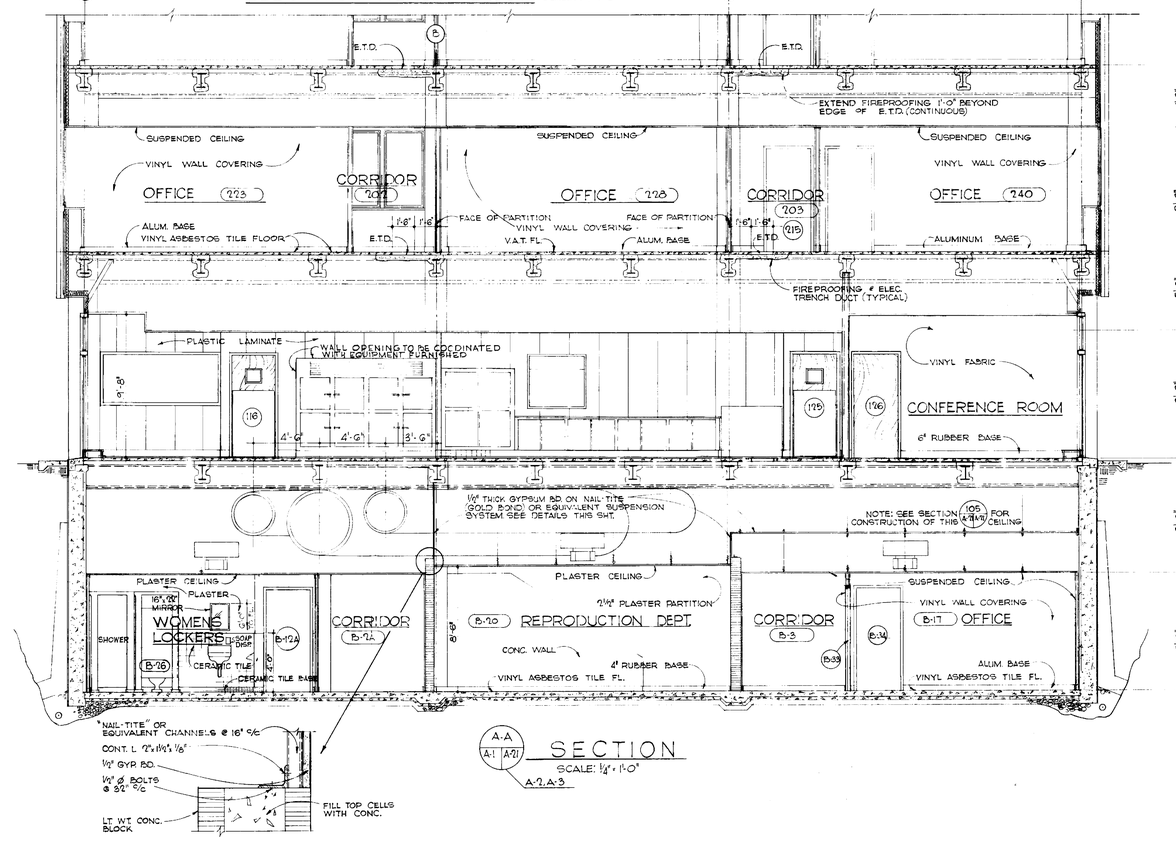
104 | A-1 | A-21



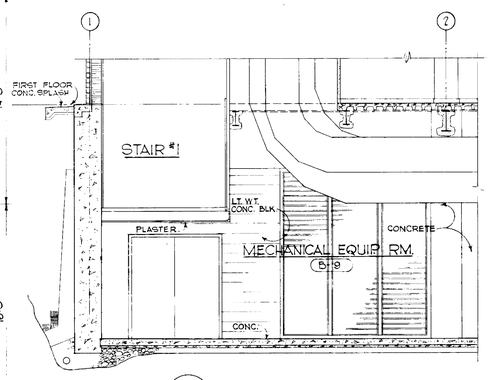
DETAIL 105 | A-21 | A-21
DETAIL 106 | A-1 | A-21 DOTTED IN
SCALE: 3" = 1'-0"



Y | A-1 | A-21 SECTION
SCALE: 1/4" = 1'-0"



A.A | A-1 | A-21 SECTION
SCALE: 1/4" = 1'-0"
A-2, A-3



Z | A-1 | A-21 SECTION
SCALE: 1/4" = 1'-0"

REV.	BY	DATE	C. I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

BUILDING SECTIONS & DETAILS

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. M S F C 8912

SUBMITTED: CHIEF [signature] DATE 3/13/64 — APPROVAL RECOMMENDED: — APPROVED: [signature] CHIEF, DESIGN BRANCH — NASA DATE: 3-16-64

AE. DATE 3/13/64 — LAB. DATE:

DESIGNED — DRAWN D.W — CHECKED W.G — SCALE AS NOTED

APPROVAL RECOMMENDED: [signature] CHIEF, ARCHITECTURAL SECTION — DESIGN DATE: 3-16-64 — SPEC. NO. F&E-D-441

DRWG. NO. F&D-A4202-A21

REF. NO. A-21

RELEASED FOR SAFETY — MAR 17 1964 — DATE

MSFC-FORM 232 (REV. APRIL 1962)

A202

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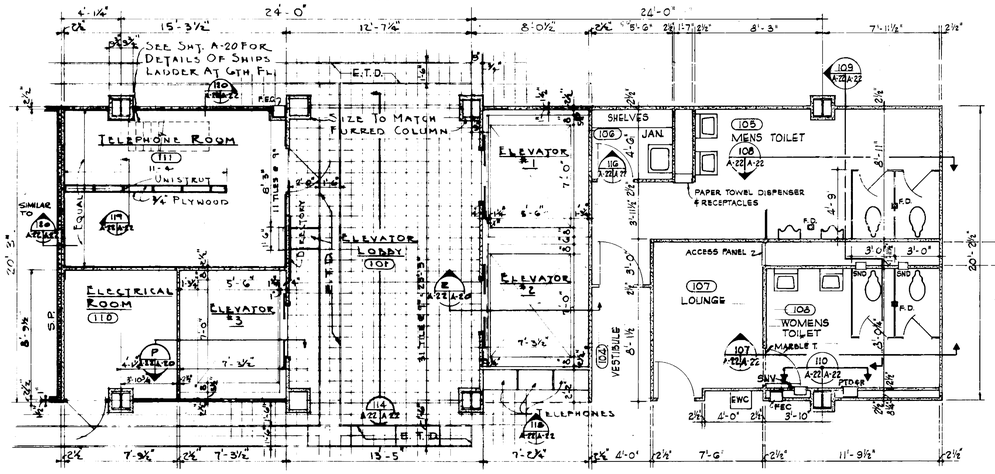
NOTE:
FLOOR TILE LAYOUT DICTATES LOCATION OF ELECT. TRENCH DUCT. DUCT TO BE SET STRAIGHT & TRUE TO ALLOW PROPER TILE LAYOUT.

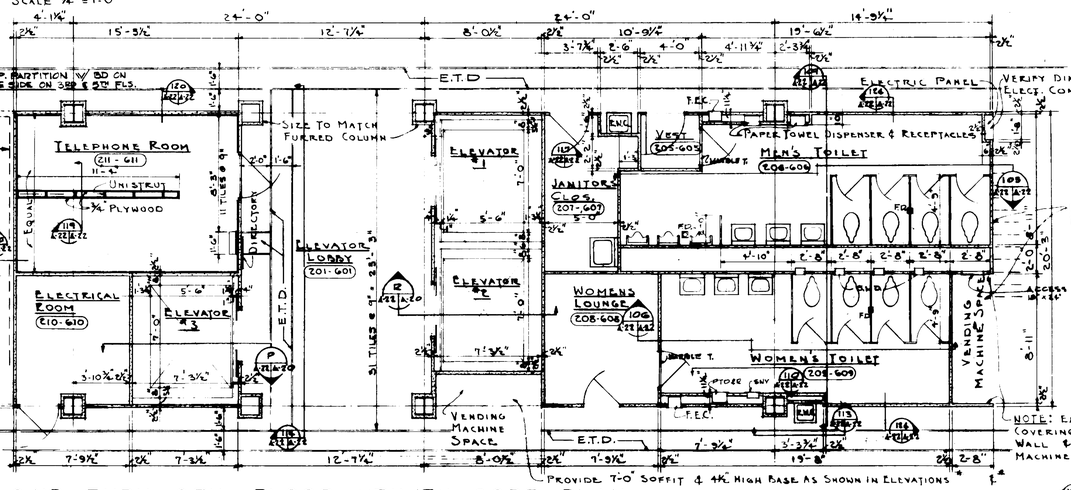


LEGEND OF ABBREVIATIONS

F.E.C.	FIRE EXTINGUISHER CABINET
E.T.D.	ELECTRICAL TRENCH DUCT
F.D.	FLOOR DRAIN
S.N.D.	SANITARY NAPKIN DISPENSER
E.W.C.	ELECTRIC WATER COOLER
P.T.D.&R.	PAPER TOWEL DISPENSER & RECEPTACLE
S.N.V.	SANITARY NAPKIN VENDOR

1ST FLOOR UTILITY CORE PLAN

SCALE ¼" = 1'-0"



NOTE: SEE 6TH FLOOR PLAN FOR PLAN OF STAIRS TO PENTHOUSE - THIS VENDING MACHINE SPACE IS OMITTED ON 6TH FLOOR - SEE SHT. # A-19 FOR STAIR DETAILS

NOTE: EXTEND VINYL WALL COVERING AROUND END OF WALL & INTO VENDING MACHINE SPACE.

2ND THRU 6TH FLOOR UTILITY CORE PLAN

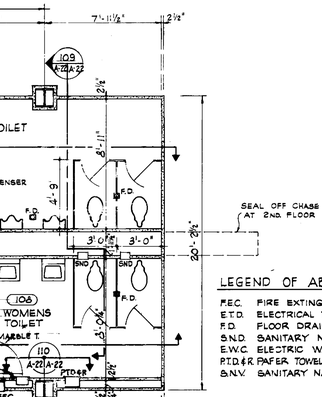
SCALE ¼" = 1'-0"

DETAIL 119 THRU UNISTRUT PARTITIONS IN TELEPHONE RM'S
SCALE 1½" = 1'-0"

DETAIL 110 SHOWING ANCHORAGE OF PLYWOOD LINING IN TELEPHONE RM'S
SCALE 3"=1'-0"

NOTE: PROVIDE THIS PLYWOOD WAINSCOT ON ALL FOUR WALLS OF ROOMS # 110 & 211 THRU 611

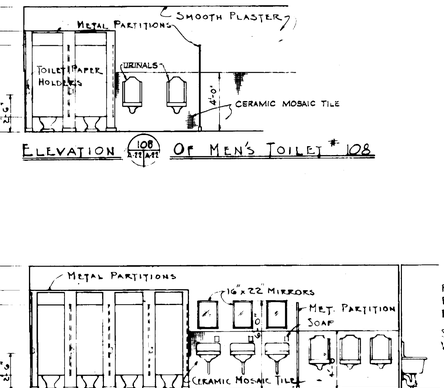
DETAIL 188 THRU TELEPHONE SHELF
SCALE 1"=1'-0"



DETAIL 123 SHOWING METHOD OF SUPPORTING SHELVES IN JANITORS ROOMS
SCALE 1½" = 1'-0"

DETAIL 124 THRU TOILET RM. WALL & FLOOR
SCALE 3"=1'-0"

ELEVATION 118 OF TELEPHONE SHELF - CORRIDOR B #123



NOTE: MAKE FACE OF PLASTER & FACE OF MOVABLE PARTITION FLUSH

NOTE: ELEVATIONS IN THESE ROOMS SIMILAR TO ELEVATIONS

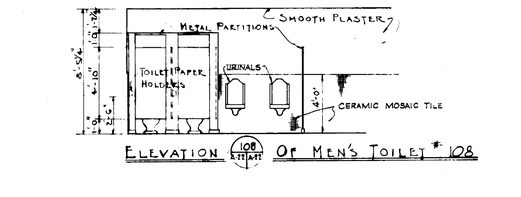
NOTE: ALL WALL ELEVATIONS ON THIS SHEET ARE TO A SCALE OF ¼" = 1'-0"

BASEMENT UTILITY CORE PLAN

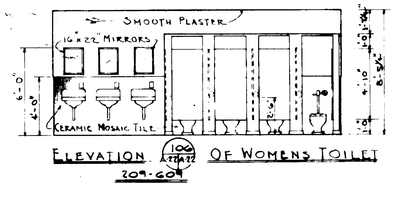
SCALE ¼" = 1'-0"

SITE ADAPTED BY HUDGINS, THOMPSON, BALL & ASSOC., INC
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

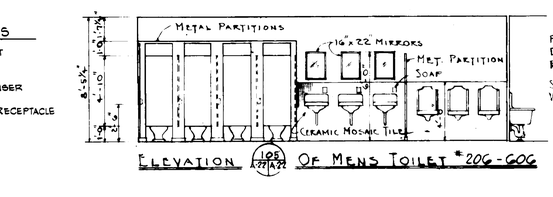
APPROVED FOR SAFETY
SAFETY OFFICE
DATE



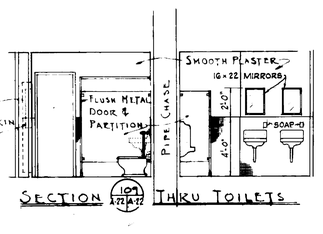
ELEVATION 108 A-22 A-22 OF MEN'S TOILET # 108



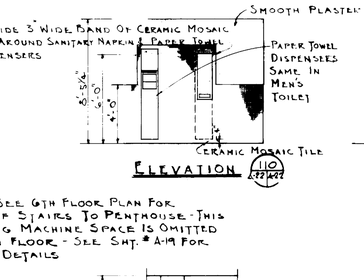
ELEVATION 106 A-22 A-22 OF WOMENS TOILET 206-606



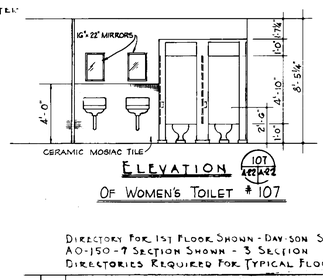
ELEVATION 105 A-22 A-22 OF MENS TOILET # 206-606



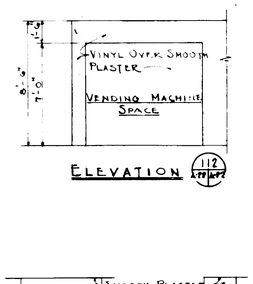
SECTION 103 A-22 A-22 THRU TOILETS



ELEVATION 110 A-22 A-22



ELEVATION 107 A-22 A-22 OF WOMEN'S TOILET # 107



ELEVATION 112 A-22 A-22

ELEVATION 113 A-22 A-22

NOTE ELEVATIONS OF OTHER ELECTRIC WATER COOLERS SIMILAR

DIRECTORY FOR 1ST FLOOR SHOWN - DAVIDSON STYLE AO-150-7 SECTION SHOWN - 3 SECTION DIRECTORIES REQUIRED FOR TYPICAL FLOORS.

ELEVATION 114 A-22 A-22

ELEVATION 115 A-22 A-22 SIMILAR AS NOTED

ELEV. 116 A-22 A-22 & ELEV. 117 A-22 A-22 OF JANITOR ROOM SHELVING

1	11-17-64	REV. CORE PLAN & RELOCATE DOOR B-23	GH
REV. BY	DATE		C.I. NO. / APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

1/4" SCALE CORE PLANS & TOILET ELEVATIONS

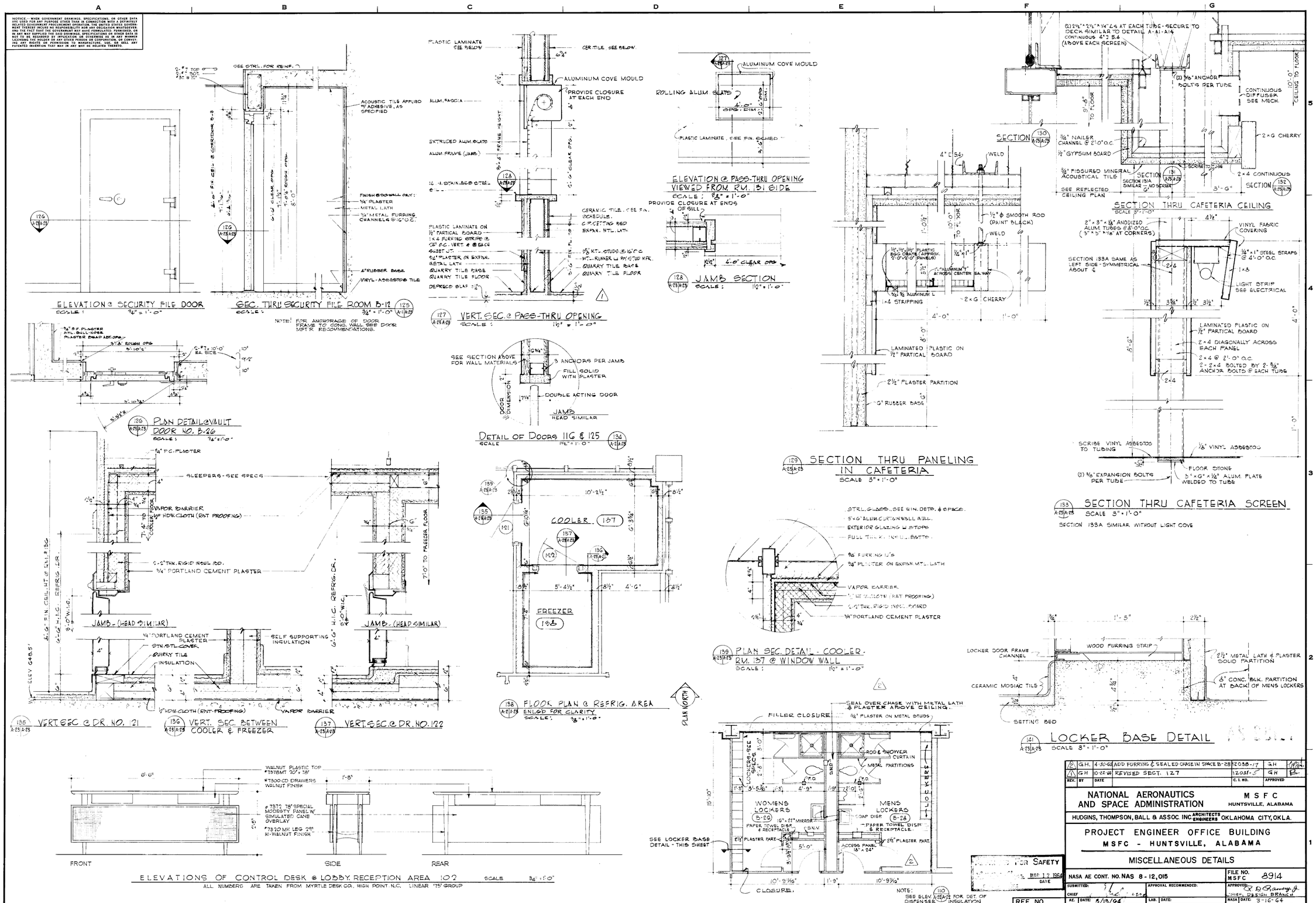
NASA AE CONT. NO. NAS 8 12,015 — FILE NO. MSFC 8913

SUBMITTED CHIEF	Wyatt Hedrick	APPROVAL RECOMMENDED	APPROVED CHIEF, DESIGN BRANCH
AE	11-17-64	LAB. / DATE	NASA DATE 3-16-64
DESIGNED BY	J.R.S.	APPROVAL RECOMMENDED CHIEF, ARCH. SECTION	DRWG. NO. F&D-A4202-A22
CHECKED	W.L.A.	DESIGN DATE	
SCALE	AS NOTED	SPEC. NO. F-D-44	

REF. NO. A-22

4202-A22

MSFC-FORM 232 (REV. DEC. 1960)



REV.	BY	DATE		C.I. NO.	APPROVED
2	G.H.	4-30-63	ADD FURRING & SEALED CHASE IN SPACE B-28	12038-17	GH
1	GH	10-22-64	REVISED SECT. 127	12031-5	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

MISCELLANEOUS DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8914

SUBMITTED: CHIEF — APPROVAL RECOMMENDED: — APPROVED: R. D. Ramsey Jr. CHIEF, DESIGN BRANCH

AE DATE: 3/13/64 — LAB. DATE: — NASA DATE: 3-16-64

DESIGNED B. J. DRAWN B. J. CHECKED W. S. — APPROVAL RECOMMENDED: Grady D. Harmon CHIEF, ARCHITECTURAL SECTION — DRWG. NO. F&D-A4202-A23

SCALE: AS NOTED — DESIGN DATE: 3-16-64 — SPEC. NO. F&D-441

REF. NO. A-23

MSFC-FORM 232 (REV. APRIL 1962)

4202

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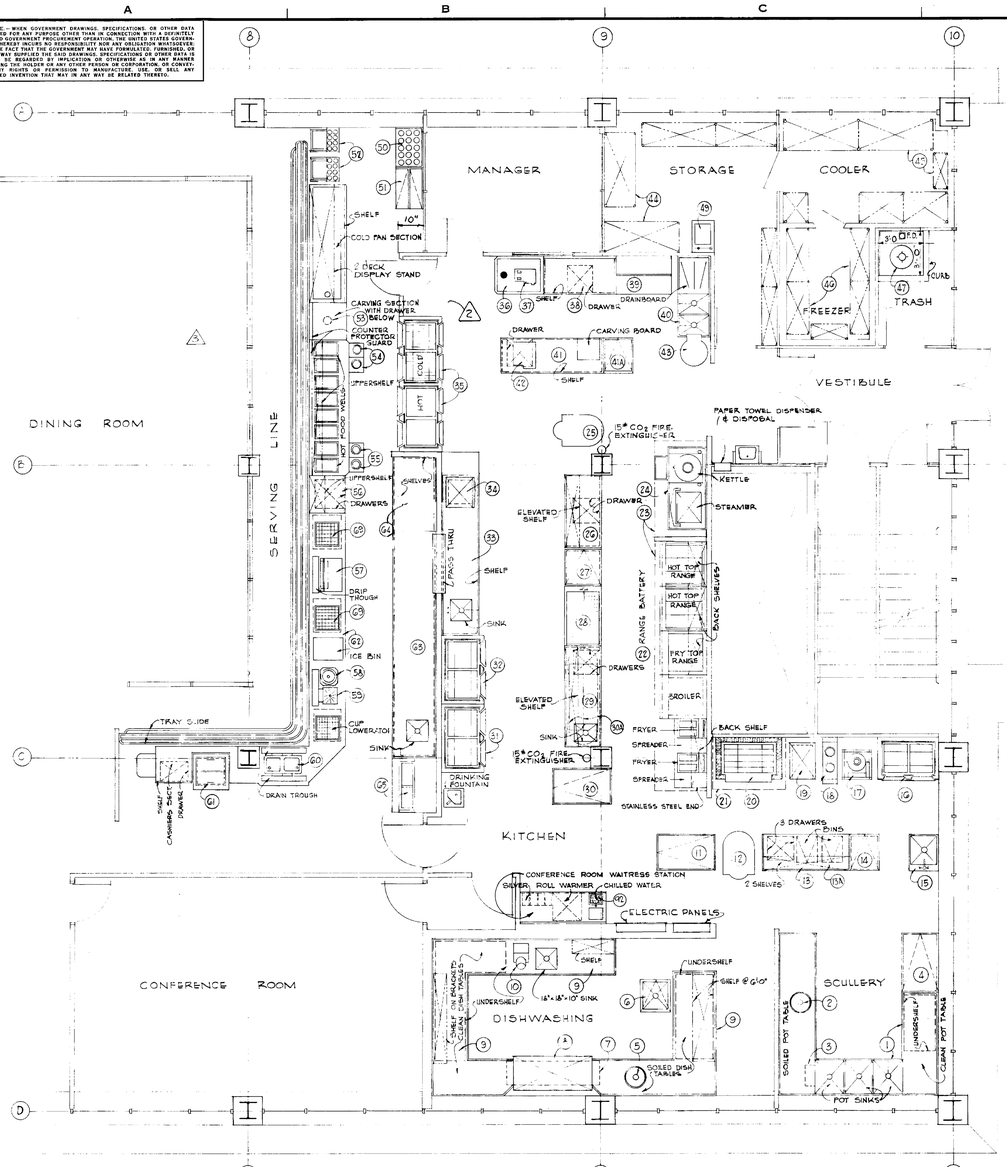
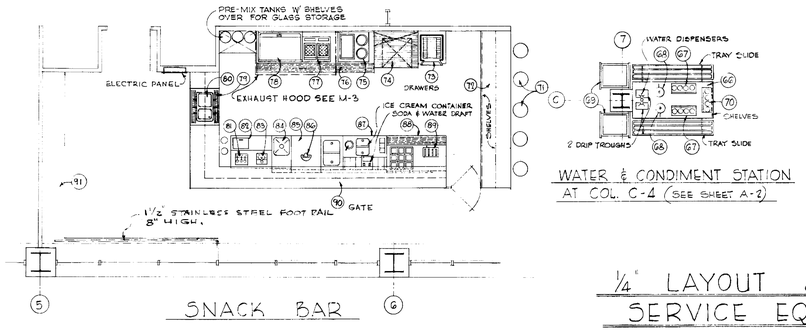


KITCHEN - DISHWASHING & SERVING LINE



SNACK BAR

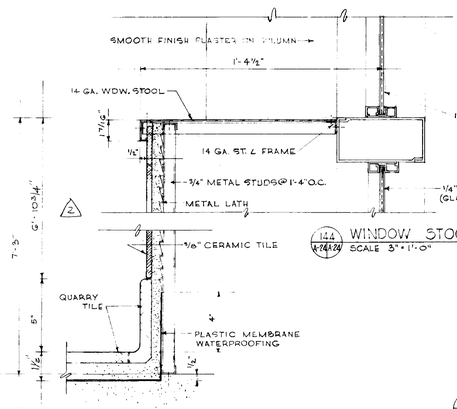
WATER & CONDIMENT STATION AT COL. C-4 (SEE SHEET A-2)

¼" LAYOUT of FOOD SERVICE EQUIPMENT

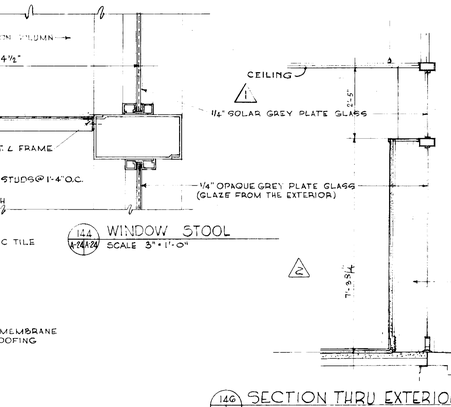
EQUIPMENT SCHEDULE

1. POT WASHING SINKS & TABLES
2. DISPOSAL
3. POT WASHER
4. PORT. POT CABINET
5. DISPOSAL
6. PORT. SILVER SINK
7. PANT. LEG CANOPY
8. DISHWASHER
9. DISH & GLASS TABLE
10. GLASS WASHER
11. PORT. COOLING SLAB
12. MIXER
13. BAKERS TABLE (13A) PAN RACK
14. PORT. PAN CABINET
15. 1 COMPT. SINK
16. REFRIGERATOR
17. STEAM TABLE
18. BAKERS STOVE
19. PROOF CABINET
20. BAKE OVEN
21. CANOPY - SEE SPEC. SECTION 15B & M-3
22. RANGE BATTERY
23. CANOPYS (2) - SEE SPEC. SECTION 15B SEE SHEET M-3
24. COMB. STEAMER & KETTLE
25. MIXER
26. WORK TABLE
27. PORT. PAN CABINET
28. BAIN MARIE
29. COOKS TABLE
30. PORT. PAN CABINET (30A) PAN RACK
31. REFRIGERATOR
32. REFRIGERATOR
33. WORK TABLE W/ SINK INSET
34. RADAR RANGE
35. COMB. HOT & COLD CABINET (PASS THRU)
36. CUTTER TABLE
37. VEG. CUTTER & SLICER
38. VEG. PREP. TABLE
39. DISH STORAGE CABINET
40. VEG. SINK
41. WORK TABLE (41A) PORT. POT CABINET
42. SLICER
43. PEELER
44. DRY STORAGE & SHELVING
45. SEE SPEC. SECTION 15A WALK-IN COOLER & SHELVING
46. SEE SPEC. SECTION 15A WALK-IN FREEZER & SHELVING
47. CAN WASHER
48. THIS ITEM OMITTED
49. SCALES
50. SILVER CART (PORT.)
51. TRAY CART (PORT.)
52. TRAY & SILVER CART (PORT)
53. HEAT LAMP (CEILING HUNG)
54. HEATED PLATE LOWERATOR
55. PLATE & BOWL LOWERATOR
56. ROLL WARMER
57. MILK DISP. W/ TURNTABLE
58. ICE TEA URN
59. JET SPRAY DISP.
60. COFFEE URN
61. ICE CREAM CABINET
62. CAFETERIA COUNTER
63. BACK BAR CABINET
64. HEATED DISH CABINET
65. ICE MAKING MACHINE
66. WATER & CONDIMENT STATION
67. CONDIMENT DISP.
68. CREAM DISP.
69. GLASS RACK LOWERATOR
70. SILVER DISP.
71. COUNTER STOOLS
72. FOOD SERVICE COUNTER
73. REFRIGERATER
74. WORK TABLE W/ DRAWERS
75. FOOD WARMER
76. EQUIPMENT STAND
77. FRYER
78. GRIDDLE
79. URN STAND
80. COFFEE URN
81. PRE-MIX DRINKING COMPONENTS (BY OTHERS)
82. ICE MAKING MACHINE
83. PUSH BACK GLASS FILLER
84. SINK SECTION
85. SHELVING & WORK TOP SECTION
86. MALT MIXING MACHINE
87. DRINK & ICE CREAM FOUNTAIN
88. SANDWICH UNIT
89. TOASTER
90. COUNTER
91. STAND UP COUNTER
92. WAITRESS STATION (FOR CONFERENCE ROOM)

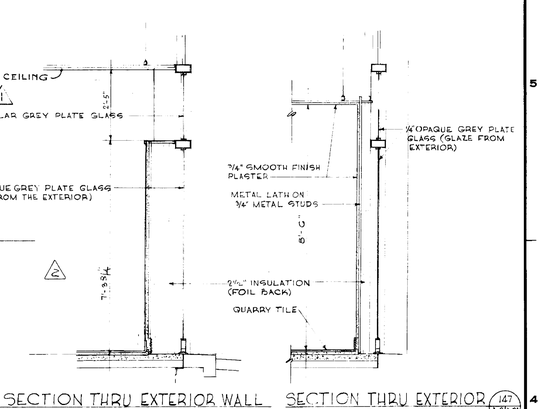
NOTE:
ALL COUNTER SIDES SHALL BE HONEYTONE TEAK 4785 BR
COUNTER TOPS - CELESTE SOLID FINESSE 2G8 OR
EQUIVALENT COLOR OF OTHER MANUFACTURERS



145 (A-21/A-24) QUARRY TILE BASE
SCALE 3" = 1'-0"

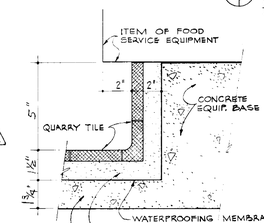


144 (A-24/A-24) WINDOW STOOL
SCALE 3" = 1'-0"



146 (A-21/A-24) SECTION THRU EXTERIOR WALL OF AREAS 132, 133 & 134
SCALE 1½" = 1'-0"

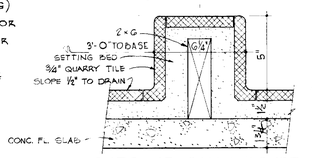
147 (A-21/A-24) SECTION THRU EXTERIOR WALL OF AREAS 136 & 139



TYPICAL BASE FOR ITEMS 22, 62, 63 & 64

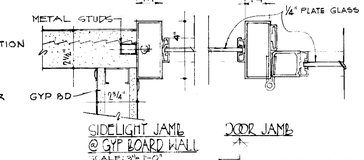
SCALE: 3" = 1'-0"

NOTE: EXACT SIZE OF BASE SHALL BE COORDINATED WITH ACTUAL EQUIPMENT FURNISHED.



CURB AT CAN WASHER

SCALE 3" = 1'-0"



SIDELIGHT JAMB @ GYP BOARD WALL

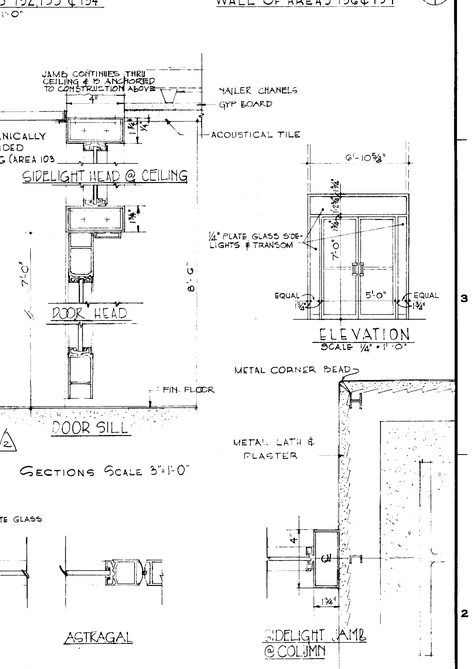
DOOR JAMB

ASTRAGAL

SIDELIGHT JAMB @ COLUMN

SCALE: 3" = 1'-0"

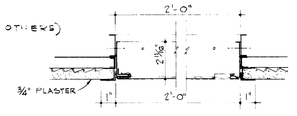
NOTE: REVERSED FOR SIDELIGHT JAMB @ COLUMN



SECTIONS SCALE 3" = 1'-0"

DETAILS OF DOORS 115 AND 128

AS BUILT



148 (A-24/A-24) SECTION THRU ACCESS DOOR IN CEILING
SCALE 3" = 1'-0"

REV.	BY	DATE		C.I. NO.	APPROVED
1	GDH	5-12-65	RELOCATED PARTITION	12038-17	GH
2	GDH	12-30-64	RELOCATE LAMINATED PLASTIC SCREEN	12038-8	GH
3	GDH	10-22-64	REV. QUARRY TILE SETTING BED	12038-5	GH
4	GDH	5-1-64	REV. SECT. 14G AS PER AMEND # 2		GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

ENLARGED FOOD SERVICE PLAN

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8915

SUBMITTED: CHIEF — APPROVAL RECOMMENDED: — APPROVED: R. D. Saxon Jr. CHIEF, DESIGN BRANCH

AE. — DATE 3/13/64 — LAB. — DATE: — NASA DATE: 3-16-64

DESIGNED REM & BJ
DRAWN RS
CHECKED WS
SCALE AS NOTED

APPROVAL RECOMMENDED: Gradel D. Ivey III/GH, CHIEF, ARCHITECTURAL SECTION
DESIGN DATE: 3-16-64
SPEC. NO. F&D-441

DRWG. NO. F&D-A-4202-A24

REVIEWED FOR Safety — MAR 17 1964 — DATE — SAFETY OFFICE

REF. NO. A-24

MSFC-FORM 232 (REV. APRIL 1962)

4202

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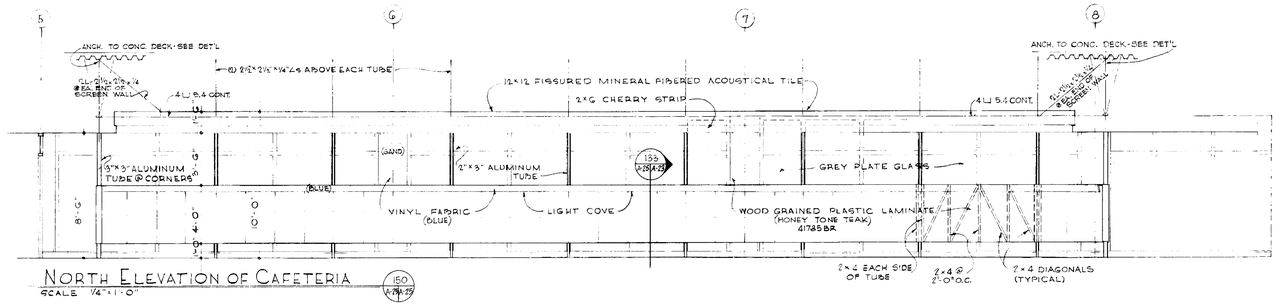
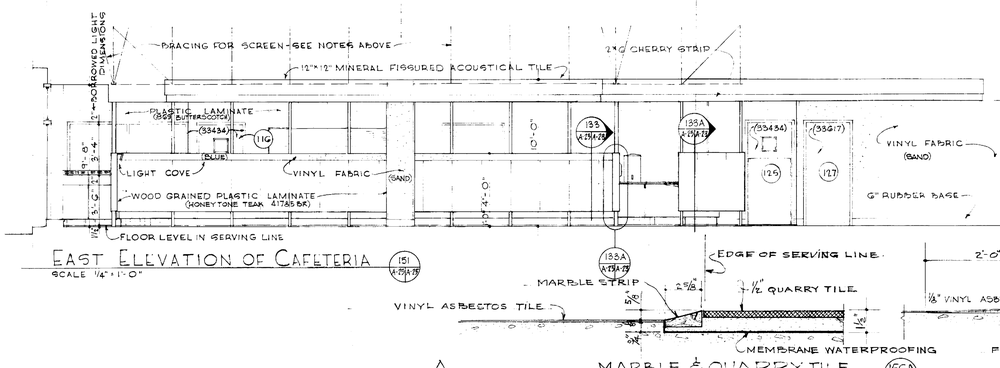
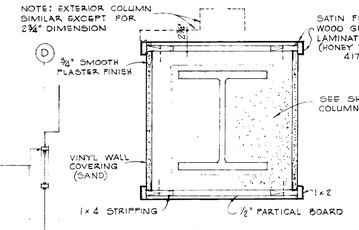


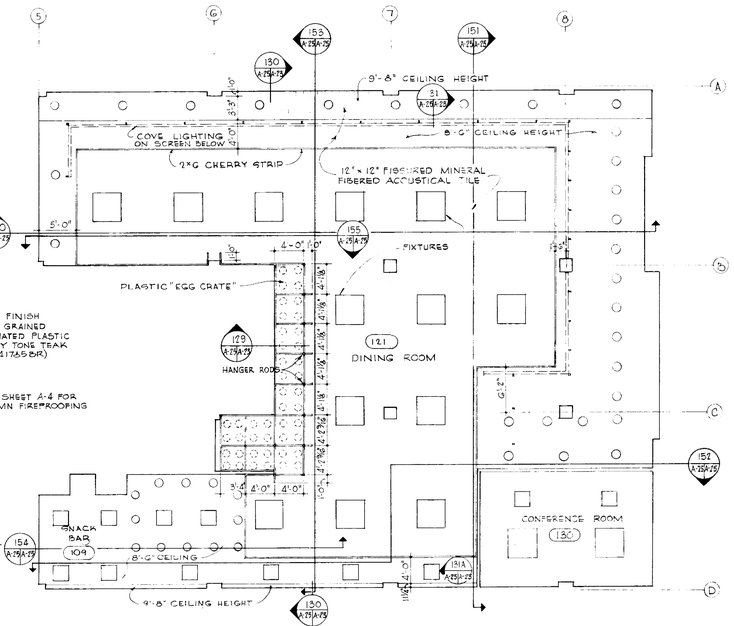
NORTH ELEVATION OF CAFETERIA
SCALE 1/4" = 1'-0"



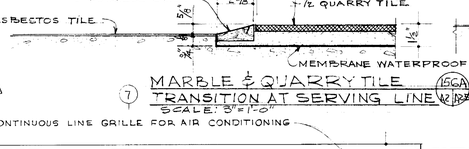
EAST ELEVATION OF CAFETERIA
SCALE 1/4" = 1'-0"



TYPICAL CAFETERIA COLUMN
SCALE 1½" = 1'-0"

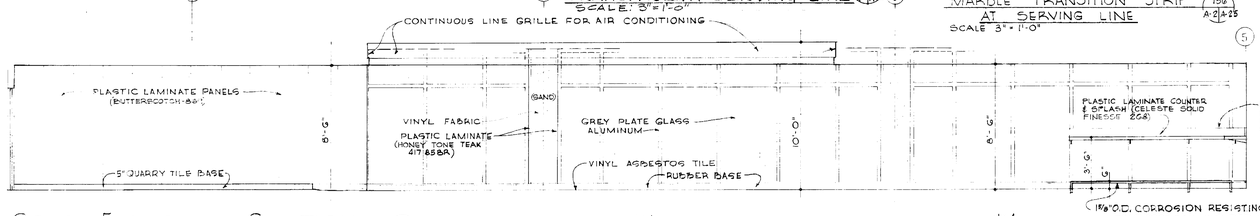


REFLECTED CEILING PLAN OF CAFETERIA
SCALE 1/8" = 1'-0"

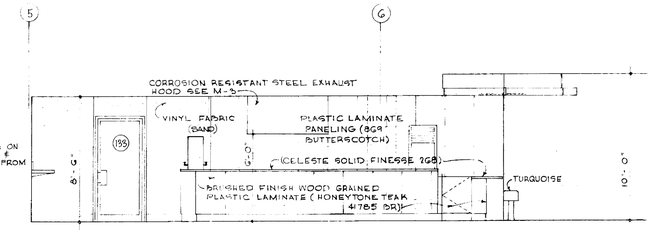


MARBLE & QUARRY TILE TRANSITION AT SERVING LINE
SCALE: 3" = 1'-0"

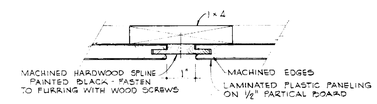
MARBLE TRANSITION STRIP AT SERVING LINE
SCALE 3" = 1'-0"



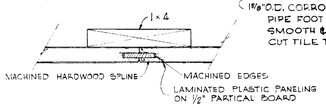
SOUTH ELEVATION OF CAFETERIA
SCALE 1/4" = 1'-0"



NORTH ELEVATION OF SNACK BAR
SCALE 1/4" = 1'-0"

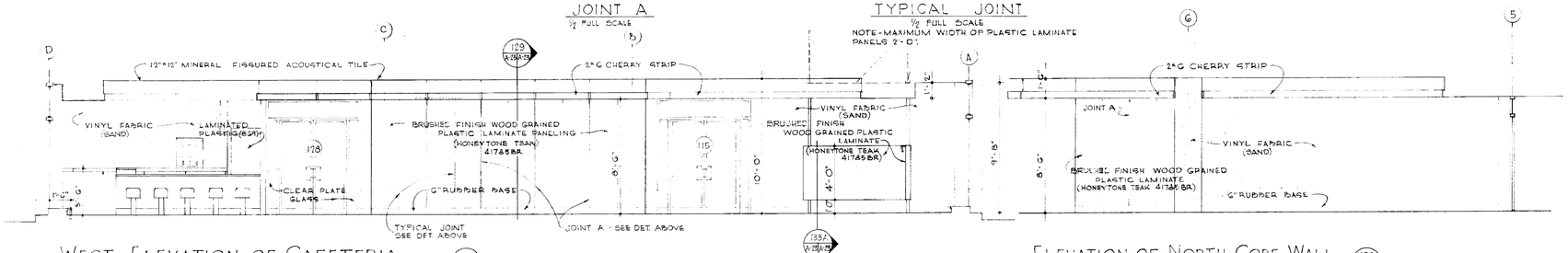


JOINT A
½ FULL SCALE



TYPICAL JOINT
½ FULL SCALE
NOTE-MAXIMUM WIDTH OF PLASTIC LAMINATE PANELS 2'-0".

1⅝" O.D. CORROSION RESISTING STEEL PIPE FOOT RAIL, WELDED, GROUND SMOOTH & SET IN 2½" DEEP SLEEVES CUT TILE TO FIT SMOOTHLY



WEST ELEVATION OF CAFETERIA
SCALE 1/4" = 1'-0"

ELEVATION OF NORTH CORE WALL
SCALE 1/4" = 1'-0"

AS BUILT

APPROVED FOR SAFETY
SAFETY OFFICE DATE

REF NO.
A-25

REV.	BY	DATE		C.I. NO.	APPROVED
1	GH	10-22-64	ADDED SECT. 15GA & REVISED SECT. 156	12038-5	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

CAFETERIA ELEVATIONS & DETAILS

NASA AE CONT. NO. NAS 8-12,015			FILE NO. M S F C 8916
SUBMITTED: CHIEF, AE: [signature] DATE 8/13/64	APPROVAL RECOMMENDED: LAB. DATE:		APPROVED: [signature] CHIEF, DESIGN BRANCH NASA DATE: 8-16-64
DESIGNED T G DRAWN B J CHECKED W S	APPROVAL RECOMMENDED: Grady D. Hammer CHIEF, ARCHITECTURAL SECTION	DESIGN DATE: 8-16-64	DRWG. NO. F&D-A-1202-A25
SCALE: AS NOTED	SPEC. NO. F&D-441		

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APPROVED FOR SAFETY
MAR 17 1964
DATE

FOUNDATION & BASEMENT FRAMING, PLAN

SCALE: 1/8" = 1'-0"

EL. FIN. BSMT. FL. = 632.50

TOP PIER = ELEV. 641.12

BOTTOM OF BSMT. WALL AT ELEV. 632.50 FROM 1'-0" WEST OF A1 THRU 1'-8" EAST OF A5

TOP OF PIER 631.08

BOTTOM OF BSMT. WALL & TOP OF PIER CAPS = 630.50 1'-0" WEST OF A1 TO 1'-8" EAST OF A5

NOTE:- EXTENT OF ATTENUATOR GRATING IN THIS AREAWAY

ELEV. TOP OF PIER CAPS = 631.13 UNLESS SHOWN OTHERWISE.

TOP OF PIER 624.80

EL. TOP OF PIER 631.50

PROVIDE 1/2" PREMOULDED EXP. JT. BETWEEN ELEV. PIT WALL & PIER CAP

4" THICK CONC. PAD FOR GENERATOR SEE ELECTRICAL FOR LOCATION

SEE COLUMN FIREPROOFING DETAILS ON SHEET A-4

EL. TOP PIER 644.00

TYP. CORNER PILASTER

SUMP 5'-6" DEPTH

SUMP 7'-0" DEPTH

FOR REINF AT DOOR SEE ARCH

DETAIL

SCALE: 1/4" = 1'-0"

OPPOSITE HAND

2-#5 x 16'-8" V.

#3 TIES @ 12"

DETAIL

SCALE: 1/4" = 1'-0"

HOR. STEEL HOOK BARS AT COLUMN WEB.

TYP. PILASTER

WRAP ALL COLS. EXC. B-1, B-10, C-1 & C-10, W/ 4x4-10/10 WELDED WIRE MESH

SUMP - 18"ø - 24" DEEP SEE MECH.

3/4" CHAMFER - ALL EXPOSED CORNERS

DETAIL

SCALE: 1/4" = 1'-0"

BSMT. WALL

E COL. & PIER

CONC. COVER

SEE PLAN FOR ELEV. BSMT. FLOOR

COL., B, R & ANCH. BOLTS AS SCHED. 2-#4 @ 6" EA. SIDE 11"

3" MIN. CONC. COVER

1½" NON-SHRINK GROUT

3-#5 CAP AS SCHED.

PIER AS SCHED.

VARIES

3'-0"

SECTION

SCALE: 1/2" = 1'-0"

1ST. FLOOR

SEE SECTION FOR BAL. OF W.L. & REINF.

CARBORUNDUM RUBBED FINISH (TYR)

NOTE: SPLASH NOT SHOWN.

SECTION

SCALE: 1/2" = 1'-0"

SEE ARCH. DET'L. OF CONT. SPLASH BLOCK

COL. & PIER #3@12" (1-6" (TYP.)

ELEV. 648.5

1ST FLOOR

L-3x3x1/4- CONT. W/ 1/4" x 1" x 12" ANCHS. @ 24" O.C. (TYP.)

HK. AT COL. WEB (TYP.)

SEE ARCH. — SECTION FOR WATER-PROOFING

6" MIN.

1/2" FIBER-BOARD

#4@12" EA. WAY

#6@12" VERT.

#4@11" HOR.

BSMT. FLOOR

2-#8 HK. AT COL.

4" BEND (TYP.)

WATER STOP AS SPECIFIED

#4@18 o.c. EA. WAY

#3@12" (TYP.)

MEMB. WATERPFG. AS SPEC. (TYP.)

EL. 631.58

EL. 631.08

SEE MECH. SECTION FOR COMT. DRAIN

SEE Sect. B 51|51

SECTION

SCALE: 1/2" = 1'-0"

L-3x2x1/4-CONT SECURED W/ 1/2"ø x 0'-10" ANCH. BOLTS @ 24" O.C.

SEE ARCH. SH. A-15 FOR GRATING

L-2x2x1/4-CONT. THIS SIDE & BOTH ENDS ANCHOR W/ 1/2" ø ANCHORS @ 24" c/c IN BENT PL.

1-#3 CONT. (TYP.)

HOOK THIS BAR AT COL. WEB

2-#4

2-#6

#5@10½"

7'-8"

3-#9 HOOK 2 BARS @ COL. WEB

CONT. L SUPPT. FOR SOUND ATTENUATORS. (GRATING - SAME SIZE AS ABOVE)

#4@11 HOR. EA. FACE

(UNLESS NOTED)

PROVIDE #4@6 CORNER BARS 3-0 3-0

#4@12" EA. WAY

#3@10 VERT. EA. FACE

STEEL COL. & PIER.

SAND WITH GRADATION AS REQ'D. FOR CONC.

CRUSHED STONE OR GRAVEL W/ GRADATION AS REQ'D. FOR CONC. AGGREGATE

CURB - SEE PLAN

SLOPE 1" TO DRAIN

EL. 632.5

2-#5 x 2'-6" DOWELS

SEE PLAN FOR LOCATION OF FTG.

2-#7 T. & B. (HOOK AT COL.) 24'-8½" @ 10½"

SECTION

SCALE: 1/2" = 1'-0"

1ST FLOOR

E BM. COL. & PIER

HK. AT COL.

14 WF 30

FOR DETAILS NOT NOTED, SEE SECTION A 51|51

#4@12" VERT E.F.

#5@12" HOR.

#4@12" EA. WAY

2-#8 HK. AT COL.

TYP. VERT. CONST. JT. IN WALL

2"x6" KEY

TYP. WATERSTOP RUN REINF. THRU JOINT.

TYP. HOOK BOTTOM WALL STEEL

CAP

SECTION

SCALE: 1/2" = 1'-0"

1ST FLOOR

ELEV. 648.5

WATERPROOFING

10, B 11.5 (46 B 8.5) 8 x 3/8 - 0'-8" & WELDED TO L 4 x 4 x 3/8 x 1'-6" W/ 3-7/8 x 1½ x 11'-2" ANCHS.

2" WELD EA. SIDE

WELD BM. TO ℄

12-#5 @ 10" HOR.

C 14 x 6.7 @ 10" HOR.

2-#9 HK. AT COL.

STAIR

EL. 632.5

BSMT. FLOOR

SECTION

SCALE: 1/2" = 1'-0"

SEE Sect. B 51|51

SEE Sect. B 51|51 FOR STL.

SEE Sect. B 51|51

SEE Sect. C 51|51

SEE Sect. C 52|51

SEE Sect. Y 51|51

SEE Sect. A 51|51

SEE Sect. A 62|51

SEE Sect. D 51|51

SEE Sect. D 52|51

SEE Sect. BB 52|51

SEE Sect. BB 51|51

NORTH

SITE ADAPTED BY HUDGINS, THOMPSON, BALL & ASSOC., INC. ARCHITECTS - ENGINEERS OKLAHOMA CITY, OKLAHOMA

DETAIL

SCALE: 1/2" = 1'-0"

WALL HOR. STEEL

2-#11

HOOK

#3@18 TIES

DETAIL OF SLAB JOINTS AT BSMT. COLUMNS

COLD JOINT

CONC. FIREPR'F'G.

Note: SEE SH 5-5 For GENERAL NOTES - FOUNDATIONS & CONCRETE

SECTION

SCALE: 1½" = 1'-0"

BSMT. FLOOR

#4@12

#4@10 EA. WAY

#4@10

TYP. WATERSTOP

CAST ANCH. BOLTS IN PLACE FOR BUFFER (SEE ELEV. CONTR. DRAWINGS)

TYP. FIBERBOARD OVER MEMB. WPFG.

2" CONC. W/ MEMB. WPFG.

SECTION

SCALE: 1½" = 1'-0"

COL., B, R & ANCH. BOLTS AS SCHED.

CONC. FIREPROOFING. WRAP COL. W/ 4x4-10/10 WELDED WIRE MESH

3-#4 □

1-#4 x 0'-9" EA. COR.

C.J.

ENCASE B. R IN CONCRETE (6" MIN.)

1½" NON-SHRINK GROUT

CAP AS SCHED.

PIER AS SCHED.

SEE LARGER SCALE DETAIL OF COL. B, R ON SH. S-6

REV	BY	DATE	
1	W.D.S.	4-14-64	ADDED PIT FOR ELEVATORS #1 & 2

C.I. NO. | APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FOUNDATION & BASEMENT FRAMING PLAN & DETAILS

NASA AE CONT. NO. NAS 8-12,015

FILE NO. MSFC 8017

SUBMITTED: CHIEF Wyatt Hedrick, AE DATE 11-17-64

APPROVAL RECOMMENDED: CHIEF, STRUCTURAL SECTION, DESIGN DATE. SMC NO. F&D-441

APPROVED: CHIEF, DESIGN BRANCH, NASA DATE 3/17/64

DESIGNED B.A.S. DRAWN B.A.B. & B.A.S. CHECKED CB

SCALE: AS NOTED

REF. NO. S-1

DRWG NO. F&DA 4202:S1

MSFC-FORM 232 (REV. DEC., 1960)

4202

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SEE MECH. SPECS. FOR RING & COVER

BASEMENT FLOOR

MEMB. WPFG.

REINF. CONC. PIPE

4'-0" DIA.

SEE PLAN

#3@8 EA. WAY

8" MASONRY PARTN.

2-#5 CONT.

#4@18

SECTION (CC S1/S2) SCALE: ½"=1'-0"

2-#6

2'-6"

#4@12" ALT. BNT.

#4@12" TEMP.

SYMM. @ ℄

#4@10" HORIZ. (TYP.@ WALLS)

#4@16" VERT.

8'-0"

2"x4" KEY W/WATER STOP CONT. (TYP.)

#3 DWLS.@ 16" 2'-2" O.C.

#4 DWLS. x 2'-6" @ 12" o.c.

8" SLAB W/ #4 @ 12" EA. WAY

2-#6 CONT.

MEMBRANE WATERPFG.

PIED AS. SCHED. TOP OF PIER ELEV.=631.50

SECTION (NN S1/S2) SCALE: ½"=1'-0"

#4@10"

2Ls 4x4x⅜ LL W/ 2 ¾"ø x 0'-8" ANC. BOLTS

TYP. FIBERBOARD EXPS. MEMB. W/PFG.

SEE ELEV. CONTR. DWGS. FOR BUFFER ANC. BOLTS

TYP. WATER STOP

3'-0"

(TYP. ALL FOUR WALLS)

2" CONC. W/ MEMB. WPFG.

1 SECTION (EE S1/S2) SCALE: ½"=1'-0"

L 4x3x5/16 x 0'-8 LL W/ 2-¾"ø x 0'-8" A.B.

SEE SECTION FOR DETAILS NOT NOTED (CC S1/S2)

SECTION (FF S1/S2) SCALE: ½"=1'-0"

#3@12

#4@12 EA. WAY

#3@10½

SEE MANUF. DETAIL FOR LIFT COVER AND FRAME

8WF24 GUIDE SUPT. 8-¾ x 0'-8 ℄ 2-¾" A.B.

SEE SECT. (V S1/S2) FOR ANGLE

#4@12 VERT.

BSMT. FL.

2-#6 HOOKED

#4@11 HOR.

#5@10 VERT

8" WALL #4@10 EA.W. (DOWEL INTO SL.)

#4@10 (TYP. 4 SIDES)

#4@10 EA. WAY

2-#8 HOOKED

2-#6 CONT.

PIER P4 EL. 636.83

SECTION (H S1/S2) (H S2/S2) SCALE: ⅜"=1'-0" OPPOSITE HAND

2-#7 T.&B. CONT

#3@18

8x40 CANT. BM. (SEE PLAN) 2-#6 T. 2-#5 B. — 3-#5 ☐ EQ. SP.

SEE ½" SCALE SECTION FOR HOR. REINF. (INSIDE FACE) (Z S1/S2)

#4@12

#4@11 HOR. EA. F.

REINF. WALL ON COL. LINE A SAME

#5@10 VERT. EA. F.

SEE SECTION (H S1/S2) FOR DETAILS NOT NOTED

SECTION (GG S1/S2) (GG S2/S2) SCALE: ⅜"=1'-0" OPPOSITE HAND

RUBBER BUMPERS. 3-¾"ø x 0'-8 ANCH. BOLS EA. END OF EA. BUMPER, SPA. TO FIT MANUF. DWGS.

½" PREMOLD JT.

#4@10

#5@10

BSMT. FL.

2-#7

SECTION (Z S2/S2) SCALE: ¼"=1'-0"

SECTION (AA S1/S2) SCALE: ½"=1'-0"

2" 1'-0" 22'-0" 2" 1'-0" 11'-5¼" 1'-2" 11'-2¾" 11'-2¾" 1'-2" 11'-5¼" 2" 1'-0" 10'-2¾" 1'-2"

B S2/S1 (4) AA S2/S1

A S2/S1

1B23 1B23a 1B24 1B25 1B26 1B27 1B28 1B29 1B30

STAIR #1 (Y S2/S3) 9'-9½" 7'-5¾" 6'-9¾"

STAIR #2 (Y S2/S3) 7'-5¾" 6'-9¾"

(GUIDE RAILS (8"x ELEV. CONTR.)) 1BG

ELEV. #1 (J S2/S3) ELEV. #2 (K S2/S3)

1B1 1B2 1B3 1B4 1B5 1B6 1B7 1B8 1B9 1B10 1B11 1B12 1B13 1B14 1B15 1B16 1B17 1B18 1B19 1B20 1B21 1B22

1G1 1G2 1G3 1G4 1G5 1G6 1G7 1G8 1G9

8'-7" 11'-10¼" 8'-7" 15'-5" 15'-0 9'-0"

24'-0" 14'-7" 20'-0" 70'-0"

SEE DETAIL (4 S2/S5)

WELD TO CONT. L

M S2/S5 C S2/S1 D S2/S1 JJ S2/S2

1'-0" 24'-0" 24'-0" 24'-0" 24'-0" 24'-0" 24'-0" 24'-0" 24'-0" 24'-0" 218'-0"

1 2 3 4 5 6 7 8 9 10

SEE SHT. A-18 FOR DETAILS OF COVERED WALK.

3'-0" 8'-3" 8'-3" 3'-0" 3'-2" 8'-10" 8'-10" 3'-2" 24'-0" 8'-0" 8'-4½" 8'-0" 8'-4"

7'-4" 9'-4" 7'-4"

CANT. BM. RET. WALL SEE SHT. A2 GUARD RAIL (SEE ARCH'L.)

2-#7 #3@18 2-#6 2-#6 x 5'-6" 2-#8 CONT. 8x12 BM. UNDER BOT TREAD EL. 644.00

#3@10 EA. WAY #3@18 13

SECTION (HH S2/S2) SCALE: ½"=1'-0" OPPOSITE HAND

2-#5 CONT. FIN. 1ST. FL. #5@12 #3@18 2-#5 CONT. PIER P6 EL. 647.12

SECTION (JJ S2/S2) SCALE: ½"=1'-0"

2'-0" 2" COVER & FRAME AS SPEC. 2-#5 TOP & BOT. CAST BOLTS IN CONC. PILASTER FOR GUIDE RAIL SUPPORT (SEE VENDOR DWGS.) #5@10 VERT. EA. FACE #4@11 HORIZ. EA. FACE FACE OF CONC. PILASTER FOR GUIDE RAIL SUPPORT 1'-2" 1'-0"

SECTION (LL S2/S2) SCALE: ½"=1'-0"

NORTH

AS BUILT

FIRST FLOOR FRAMING PLAN

SCALE: ⅛"=1'-0"

FIN. FLOOR ELEVATION = 648.5
TOP OF STEEL BMS. & GIRDERS = 5½" BELOW FIN. FL.

GENERAL NOTES - STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AISC FOR STEEL BUILDINGS. WELDING SHALL BE IN ACCORDANCE WITH THE A.W.S. CODE. STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. A-36.
2. CONNECTIONS, INCLUDING STANDARD CONNECTIONS, SHALL BE SHOP WELDED. FIELD MOMENT CONNECTIONS SHALL BE AS INDICATED ON DRAWINGS. SHEAR CONNECTIONS SHALL BE AISC SERIES "B" STANDARD CONNECTIONS, SHOP WELDED AND FIELD BOLTED. TACK WELD NUTS TO BOLTS AFTER TIGHTENING.
3. PUNCH BEAMS AND PROVIDE BOLTS FOR OTHER TRADES AS CALLED FOR ON ARCHITECTURAL PLANS.
4. SEE SPECIFICATIONS FOR WELDING. MAKE FIRST PASS INTO BACKUP PLATE WITH E 6010 ELECTRODE. ALL OTHER WELDING TO BE DONE WITH CLASS E 70XX LOW HYDROGEN ELECTRODES.
5. SEE SPECIFICATIONS FOR WELDING INSPECTION.

NOTE: SEE SHEET S-5, FOR GENERAL NOTES - FDN. & CONC.

BEAM SCHEDULE

MARK	SIZE	TYPE OF END CONNECTION SHEAR	MOMENT	REMARKS	MARK	SIZE	TYPE OF END CONNECTION SHEAR	MOMENT	REMARKS
1B1	GB8.5	EA. END			1B21	12B19	EA. END		
1B2, 1B4	8B10	EA. END			1B22	16WF36	EA. END		
1B3	8B10	EA. END			1B23	12WF27	AT G1	AT G3	
1B5	14WF34	EA. END			1B24	12WF27		EA. END	
1B6	12WF27	EA. END			1B25	12WF40		EA. END	
1B7	8B13	EA. END			1B26, 1B27	12WF27		EA. END	
1B8	GB8.5	EA. END			1B28	14WF34		EA. END	
1B9, 1B11	10B11.5	W. END	E. END		1B29	14WF34		EA. END	
1B10, 1B12	10B11.5	E. END	W. END		1B30	12WF40		EA. END	
1B13	14WF34	EA. END			1B31	12WF27		EA. END	
1B14	10B11.5	EA. END			1B23a	12WF27		EA. END	
1B15, 1B16	GB8.5	EA. END							
1B17	12I31.8	EA. END							
1B18	GB8.5	EA. END							
1B19	18WF27	@1G4 & 1G6	@1G5						
1B20	GB8.5	EA. END							

GIRDER SCHEDULE

MARK	SIZE	REMARKS
1G1	14WF30	
1G2 (OMITTED)		
1G3	18WF60	
1G4	18WF46	
1G5	18WF55	
1G6	18WF50	
1G7	18WF45	
1G8	18WF60	
1G9	18WF50	

NOTE: PROVIDE MOMENT CONNECTION AT EACH END OF EACH GIRDER.

ABBREVIATIONS:
EA. - EACH
E. - EAST
W. - WEST

APPROVED FOR SAFETY — Lyndon Pryor — MAR 19 1963 — DATE

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REF. NO. S-2

REV.	BY	DATE	
1	W.H.S.	6-14-63	SECTION EE REDRAWN

C.I. NO. — APPROVED G.M.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT-ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FIRST FLOOR FRAMING PLAN - SCHEDULES & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8918

SUBMITTED: CHIEF Wyatt C. Hedrick — APPROVAL RECOMMENDED: (W.W.W.) Proj. Engr. — APPROVED: CHIEF, DESIGN BRANCH

A.E. DATE 11-17-62 — CHIEF, STRUCTURAL SECTION — NASA DATE

DESIGNED B.A.S. DRAWN B.A.S. & B.A.S. CHECKED GB — DESIGN DATE:

SCALE AS NOTED — SPEC. NO. 60-421 — DRWG. NO. F&DAA202S2

MSFC-FORM 232 (REV. DEC. 1960)

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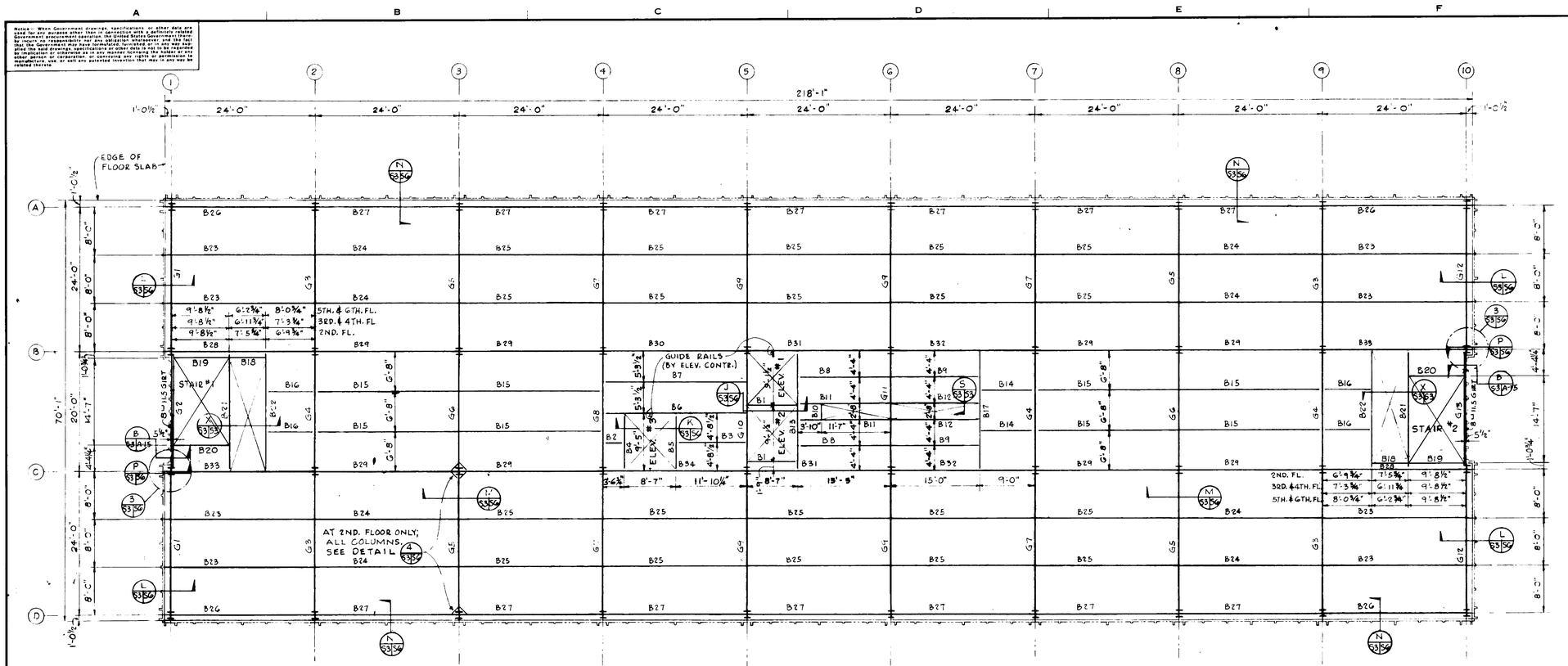


TYPICAL (2 THRU 6) FLOOR FRAMING PLAN

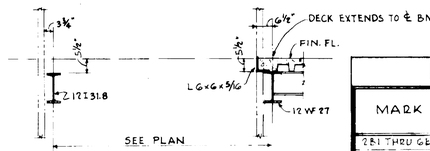
SCALE 1/8" = 1'-0"

EL. TOP OF STEEL BMS. & GIRDERS = 5½" BELOW FIN. FLOOR

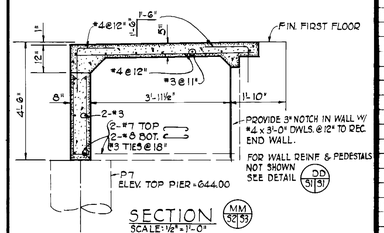
GIRDER SCHEDULE

MARK	SIZE	REMARKS
2G1 THRU 6G1	16 WF 36	
2G2 THRU 6G2	16 B 26	SUSPEND GIRT
2G3	18 WF 60	
3G3, 4G3	18 WF 55	
5G3, 6G3	18 WF 50	
2G4	18 WF 50	
3G4, 4G4	16 WF 40	
5G4, 6G4	16 WF 36	
2G5	18 WF 60	
3G5, 4G5	18 WF 55	
5G5, 6G5	18 WF 50	
2G6, 3G6	18 WF 50	
4G6, 5G6, 6G6	18 WF 45	
2G7, 3G7	18 WF 60	
4G7	18 WF 55	
5G7, 6G7	18 WF 50	
2G8	18 WF 50	
3G8, 4G8, 5G8	18 WF 45	
6G8	16 WF 40	
2G9, 3G9	18 WF 60	
5G9, 6G9	18 WF 50	
2G10	18 WF 45	
3G10, 4G10	16 WF 40	
5G10, 6G10	16 WF 36	
2G11 THRU 5G11	18 WF 45	
6G11	16 WF 40	
2G12	18 WF 60	
3G12, 4G12	18 WF 55	
5G12, 6G12	18 WF 50	
2G13 THRU 4G13	18 WF 45	SUSPEND GIRT
5G13, 6G13	16 WF 40	SUSPEND GIRT
4G9	18 WF 55	

NOTE:
PROVIDE MOMENT CONNECTION AT EACH END OF EACH GIRDER.



SECTION (X/S253) (X/S353)
SCALE: ½"=1'-0"



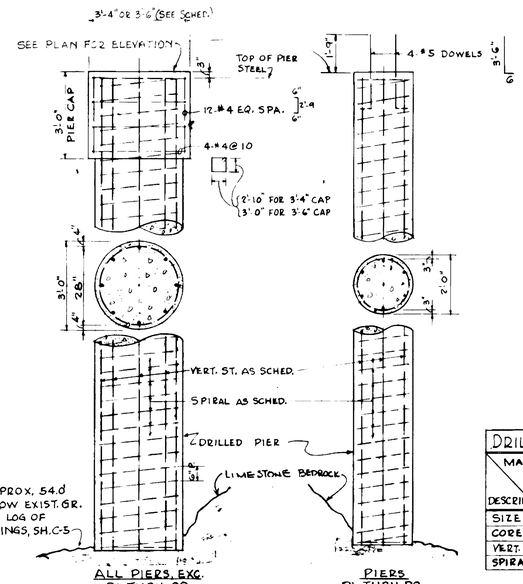
SECTION (MM/S3/S3)
SCALE: ½"=1'-0"

ABBREVIATIONS:

EA. - EACH
E. - EAST
W. - WEST

BEAM SCHEDULE

MARK	SIZE	TYPE OF END CONNECTION		REMARKS
		SHEAR	MOMENT	
2B1 THRU 6B1	8B10	EA. END		
2B2 THRU 6B2	6B8.5	EA. END		
2B3 THRU 6B3	8B10	EA. END		
2B4 THRU 6B4	8B10	EA. END		
2B5 THRU 6B5	8B10	EA. END		
2B6 THRU 6B6	14WF30	EA. END		
2B7 THRU 6B7	12WF27	EA. END		
2B8 THRU 6B8	12B14	W. END	E. END	
2B9 THRU 6B9	12B14	E. END	W. END	
2B10 THRU 6B10	6B8.5	EA. END		
2B11 THRU 6B11	10B11.5	W. END	E. END	
2B12 THRU 6B12	10B11.5	E. END	W. END	
2B13 THRU 6B13	14 WF34	EA. END		
2B14 THRU 6B14	8B10	EA. END		
2B15 THRU 6B15	12WF31	@G4&G8	@G6	
2B16 THRU 6B16	10B11.5	EA. END		
2B17 THRU 6B17	16WF36	EA. END		
2B18 THRU 6B18	6B8.5	EA. END		
2B19 THRU 6B19	6B8.5	EA. END		
2B20 THRU 6B20	10B11.5	EA. END		
2B21 THRU 2B21	12I31.8	EA. END		
2B22 THRU 6B22	12WF27	EA. END		
2B23 THRU 6B23	12W31		EA. END	
2B24 THRU 6B24	12W31		EA. END	
2B25 THRU 6B25	12WF27		EA. END	
2B26 THRU 6B26	12WF27		EA. END	
2B27 THRU 6B27	12WF27		EA. END	
2B28 THRU 6B28	12WF45		EA. END	
2B29 THRU 6B29	12WF27		EA. END	
2B30 THRU 6B30	12WF27		EA. END	
2B31 THRU 6B31	14WF30		EA. END	
2B32 THRU 6B32	14WF34		EA. END	
2B33 THRU 6B33	12WF40		EA. END	
2B34 THRU 6B34	12WF27		EA. END	



DRILLED PIER DETAILS

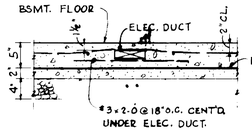
SCALE: ½"=1'-0"

NOTE: SHOP DRAWING APPROVAL NOT REQUIRED FOR REINF. STEEL IN PIERS AND PILE CAPS

DRILLED PIER SCHEDULE

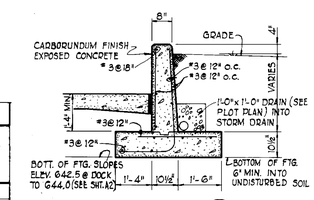
MARK / DESCRIP.	A1 THRU A10, B1 THRU B9, C1 THRU C9, D1 THRU D10	B10 C10	P1 THRU P9
SIZE	36"ϕ	36"ϕ	24"ϕ
CORE	28"ϕ	28"ϕ	18"ϕ
VERT. ST.	7-#8	8-#8	6-#6
SPIRAL	#5@6	#5@3	#8@6

PIERS DRILLED 3" OR MORE OFF CENTER SHALL BE RE-DESIGNED, AND ANY INCREASE IN CONC. &/OR STEEL WILL BE AT NO EXPENSE TO THE GOVERNMENT.



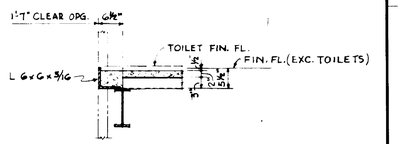
TYP. SECT. THRU BASEMENT SLAB AT ELECTRIC DUCT

SCALE: 1"=1'-0"



SECTION (PP/S2/S3)
SCALE: ½"=1'-0"

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA



SECTION (S/S253) (S/S353)
SCALE: ½"=1'-0"

NOTE: FOR GENERAL NOTES - STRUCT. STEEL - SEE SH. S-2

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — **M S F C** HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

TYPICAL FLOOR FRAMING PLAN
SCHEDULES & DETAILS

NASA AE CONT. NO. NAS 8 - 18015 — FILE NO. MSFC 8919

SUBMITTED: CHIEF	APPROVAL RECOMMENDED:	APPROVED: CHIEF, DESIGN BRANCH	
AE: DATE: 11-17-62	MSFC: DATE:	NASA: DATE: 1/16/63	
DESIGNED J.B.H. & B.A.S. DRAWN B.A.B. & B.A.S. CHECKED CB	APPROVAL RECOMMENDED: CHIEF, STRUCTURAL SECTION	DRWG. NO. FCDA420253	
SCALE: AS NOTED	DESIGN DATE:		
	SPEC. NO. FED441		

REF. NO. S-3

MSFC-FORM 232 (REV. DEC., 1960)

4202

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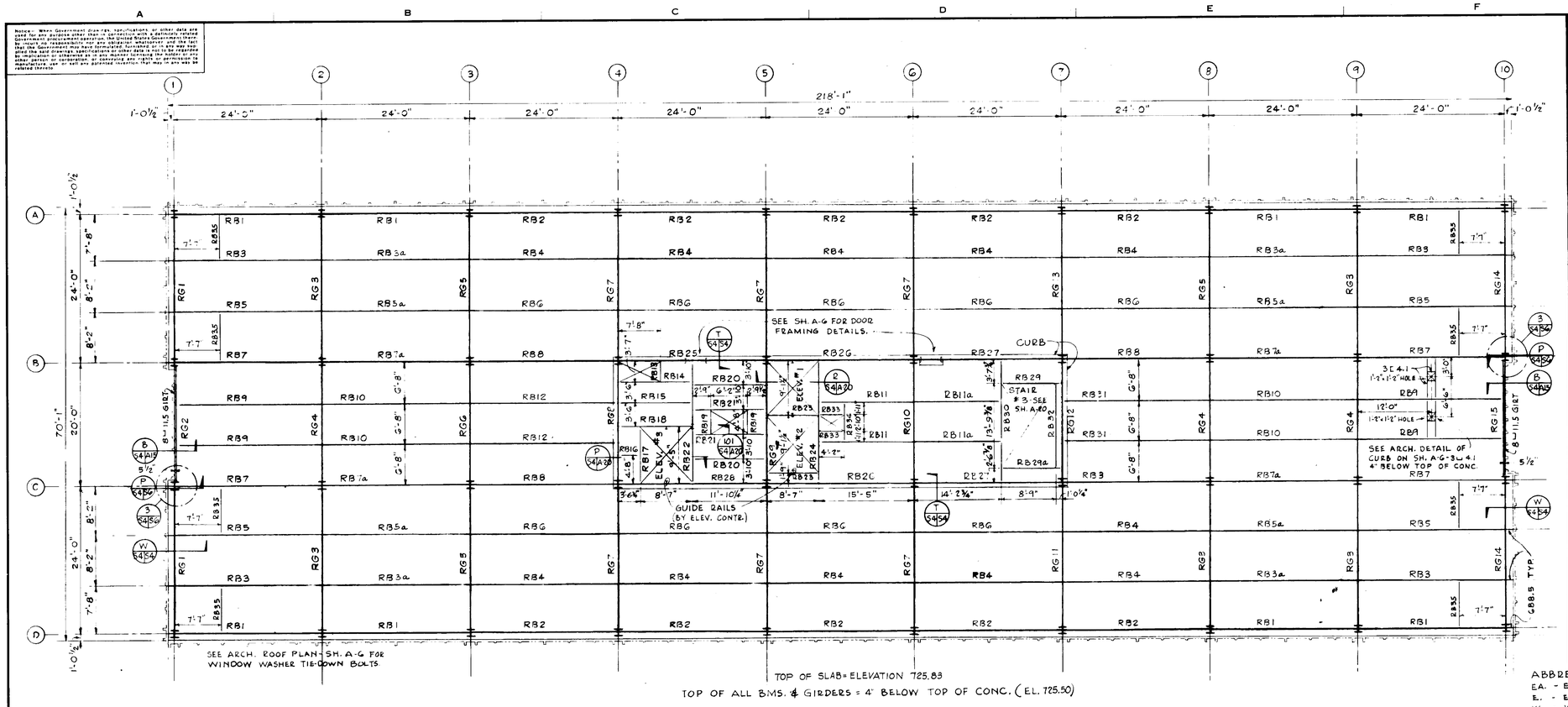
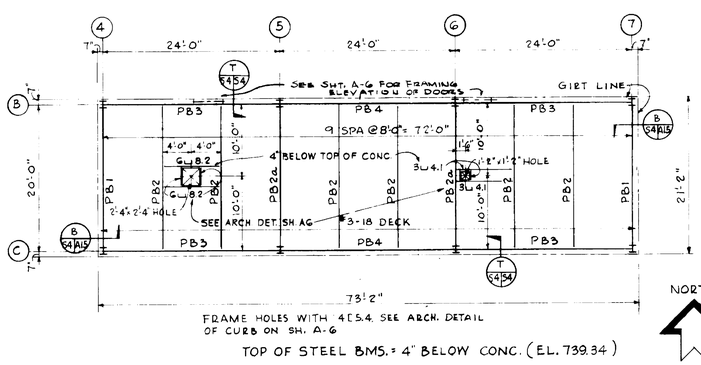


TOP OF SLAB = ELEVATION 725.83

TOP OF ALL BMS. & GIRDERS = 4" BELOW TOP OF CONC. (EL. 725.50)

LOW ROOF FRAMING PLAN

SCALE: ⅛" = 1'-0"

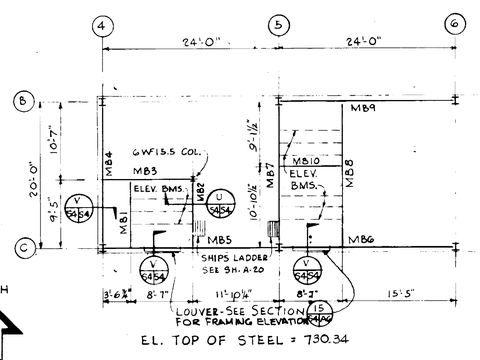


FRAME HOLES WITH 4 ES.4. SEE ARCH. DETAIL OF CURB ON SH. A-G

TOP OF STEEL BMS. = 4" BELOW CONC. (EL. 739.34)

PENTHOUSE ROOF FRAMING PLAN

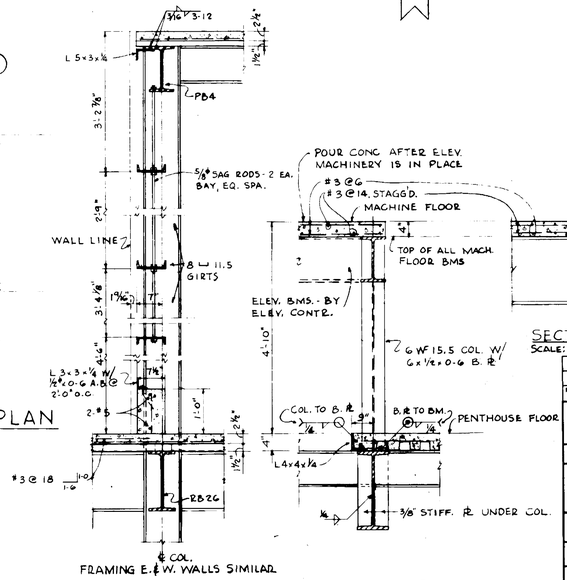
SCALE: ⅛" = 1'-0"



EL. TOP OF STEEL = 730.34

ELEV. MACHINE FLOOR FRAMING PLAN

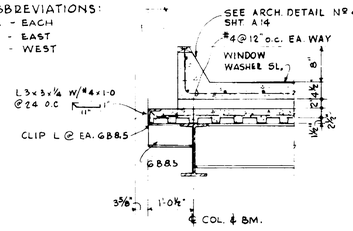
SCALE: ⅛" = 1'-0"



BEAM SCHEDULE

MARK	SIZE	TYPE OF END CONNECTION SHEAR	MOMENT	REMARKS
RB1	12WF27			EA. END
RB2	12B22			EA. END
RB3, RB3a	12WF27			EA. END
RB4	12B22			EA. END
RB5, RB5a	12WF27			EA. END
RB6	12B19			EA. END
RB7, RB7a, RB8	12WF27			EA. END
RB9	12B19	SAME AS RG15		@ RG4
RB10	12B19			EA. END
RB11	12B14	W. END		E. END
RB11a	12B14	E. END		W. END
RB12	12B19	E. END		W. END
RB13	GB8.5	EA. END		
RB14, RB15	8B10	EA. END		
RB16	GB8.5	EA. END		
RB17	GB8.5	EA. END		
RB18	12B14	EA. END		
RB19	GB8.5	EA. END		
RB20, RB21	8B10	EA. END		
RB22	21WF55	EA. END		
RB23	8B10	EA. END		
RB24	14WF30	EA. END		
RB25	16WF45			EA. END
RB26	16WF36			EA. END
RB27	16WF36			EA. END
RB28	16WF45			EA. END
RB29, RB29a	8B10	EA. END		
RB30	14WF34	EA. END		
RB31	12B22	W. END		E. END
RB32	8B10	EA. END		
RB33	GB8.5	EA. END		
RB34	GB8.5	EA. END		
RB35	GB8.5	EA. END		
MB1, MB2	12WF27	EA. END		
MB3	12B22	EA. END		
MB4	12WF27	EA. END		
MB5	16WF40	EA. END		
MB6	18WF50	EA. END		
MB7, MB8	18WF45	EA. END		
MB9	18WF50	EA. END		
MB10	8B15	EA. END		
PB1	12B16.5			EA. END
PB2	12B19	EA. END		
PB2a	12B19			EA. END
PB3, PB4	12B19			EA. END

ABBREVIATIONS:
EA. - EACH
E. - EAST
W. - WEST



SECTION (W 54.54)
SCALE: ¾" = 1'-0"

AS BUILT

NOTE: FOR GENERAL NOTES-STRUCT. STEEL - SEE SH. S-2.

GIRDER SCHEDULE

MARK	SIZE	REMARKS	MARK	SIZE	REMARKS
RG1	14WF90		RG9	16B26	
RG2	14B26	SUSPEND GIRT	RG10	16B31	
RG3	16WF45		RG11	16WF40	
RG4	16B31		RG12	16B31	
RG5	16WF40		RG13	16WF36	
RG6	16B31		RG14	16WF45	
RG7	16WF40		RG15	16WF36	SUSPEND GIRT
RG8	16B26				

NOTE: PROVIDE MOMENT CONNECTION AT EACH END OF EACH GIRDER. SEE SH. S-6 FOR DETAILS.

APPROVED FOR SAFETY
APPROVED _____ DATE _____

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS - ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

PENTHOUSE - LOW ROOF & MECHANICAL FLOOR PLAN - SCHEDULES - DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M.S.F.C. 8920

SUBMITTED: CHIEF Wyatt Hedrick — APPROVED: CHIEF, DESIGN BRANCH
A.E. DATE 11-17-62 — NASA DATE 3/15/63

DESIGNED B.A.S. DRAWN B.A.S. & B.A.S. CHECKED CB — APPROVAL RECOMMENDED: CHIEF, STRUCTURAL SECTION — DESIGN DATE
SCALE AS NOTED — SPEC NO. F&D-441

REF. NO. S-4 — DRWG. NO. FADA4202-S4

MSFC-FORM 232 (REV. DEC., 1960)

4202

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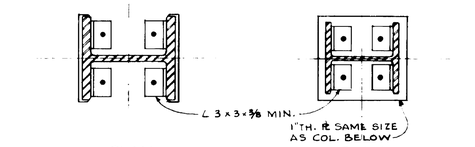
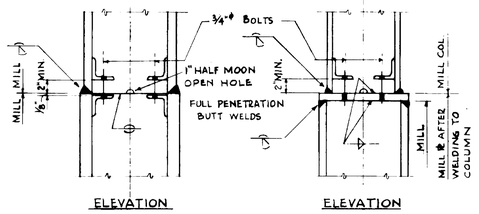
COLUMN SCHEDULE

COLUMN	A-1, D-1	B-1, C-1	A-2, A-3, A-6, A-7, D-2, D-3, D-8, D-9	A-4, A-5, A-8, A-9, D-4, D-5, D-6, D-7	B-2, B-9, C-2, C-9	B-3, B-8, C-3, C-8	B-6, C-6	C-4	C-5 ⚠1	B-4	B-7, C-7	A-10, D-10	B-10, C-10	B-5 ⚠1
HIGH ROOF							10WF54	10WF72	10WF77	10WF60	10WF60			
LOW ROOF & PENTHOUSE FL. 13'-10"	3-10"SPL. 12WF72											4" 12WF72	12WF53	12WF53
SIXTH FLOOR 12'-8"	3-10"SPL. 12WF72	12WF53	10WF45	10WF89	10WF33	10WF93								
FIFTH FLOOR 12'-8"	3-10"SPL. 12WF72	12WF85	12WF58	12WF58	12WF92	12WF65	12WF79	12WF79	12WF106	12WF79	12WF92	12WF72	12WF85	12WF106
FOURTH FLOOR 12'-8"	3-10"SPL. 12WF72	12WF99	12WF72	12WF72	12WF120	12WF85	12WF99	12WF106	12WF133	12WF99	12WF120	12WF79	12WF99	12WF133
THIRD FLOOR 12'-8"	3-10"SPL. 12WF72	12WF106	12WF106	12WF99	12WF140	12WF120	12WF120	12WF135	12WF140	12WF135	12WF140	12WF92	12WF120	12WF140
SECOND FLOOR 12'-8"	3-10"SPL. 12WF72	14WF90 DI	12WF99	12WF99 C-3'-3" ALL EXC. D-2 & D-3	14WF132 C-10 & D-4 & D-5	14WF132 C-3'-3" ALL EXC. D-4 & D-5	14WF132 C-10 & D-4 & D-5	14WF145	14WF145 C-3'-3"	14WF145	14WF145 C-10 & D-4 & D-5	14WF132 C-3'-3" A-10	14WF132 C-3'-3" B-10	14WF145 C-3'-3"
FIRST FLOOR 16'-0"	C-3'-3" A-1	C-3'-3"	C-3'-3" ALL EXC. D-2 & D-3	C-10" D-2 & D-3	C-3'-3"	C-10" D-4 & D-5	C-3'-3"	C-3'-3"	C-3'-3"	C-3'-3"	C-3'-3"	C-3'-3" A-10	C-3'-3" B-10	C-3'-3" C-10
BASE PLATE SIZE ①	15"x1⅜" x 2'-0"	15"x1⅜" x 2'-0"	15"x1⅜" x 2'-0"	13½"x1⅜" x 2'-0"	18"x1¾" x 2'-2"	17"x1½" x 2'-2"	19"x1⅞" x 2'-2"	19"x1⅞" x 2'-2"	17½"x2" x 2'-2"	19"x1⅞" x 2'-2"	19"x1⅞" x 2'-2"	15"x1⅜" x 2'-0"	21"x2¼" x 2'-2"	17½"x2" x 2'-2"
ANCHOR BOLTS ②	4-1⅛"ϕ	4-1⅛"ϕ	4-1⅛"ϕ	4-1⅛"ϕ	4-1¼"ϕ	4-1¼"ϕ	4-1½"ϕ	4-1⅜"ϕ	4-1½"ϕ	4-1⅜"ϕ	4-1¾"ϕ	4-1⅛"ϕ	4-1⅛"ϕ	4-1⅛"ϕ
CONC. PILE CAP	3'-4"x3'-4"	3'-4"x3'-4"	3'-4"x3'-4"	3'-4"x3'-4"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-4"x3'-4"	3'-4"x3'-4"	3'-6"x3'-6"

① FIRST DIMENSION SHOWN IS E.-W. DIRECTION
② ALL ANCHOR BOLTS ARE 3'-8" LONG



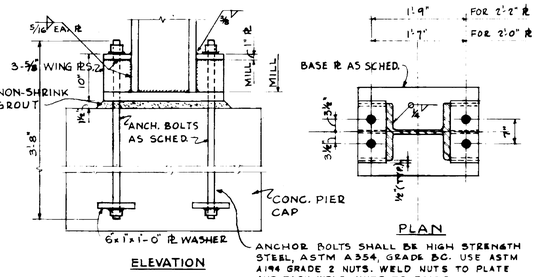


WF COL. ON WF COL. OF SAME NOMINAL SIZE

WF COL. ON WF COL. OF LARGER NOMINAL SIZE

TYPICAL COLUMN SPLICE DETAILS

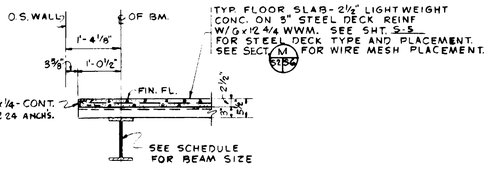
NO SCALE



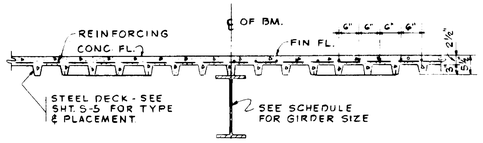
ANCHOR BOLTS SHALL BE HIGH STRENGTH STEEL, ASTM A354, GRADE BC. USE ASTM A194 GRADE 2 NUTS. WELD NUTS TO PLATE AND TACK WELD NUTS TO BOLTS.

TYPICAL COLUMN BASE PL DETAILS

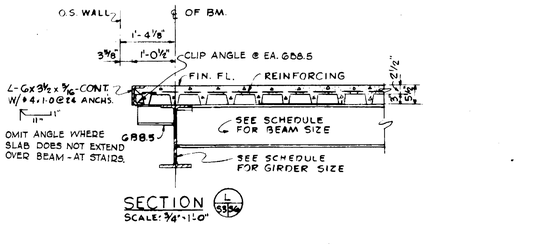
NO SCALE



SECTION N 93/56
SCALE: ¾"=1'-0"



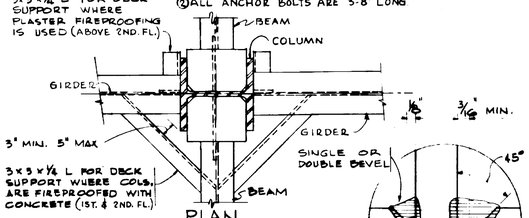
SECTION M 62/56 M 93/56
SCALE: ¾"=1'-0"



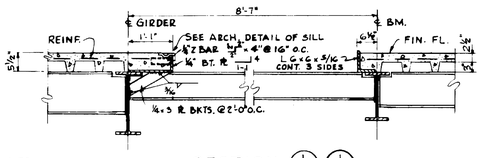
SECTION L 93/56
SCALE: ¾"=1'-0"

3x3x¼ L FOR DECK SUPPORT WHERE FLASTER FIREPROOFING IS USED (ABOVE 2ND. FL.)

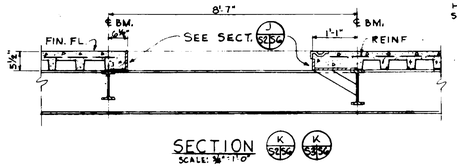
3x3x¼ L FOR DECK SUPPORT WHERE COLS. ARE FIREPROOFED WITH CONCRETE (1ST. & 2ND. FL.)



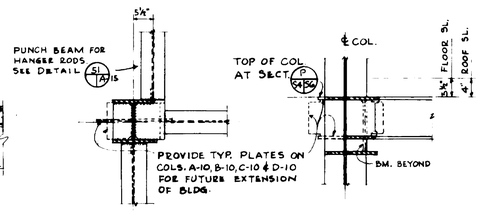
PLAN



SECTION J 62/56 J 93/56
SCALE: ¾"=1'-0"

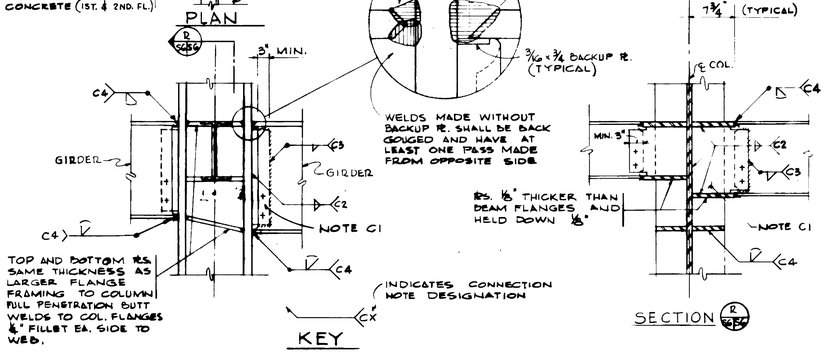


SECTION K 62/56 K 93/56
SCALE: ¾"=1'-0"



DETAIL 3 63/56 3 84/56
SCALE: ¾"=1'-0"

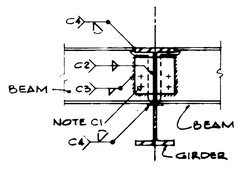
SECTION P 93/56 P 94/56
SCALE: ¾"=1'-0"



SECTION P 62/56

BEAM TO COLUMN MOMENT CONNECTION DETAILS 4 62/56

NO SCALE



MOMENT CONNECTION BEAM TO GIRDER

WELDED CONNECTION NOTES

C1. WEB CONNECTION PLS. TO BE ⅛" THICKER THAN BEAM WEBS.

C2. WELD WEB CONNECTION PLS. TO COLUMN WITH FILLET EACH SIDE. SIZE OF FILLETS TO BE ONE-HALF PL. THICKNESS.

C3. CONNECTION PL. TO BEAM WEB FILLET WELD SIZE IS 5/16 INCH LESS THAN PL. THICKNESS. RETURN WELD 3" ± TOP AND BOTTOM.

C4. ALL BEAM FLANGES AND PLATES OPPOSITE FLANGES TO HAVE FULL PENETRATION 100% BUTT WELDS.

AS BUILT

NOTE: SEE SH. S-2 FOR GENERAL NOTES - STRUCT. STEEL.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS - ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED FOR SAFETY
DATE

REF. NO. S-6

REV	BY	DATE	REVISED COL. P-6	C.I. NO.	APPROVED
⚠1	NAS.	4-14-64			

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

COLUMN SCHEDULE & DETAILS

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. MSFC 8922

SUBMITTED: Wyatt Hedrick — APPROVAL RECOMMENDED: Harold Boyd — APPROVED: C. K. Thompson
CHIEF DESIGN BRANCH — DATE: 11-17-63
ASSOCIATE: C.W.B. & B.A.S. — DRAWN: C.W.B., B.A.S. & B.A.S. — CHECKED: C.W.B.
APPROVED: Structural Section — CHIEF STRUCTURAL SECTION — DATE: 3/25/64
SCALE: AS NOTED — SPEC NO. F.E.D. 441 — DRAWING NO. FEDA420156

MSFC-FORM 232 (REV. DEC., 1960)

4202

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WATER HEATER SCHEDULE

DUTY	SIZE	CAPACITY IN GAL.	RECOVERY	TYPE HEATING	HEATING SURFACE
DOMESTIC 140° H.W.	16" Φ x 62 1/2" HIGH	26	40 G.P.M. 100° RISE	15# STEAM	46 SQ.FT.
BOOSTER 180° H.W.	10" Φ x 31" HIGH	5	6.7 G.P.M 40° RISE	15# STEAM	5 SQ.FT.

ELECTRIC WATER COOLER SCHEDULE

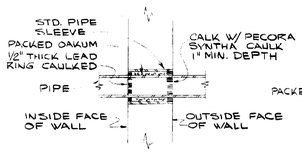
MARK	G.P.H.	ROOM TEMP	INLET WTR. TEMP. °F	REMARK
E.W.C.-1	8.75	80°	85°	-

NOTE - 1. COMPRESSOR HERMETICALLY SEALED, 1/4 H.P, 115V., 1PH.
2. CAPACITIES BASED ON 60% WASTE

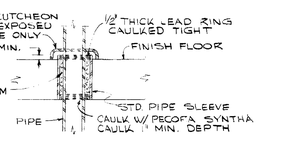
PUMP SCHEDULE

MARK	DUTY	HEAD FT. H_2O	GPM	RPM	MOTOR H.P.
S.E.	SEWAGE EJECTOR	25	130	1750	2-2HP
B.P.	BILGE PUMP	27	125	1750	2-2HP
H.W.C.	HOT WATER CIRCULATORS	3	5	1750	1/12
H.P.	HOUSE PUMP	91	90	VARIABLE	5
H.P.	HOUSE PUMP	91	90	VARIABLE	5
F.P.	FIRE PUMP	117	500	1760	25
J.P.	JOCKEY PUMP	125	20	1750	2
E.P.P.	ELEVATOR PIT PUMP	20	80	1750	1/3

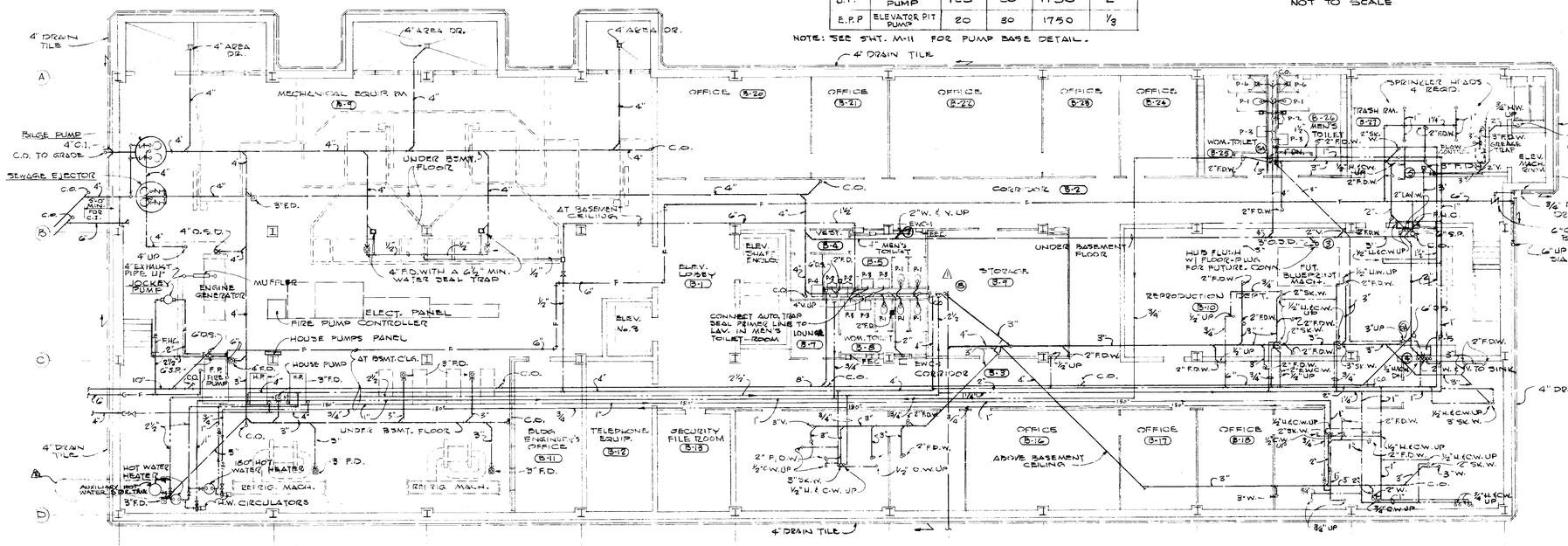
NOTE: SEE SHT. M-11 FOR PUMP BASE DETAIL.



DETAIL WALL PENETRATION
NOT TO SCALE

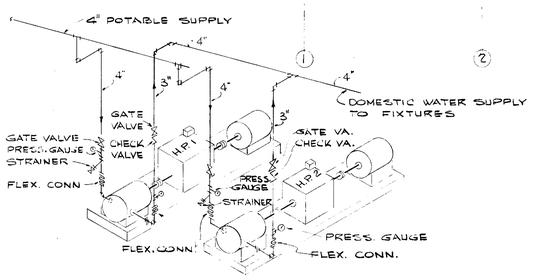


DETAIL GROUND FLOOR PENETRATION
NOT TO SCALE

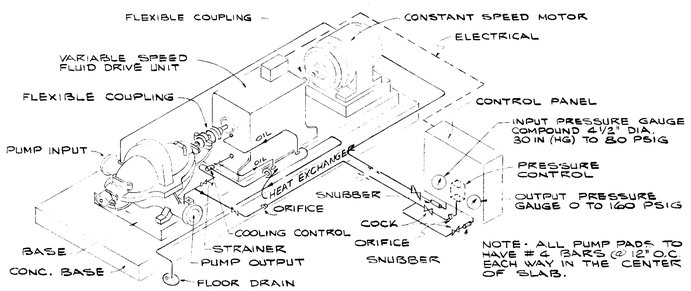


NORTH

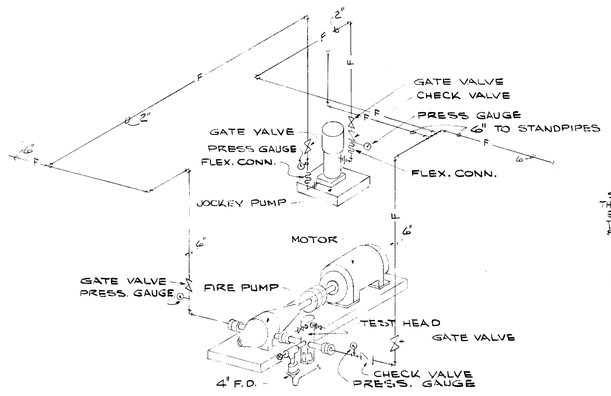
BASEMENT FLOOR PLAN
SCALE 1/8" = 1'-0"



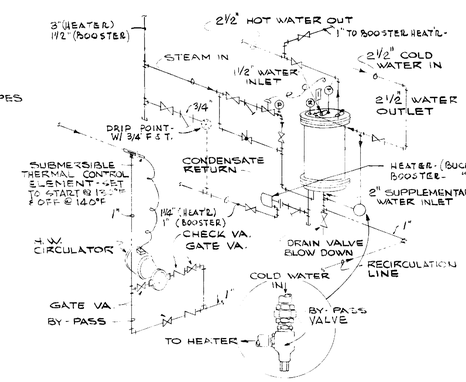
DOMESTIC WATER PUMPS - PIPING DIAGRAM
NOT TO SCALE



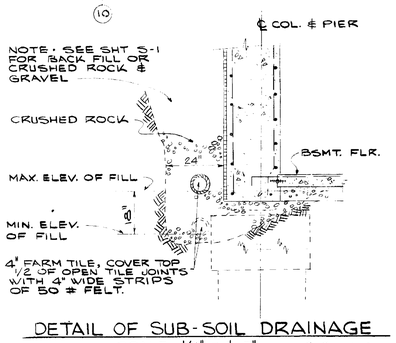
FLUID DRIVE SYSTEM - CONTROL DIAGRAM
NOT TO SCALE



FIRE PUMP PIPING DIAGRAM
NOT TO SCALE



PIPING DIAGRAM
FOR WATER HEATER
NOT TO SCALE
TYPICAL FOR BOOSTER WATER HEATER BUT WITH PIPE SIZES AS SHOWN ON FLOOR PLAN & H.W. CONTROL TO BE ON AT 115°F. OFF AT 185°F.



DETAIL OF SUB-SOIL DRAINAGE
SCALE - 1/2" = 1'-0"

AS BUILT
REFERENCE DWG.

REV.	BY	DATE	
2	ALLN	3/2/77	ADD ADDITIONAL H.W. STORAGE TANK
1	RLL	5-14-65	REVISED SANITARY SEWER

12038-1/3 C. I. NO. BP 5-14 APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
M S F C
HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

BASEMENT PLUMBING PLAN

NASA AE CONT. NO. NAS 8-12,015
FILE NO. MSFC 8923

SUBMITTED: CHIEF	APPROVAL RECOMMENDED:	APPROVED: G.R.Brewer, Jr. CHIEF, DESIGN BRANCH
AE: DATE: 3/13/67	LAB: DATE:	NASA DATE: 3-16-67
DESIGNED RRE DRAWN BGC CHECKED WJC	APPROVAL RECOMMENDED: E. Bruce CHIEF, MECH. SECTION	DRWG. NO. F&D-A4202-P1
SCALE: AS NOTED	DESIGN DATE: 3-16-67 SPEC. NO. F&E-D-441	

REF. NO. P-1

MSFC-FORM 232 (REV. APRIL 1962)

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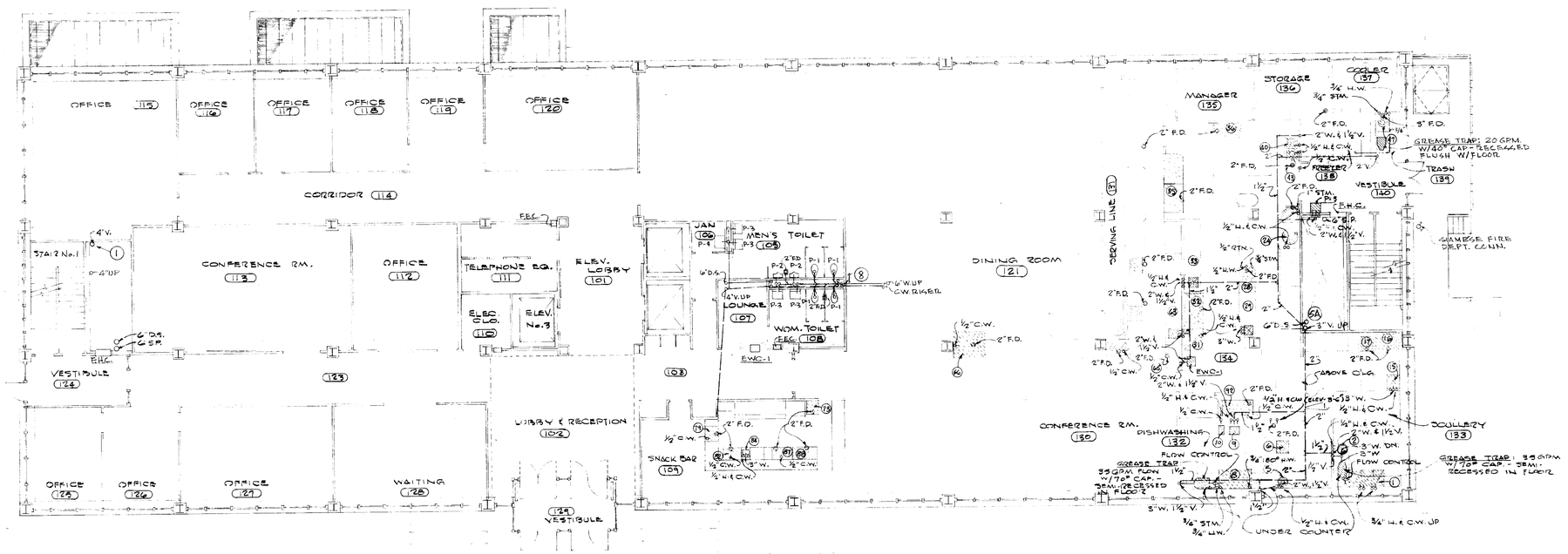
KITCHEN EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	C.W.	H.W.	STM.	WASTE	VENT
1	POT WASHING SINK	2-½"	2-½"	—	3"	1½"
2	DISPOSAL	½"	½"	—	2"	1½"
5	DISMOSAL	½"	½"	—	2"	1½"
6	PORT. SILVER SINK	½"	½"	—	2" F.D.	—
8	DISHWASHER	—	½" BOOSTER 150°	¾"	2"	1½"
9	DISH & GLASS TABLE W/SINK	½"	½"	—	2"	1½"
10	GLASS WASHER	½"	—	—	—	—
16	REFRIGERATOR	—	—	—	2" F.D.	—
17	STEAM TABLE	—	—	—	2" F.D.	—
24	COMB. STEAMER & KETTLE	½"	½"	1"	2" F.D.	—
28	BAIN MARIE	½"	—	¾" SUP. ¾" RTN.	2" F.D.	—
29	COOK'S TABLE W/SINK	½"	½"	—	2"	—
31	REFRIGERATOR	—	—	—	2" F.D.	—
32	REFRIGERATOR	—	—	—	2" F.D.	—
33	WORK TABLE W/SINK	½"	½"	—	2"	—
35	COMB. HOT & COLD CABINET	—	—	—	2" F.D.	—
36	CUTTER TABLE	—	—	—	2" F.D.	—
40	VEG. SINK	½"	½"	—	2"	1½"
45	PEELER	½"	—	—	2" F.D.	—
47	CAN WASHER	—	¾"	¾"	3" F.D.	—

MARK	DESCRIPTION	C.W.	H.W.	STEAM	WASTE	VENT
57	MILK DISP.	—	—	—	2" F.D.	—
59	ICED TEA URN	—	—	—	2" F.D.	—
60	COFFEE URN	½"	—	—	2" F.D.	—
68	BACK BAR CAB. W/SINK	½"	½"	—	2"	1½"
65	ICE MAKING MACH.	½"	—	—	2" F.D.	—
66	WATER & CONDIMENT STA.	½"	—	—	2" F.D.	—
73	REFRIGERATOR	—	—	—	2" F.D.	—
74	URN STAND	½"	—	—	2" F.D.	—
82	ICE MAKING MACH.	½"	—	—	2" F.D.	—
85	PUSH BACKLESS FILLER	½"	—	—	2" F.D.	—
86	SINK SECTION	½"	½"	—	2"	—
87	DRINK & ICE CR. FOUNT'N	½"	—	—	2" F.D.	—
88	SANDWICH UNIT	—	—	—	2" F.D.	—
92	WAITRESS STATION	½"	—	—	2" F.D.	—



FIRST FLOOR PLAN

SCALE ⅛" = 1'-0"

NORTH

REV.	BY	DATE		C.I. NO.	APPROVED
1	-0	4/10/64	STORAGE WASTE ROOM TO 3", MISC. NOTES.		CWS GH 5-12

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA.

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

FIRST FLOOR PLUMBING PLAN

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8924

SUBMITTED: CHIEF — APPROVAL RECOMMENDED: — APPROVED: E. D. Ramsey Jr. CHIEF - DESIGN BRANCH

AE. DATE: 3/13/64 — LAB. DATE: — NASA DATE: 3-16-64

DESIGNED RAE
DRAWN MFH
CHECKED WJC
SCALE: AS NOTED

APPROVAL RECOMMENDED: B. Bain CHIEF - MECH. SECTION
DESIGN DATE: 3-16-64
SPEC. NO. FED-441

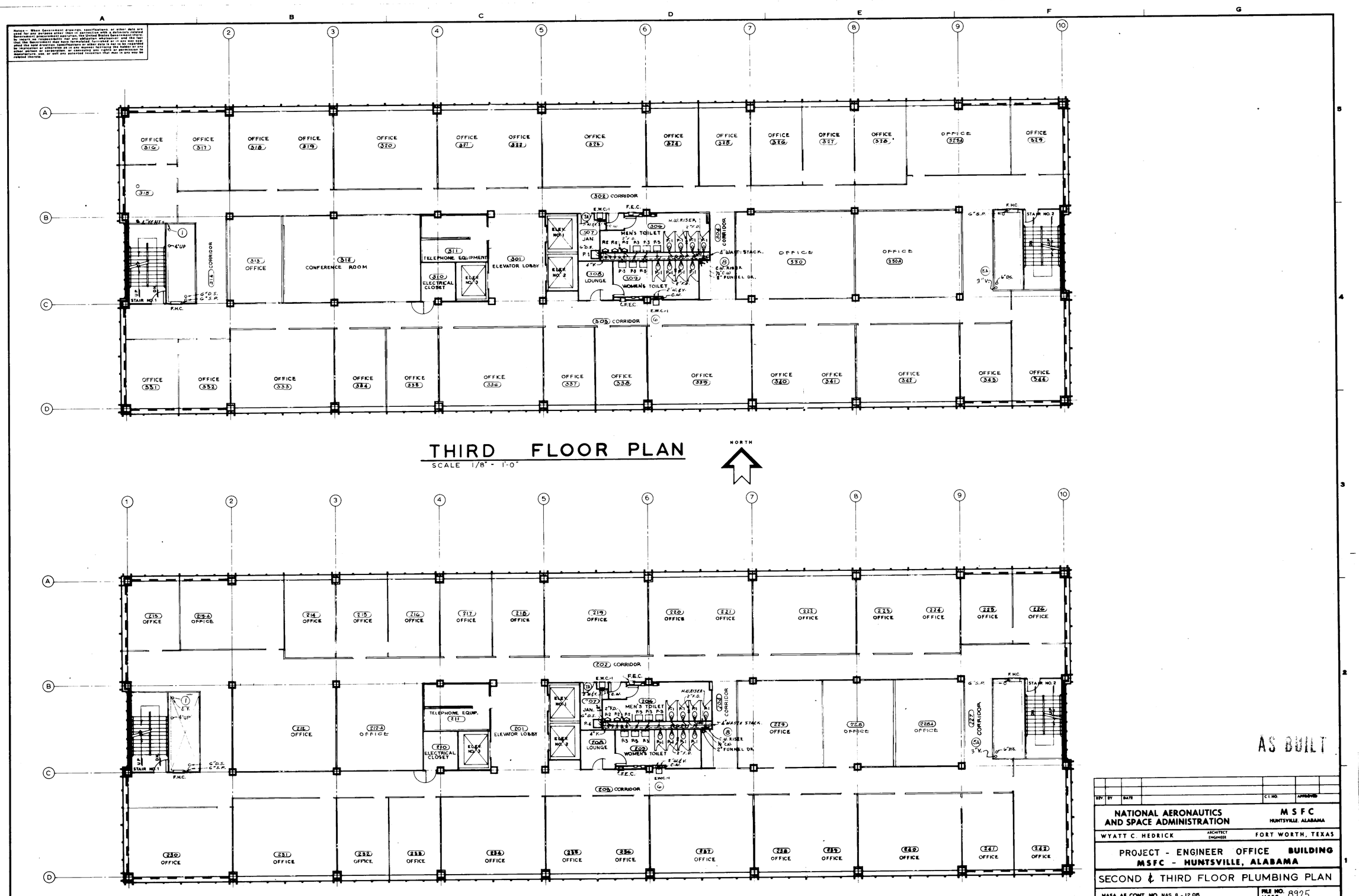
DRWG. NO. FED-A4202-P2

APPROVED FOR SAFETY — MAR 17 1964 — E.I.E.

REF. NO. P-2

4202

MSFC-FORM 232 (REV. APRIL 1962)



AS BUILT

REV.	BY	DATE		C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SECOND & THIRD FLOOR PLUMBING PLAN

NASA AE CONT. NO. NAS 8 - 12,015

FILE NO. MSFC 8925

SUBMITTED: CHIEF, AE DATE

APPROVAL RECOMMENDED: CHIEF, DESIGN BRANCH

APPROVAL RECOMMENDED: CHIEF, PLUMBING SECTION

DESIGNED KEITH
DRAWN KEITH
CHECKED HILLER

DESIGN DATE:
SPEC. NO. F&D-441

DWG. NO. F&D-A-4202-P3

REF. NO. P-3

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED FOR SAFETY

MSFC-FORM 232 (REV. DEC., 1960)

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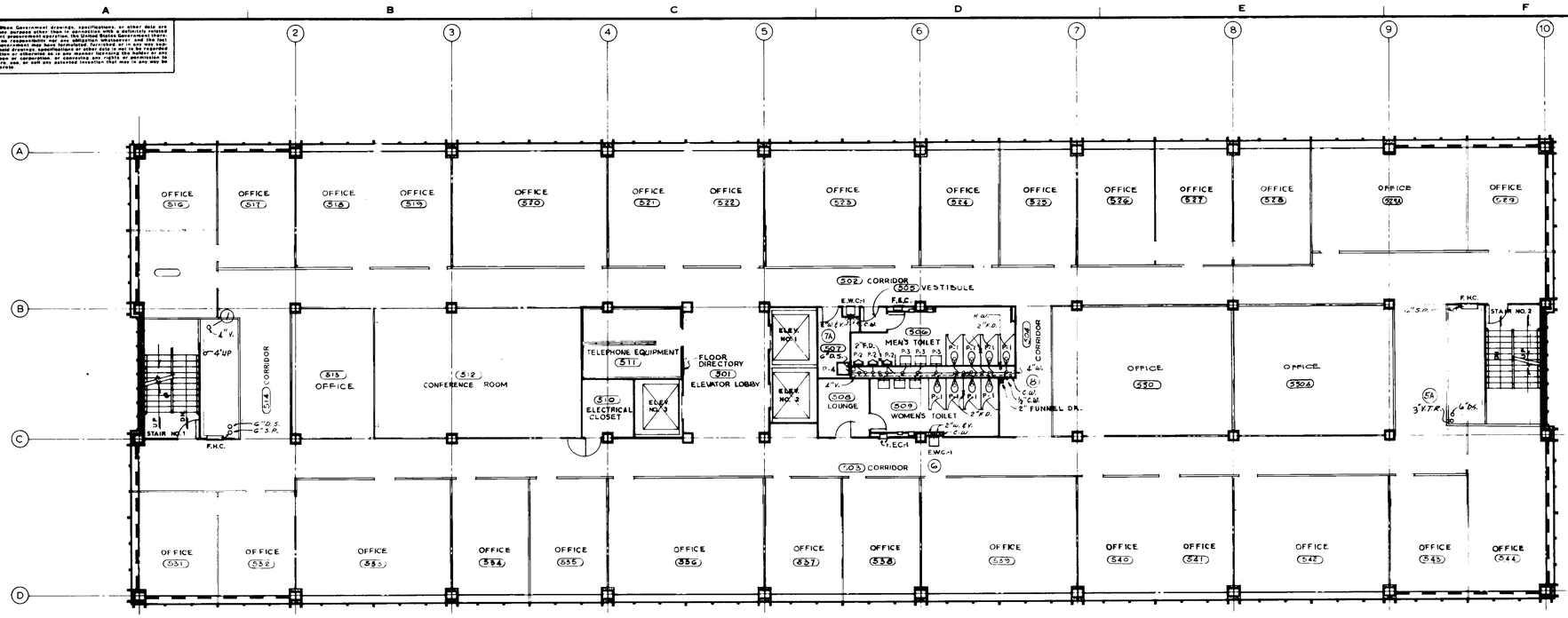
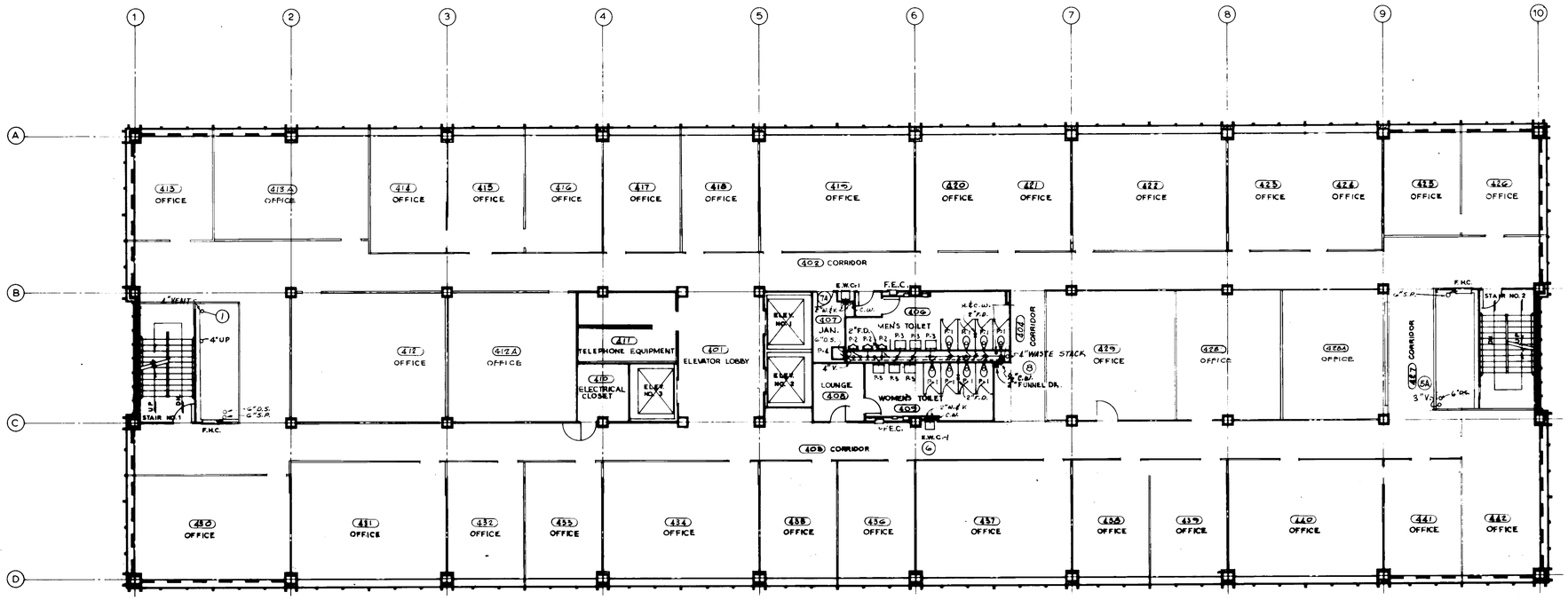


FIFTH FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH



FOURTH FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED ... NOV 17 1961

REV.	BY	DATE		C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FOURTH & FIFTH FLOOR PLUMBING PLAN

NASA AE CONT. NO. NAS 8-12,013 — FILE NO. MSFC 8926

SUBMITTED: CHIEF Wyatt Hedrick — AE DATE 11-17-62
APPROVAL RECOMMENDED: CHIEF Wyatt Hedrick — NASA DATE
APPROVED: CHIEF DESIGN BRANCH — NASA DATE 3-16-64
DESIGNED KEITH — DRAWN KEITH — CHECKED HILLER
APPROVAL RECOMMENDED: CHIEF PLUMBING SECTION — DESIGN DATE
SCALE
SPEC. NO. F&D441
DWG. NO. F&D-A-4202-P4

REF. NO. P-4

MSFC-FORM 232 (REV. DEC., 1960)

4202

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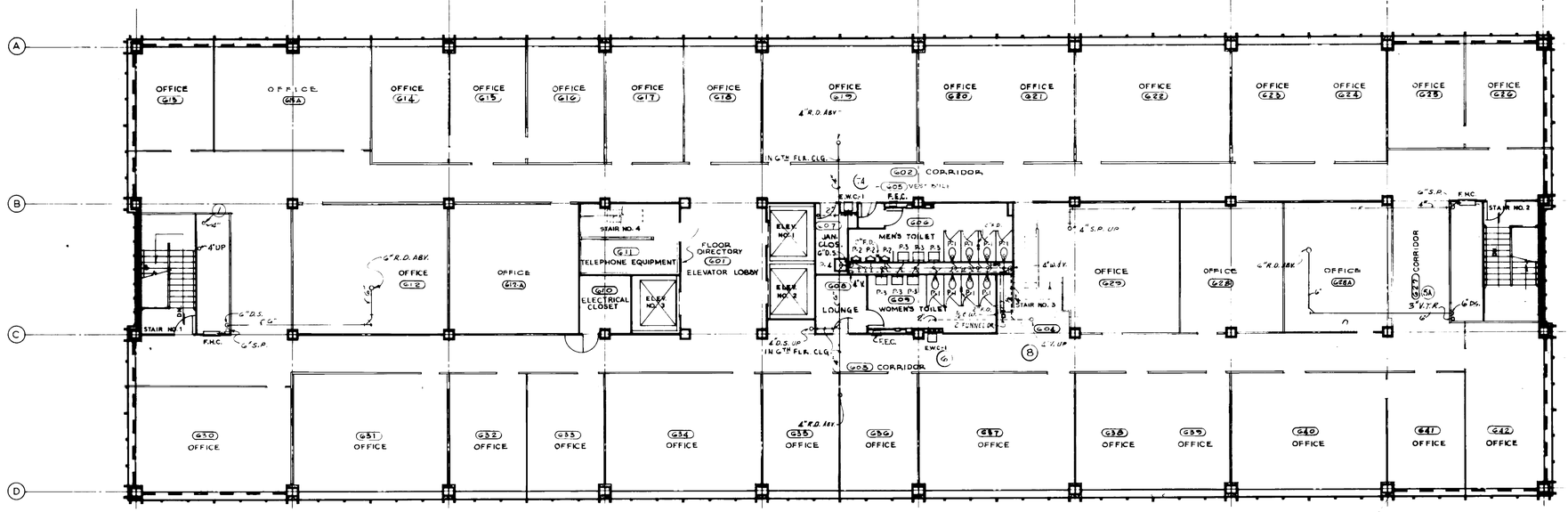
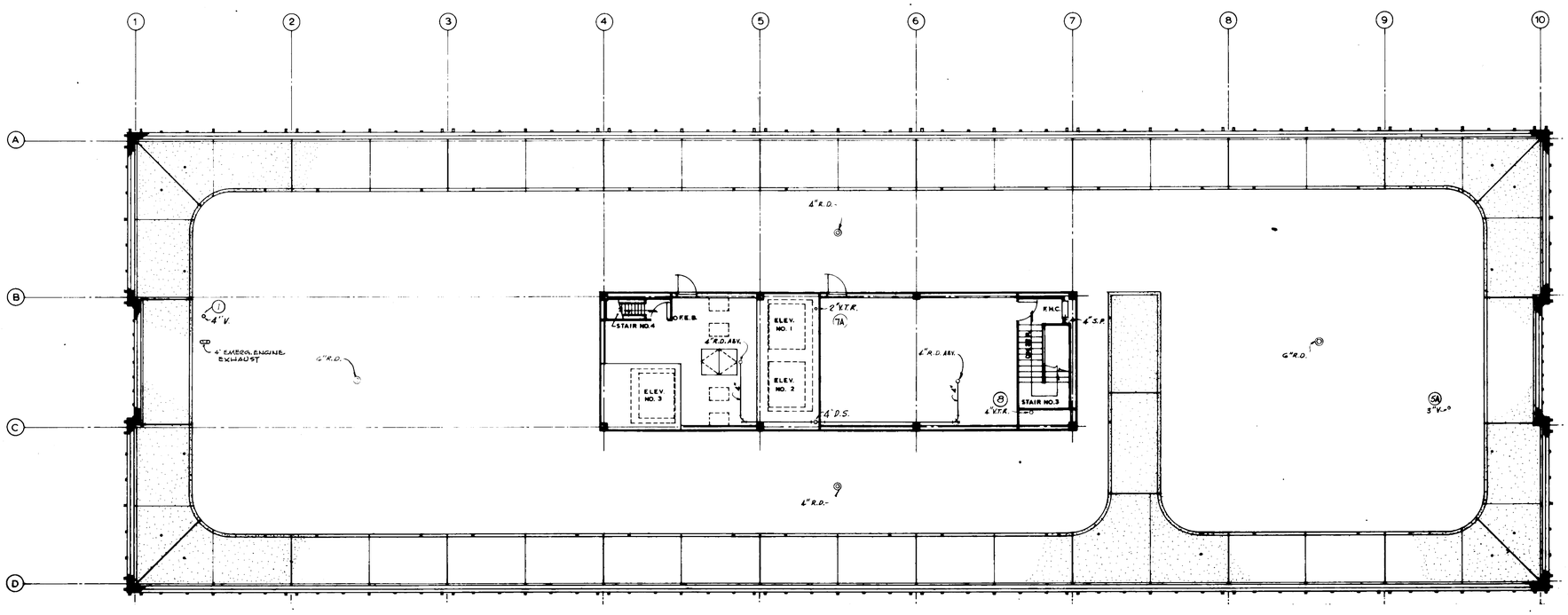


SIXTH FLOOR PLAN

SCALE 1/8" - 1'-0"

NORTH



ELEVATOR PENTHOUSE & TOWER ROOF PLAN

SCALE 1/8" 1'-0"

NORTH

APPROVED FOR SAFETY
MAR 17 1964
DATE

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

AS BUILT

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SIXTH FLOOR & PENTHOUSE PLUMBING PLAN

NASA AE CONT. NO. NAS 8 - 12,015 — FILE NO. MSFC 8927

SUBMITTED: CHIEF Wyatt Hedrick — APPROVED: CHIEF, DESIGN BRANCH — NASA DATE 3-16-64
AE DATE 11-17-64 — APPROVAL RECOMMENDED: CHIEF, DESIGN BRANCH DATE
APPROVAL RECOMMENDED: CHIEF, PLUMBING SECTION — DESIGN DATE
SPEC NO. F&D 441

DESIGNED KEITH
DRAWN K.E.ITH
CHECKED MILLER
SCALE

REF. NO. P-5

DRWG. NO. F&D-A-4202-P5

MSFC-FORM 238 (REV. DEC., 1960)

4202

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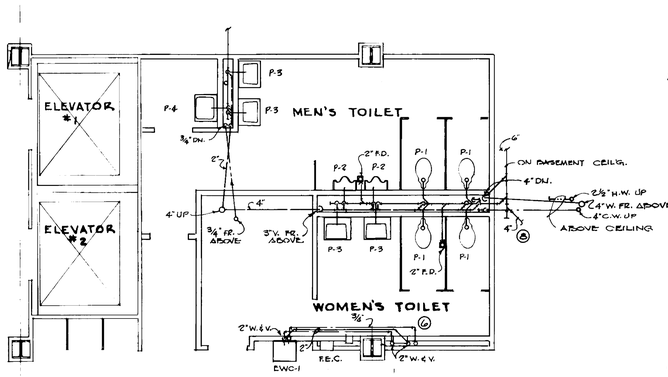
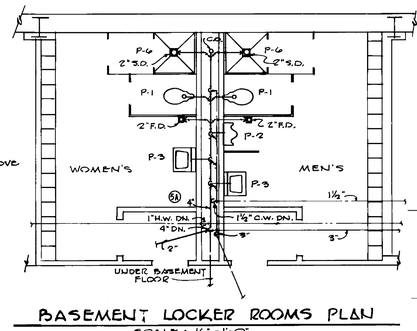


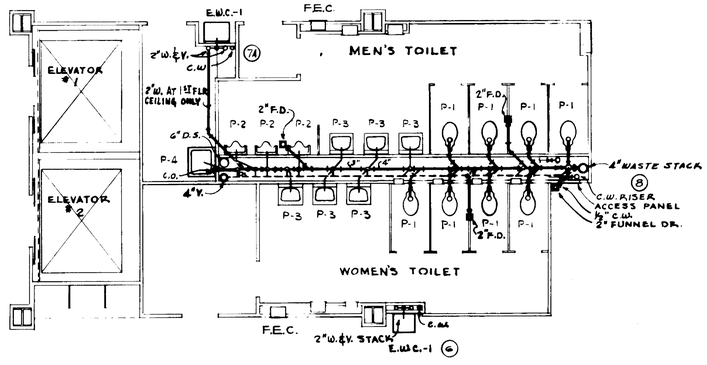
FIRST FLOOR UTILITY CORE PLAN

SCALE ¼"=1'-0"



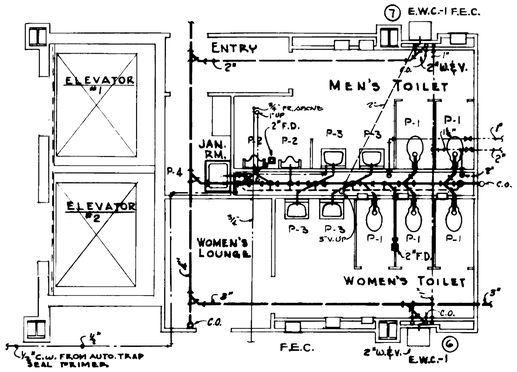
BASEMENT LOCKER ROOMS PLAN

SCALE : ¼" = 1'-0"

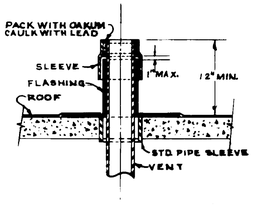


2ND THRU 6TH FLOOR UTILITY CORE PLAN

SCALE ¼"=1'-0"



BASEMENT UTILITY CORE PLAN

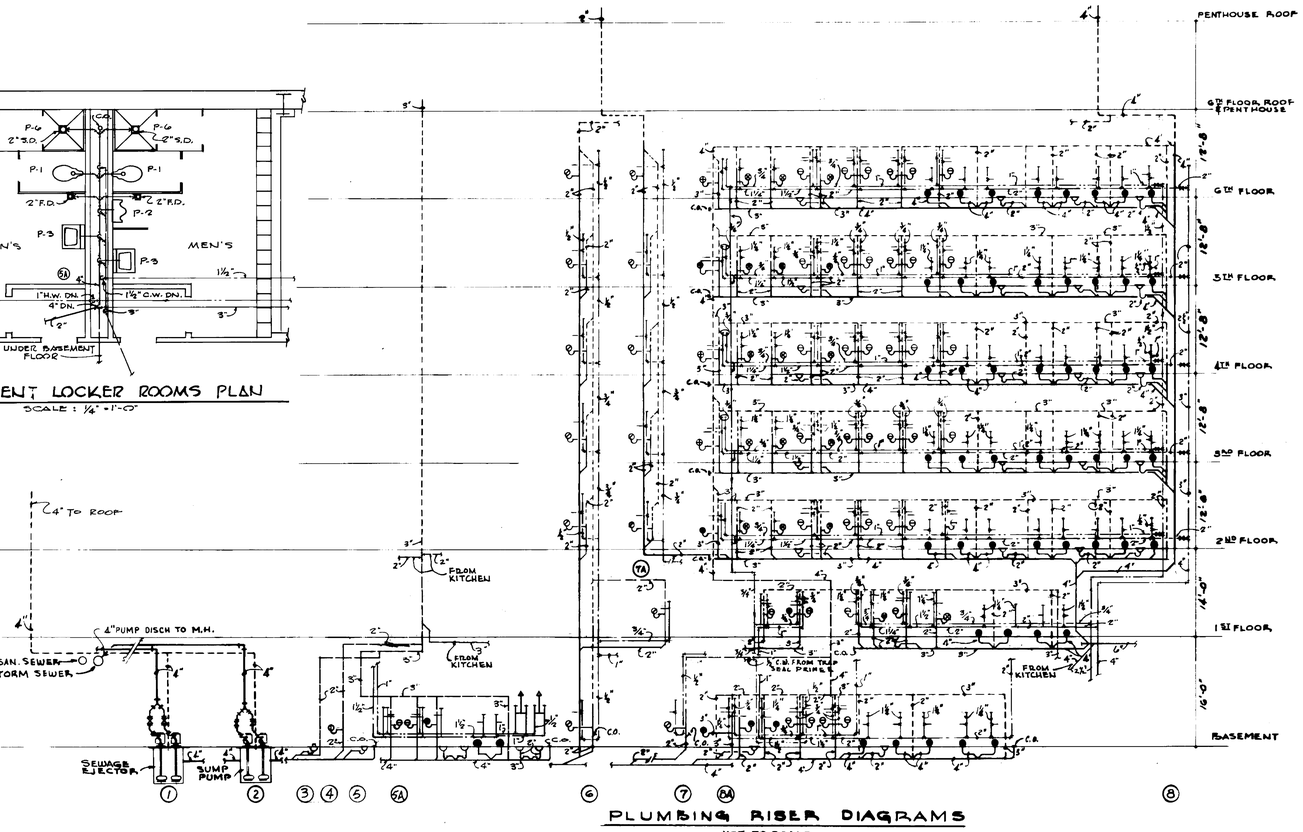


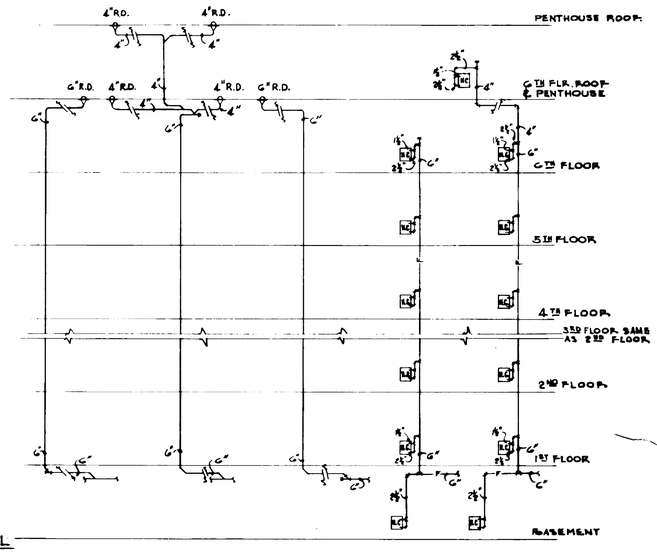
ROOF VENT FLASHING DETAIL

NOT TO SCALE

PLUMBING RISER DIAGRAMS

NOT TO SCALE





DOWNSPOUT AND STANDPIPE RISERS

NOT TO SCALE

RISER DIAGRAM SYMBOLS	
●	WATER CLOSET
⊕	URINAL
⊖	LAVATORY
■	SERVICE SINK
⊡	SINGLE COMPARTMENT SINK
⊘	ELECTRIC WATER COOLER
▽	FLOOR DRAIN
▽	OPEN SIGHT DRAIN
⊙	ROOF DRAIN
FHC	FIRE HOSE CABINET

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

Approved For Safety
DATE 1965

REV.	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

CORE PLANS & RISER DIAGRAMS

NASA AE CONT. NO. NAS 8-19,015 — FILE NO. MSFC 8928

REF. NO. P-6

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: CHIEF Lynwood Hair Eng. — APPROVED: CHIEF, DESIGN BRANCH

A.E. DATE 11-17-64 — DATE — NASA DATE 2-12-64

DESIGNED F. KEITH
DRAWN K. KEITH
CHECKED HILLER

APPROVAL RECOMMENDED: CHIEF PLUMBING SECTION

DESIGN DATE:

SCALE:

SPEC. NO. FE D-441

DRWG. NO. FW-A-4202-P6

MSFC-FORM 232 (REV. DEC., 1960)

4202

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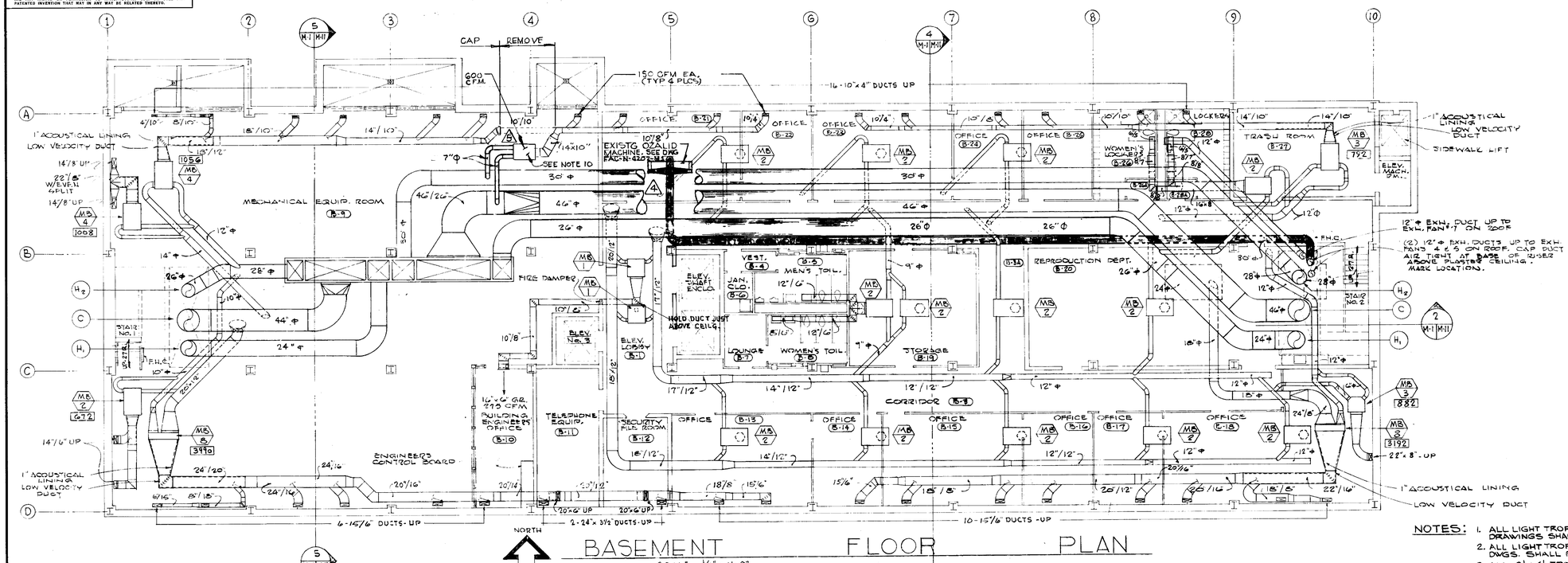
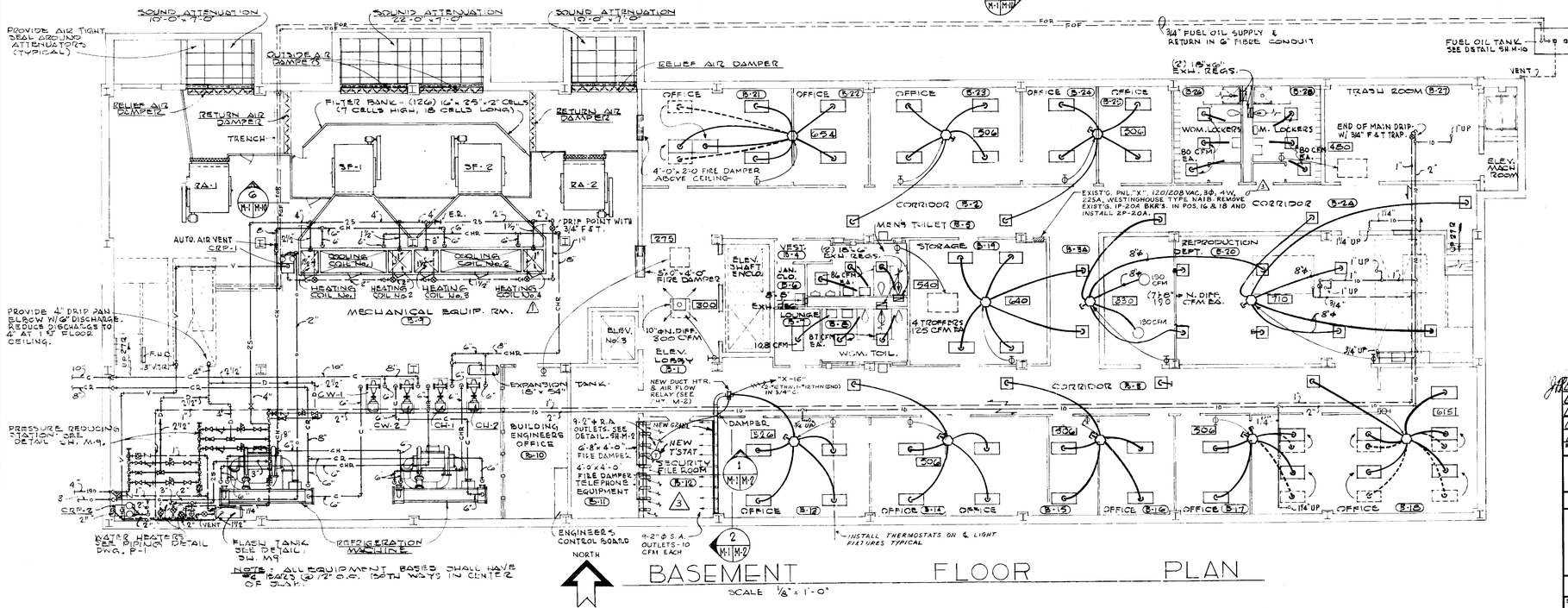


NORTH

BASEMENT FLOOR PLAN

SCALE 1/8" = 1'-0"

NOTE: THE ABOVE PLAN SHOWS DUCTWORK ONLY. SEE PLAN BELOW FOR DISTRIBUTION AND PIPING.



NORTH

BASEMENT FLOOR PLAN

SCALE 1/8" = 1'-0"

NOTE: ALL EQUIPMENT BASED SHALL HAVE ½ IN 2½ CH @ 12" O.C. BOTH WAYS IN CENTER OF SLAB.

NOTES:
1. ALL LIGHT TROFFERS SHOWN ON MECHANICAL DRAWINGS SHALL BE SUPPLY AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOW ON MECHANICAL DWGS. SHALL BE RETURN AIR TROFFERS
3. ALL 2'x 4' TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 109 CFM UNLESS NOTED OTHERWISE
4. ALL 2'x 4' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 91 CFM UNLESS NOTED OTHERWISE.
5. ALL 2'x 2' TROFFERS SHALL BE SUPPLIED WITH 70 CFM UNLESS NOTED OTHERWISE.
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS (570) INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSER'S SHALL BE 6" DIAMETER UNLESS NOTED OTHERWISE
8. SQUARE DIFFUSER IN ELEV LOBBY TO FIT INTO CEILING GRID.
9. SIZES OF LINED DUCTS SHOWN ON THE PLANS REPRESENT THE DIMENSIONS FROM THE INSIDE SURFACES OF THE LINING.
10. NEW MIXING BOX SHALL BE TUTTLE & BAILEY VARIABLE AIR VOLUME TERMINAL UNIT MARK II, CAT. # VAV-MK11-A-07-A-A-J-G-12-N, (SEE T-STAT LOCATION ON DWG. FAC-E-4202-M1, REV. 1)
11. NEW ROUND DUCTS SHALL BE DOUBLE-WALLED, INTERNALLY INSULATED HIGH VELOCITY DUCT & FITTINGS WITH PERFORATED LINER (UNITED SHEET METAL ACOUSTI-LINER OR EQUAL)
12. LINE RECTANGLER DUCT W/1" FIBER GLASS DUCT BOARD (SEE NOTE 9)

NOTE
1. RELOCATE AIR TROFFERS IN RMS. B-18 & B-21 AS INDICATED BY DASHED LINES

REV.	BY	DATE	DESCRIPTION	C.I. NO.	APPROVED
5	F.M.	3-9-82	ADDED VAV MIXING BOX	X-144-2	
4	F.M.	3-3-78	EXHAUST VENT FOR FILE ROOM	TC 268	
3	OHF	1-24-78	HVAC SYSTEM FOR VAULT #1	TD. 250	
2	J.D	2-10-65	ADDED & RELOCATED THERMOSTATS	120838-A	
1	J.D	1-15-64	ADDED ACCESS DOORS	40287-6	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS — OKLAHOMA CITY, OKLA.

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

BASEMENT FLOOR PLAN - AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8929

SUBMITTED: CHIEF — APPROVAL RECOMMENDED: — APPROVED: O. H. Gainey Jr. CHIEF - DESIGN BRANCH

AE — DATE: 8/13/64 — LAB. — DATE: — NASA — DATE: 3-16-64

DESIGNED RRE — DRAWN RRE — CHECKED WJC — SCALE AS NOTED

APPROVAL RECOMMENDED: B. Barry CHIEF MECH. SECTION — DESIGN DATE: 3-16-64 — SPEC. NO. F & D 441

DRWG. NO. F&DA4202-M-1

REF NO. M-1

APPROVED OFFICE OF SAFETY — MAR 17 1964 — DATE

CONCURRENCE											
DATE	CS21	DATE	AN21	DATE	ASOIM	DATE	AB41	DATE	AE21		
4-16-82	[illegible]		[illegible]		[illegible]	4/23/82	[illegible]		[illegible]		

CONCURRENCE											
DATE	CS21	DATE	AB41	DATE	ASOIM	DATE	ABS1	DATE	AB-14		
2/9/78	[illegible]			2-13	[illegible]	2/10/78	[illegible]	2/21/78	[illegible]		
3/24/78	[illegible]			3-21-78	[illegible]	3/20/78	[illegible]	3-27-78	[illegible]		

MSFC-FORM 232 (REV. APRIL 1962)

4202

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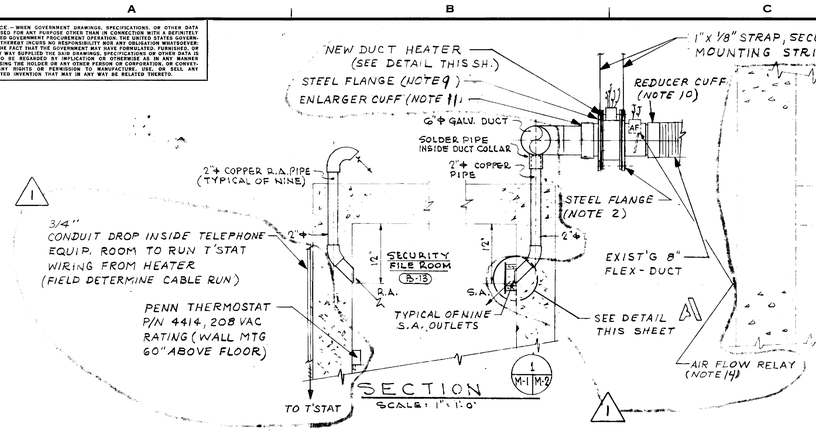
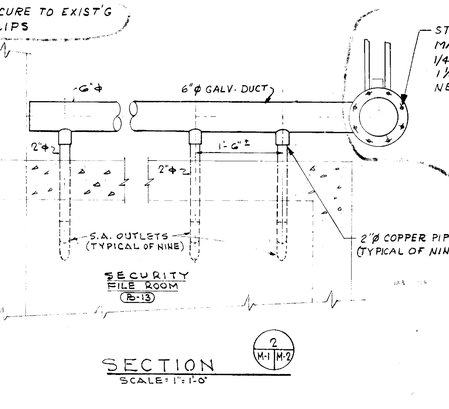
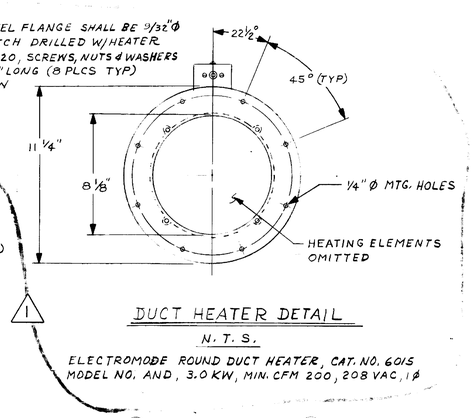
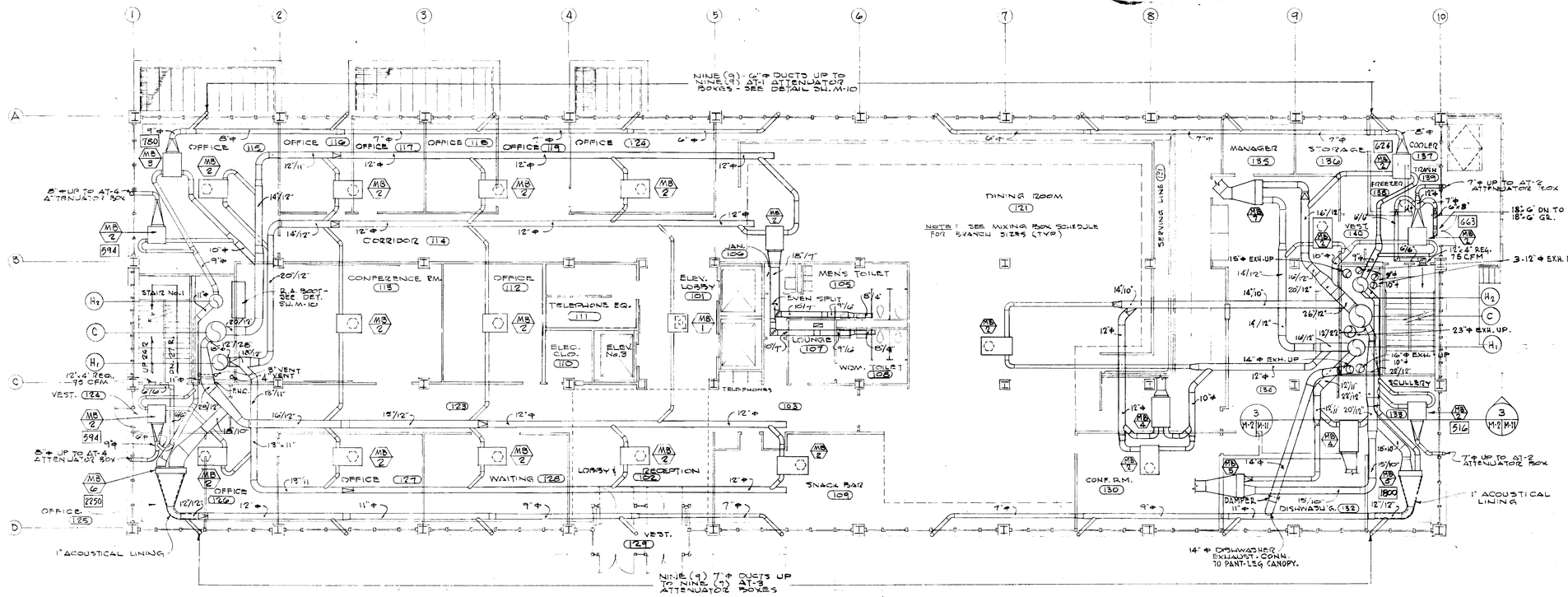


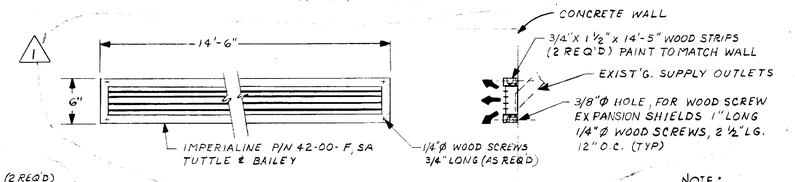




MECHANICAL LEGEND

—40—	STEAM SUPPLY PIPING (W/PRESS. INDICATED-PS.I.G.)
—40—	CONDENSATE RETURN (W/PRESS. INDICATED-PS.I.G.)
—D—	PUMPED CONDENSATE RETURN
—CHS—	CHILLED WATER SUPPLY
—CHR—	CHILLED WATER RETURN
—V—	VENT PIPING
—CS—	CONDENSER WATER SUPPLY (TOWER TO COND.)
—CR—	CONDENSER WATER RETURN (COND. TO TOWER)
—E—	EXPANSION PIPING
	GATE VALVE
	GLOBE VALVE
	SWING CHECK VALVE
	STRAINER
	UNION
	CONTROL VALVE
	FLOAT & THERMOSTATIC TRAP
	BUCKET TRAP
	ECCENTRIC REDUCER
	DIRECTION OF DOWNWARD PITCH
	BALANCE COCK
	THERMOSTAT
	PRESSURE REDUCING VALVE





NOTES CON'D

4. STEEL FLANGES SHALL BE FLEXAUST I.D. 7", O.D. 11 3/4" WITH GASKETS. (2 REQ'D)
10. REDUCER CUFF 7" SHALL BE FLEXAUST.
11. ENLARGER CUFF 7" SHALL BE FLEXAUST.
12. ALL ITEMS IN NOTES 2, 3, AND 4 OR MANUFACTURED BY THE FLEXAUST CO. A DIVISION OF CALLAHAN MINING CORP. 277 PARK AVENUE, NEW YORK, N.Y. 10017. (OR EQUAL)
13. ALL ELECTRICAL WORK SHALL CONFORM TO THE N.E.C. CONDUIT SHALL BE ZINC-COATED RIGID STEEL. EMT MAY BE USED ABOVE CEILINGS.
14. AIR FLOW RELAY, 208VAC, 1ϕ, 15A, WESTINGHOUSE STYLE NO. 651C564G01 (OR EQUAL) WITH N.O. CONTACTS-CLOSED ON AIR FLOW. CONNECT RELAY & THERMOSTAT IN SERIES WITH HEATER. WIRING TO BE #12THW IN 3/4" C.

NOTE:
1. ALL LIGHT TROFFERS SHOWN ON MECH. DRAWINGS SHALL BE SUPPLY AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOWN ON MECH DRAWINGS SHALL BE RETURN AIR TROFFERS
3. ALL 2'x4' TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 109 CFM UNLESS NOTED OTHERWISE.
4. ALL 2'x4' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 91 CFM UNLESS NOTED.
5. ALL 2'x2' TROFFERS SHALL BE SUPPLIED WITH 70 CFM UNLESS NOTED OTHERWISE
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS 510 INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSERS SHALL BE 6" DIAMETER UNLESS NOTED OTHERWISE.
8. SIZES OF LINED DUCTS SHOWN ON THE PLANS REPRESENT THE DIMENSIONS FROM THE INSIDE SURFACES OF THE LINING.

CONCURRENCE									
DATE	CS21	DATE	AB41	DATE	ASOIM	DATE	ABSI	DATE	AD-14
2/4				2-15		2/15/67		2-21-67	

FIRST FLOOR PLAN

SCALE 1/8"=1'-0"

NOTE: ABOVE PLAN SHOWS HIGH VELOCITY DUCTWORK ONLY. SEE SHEET M-8 FOR AIR DISTRIBUTION SYSTEM.

NORTH

AS BUILT

APPROVED FOR SAFETY

DATE

REF NO. M-2

REV.	BY	DATE		C.I. NO.	APPROVED
1	OHF	1-25-68	HVAC SYSTEM FOR VAULT 3	T.D. 250	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA.

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

FIRST FLOOR PLAN - AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8930

SUBMITTED: CHIEF		APPROVAL RECOMMENDED:	APPROVED:
AE. DATE: 3/13/67		LAB. DATE:	NASA DATE: 3-16-67
DESIGNED RE DRAWN RE CHECKED WJC		APPROVAL RECOMMENDED:	DRWG. NO. F&D-A4202-M2
SCALE: AS NOTED		DESIGN DATE: 3-16-67	SPEC. NO. F&D-441

MSFC-FORM 232 (REV. APRIL 1962)

4202

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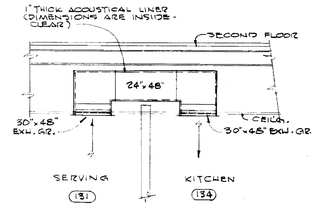


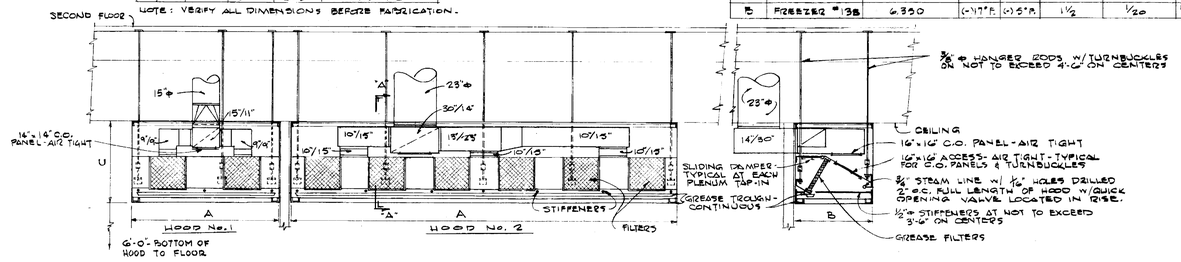
DETAIL - SOUND TRAP

SCALE: ½" = 1'-0"

NOTE: TYPICAL FOR ALL SOUND TRAPS WITH GRILLE & DUCT SIZES SHOWN ON PLANS. GRILLES TO BE FURNISHED WITH FACTORY APPLIED WHITE BAKED ENAMEL FINISH.

EXHAUST HOOD SCHEDULE				
HOOD NO.	A - FT.	B - FT.	C - FT.	MIN. FILTER NO. & SIZE
NO. 1	6'-8"	3'-6"	3'-8"	2 - 20" x 20" x 2"
NO. 2	17'-6"	3'-6"	3'-8"	6 - 20" x 20" x 2"
NO. 3	10'-2"	3'-6"	3'-8"	5 - 20" x 20" x 2"
NO. 4	5'-6"	3'-0"	2'-6"	2 - 20" x 20" x 2"

NOTE: VERIFY ALL DIMENSIONS BEFORE FABRICATION.

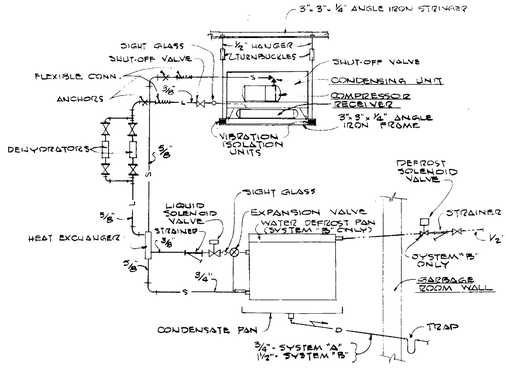


LONGITUDINAL SECTION — SECTION "A-A"

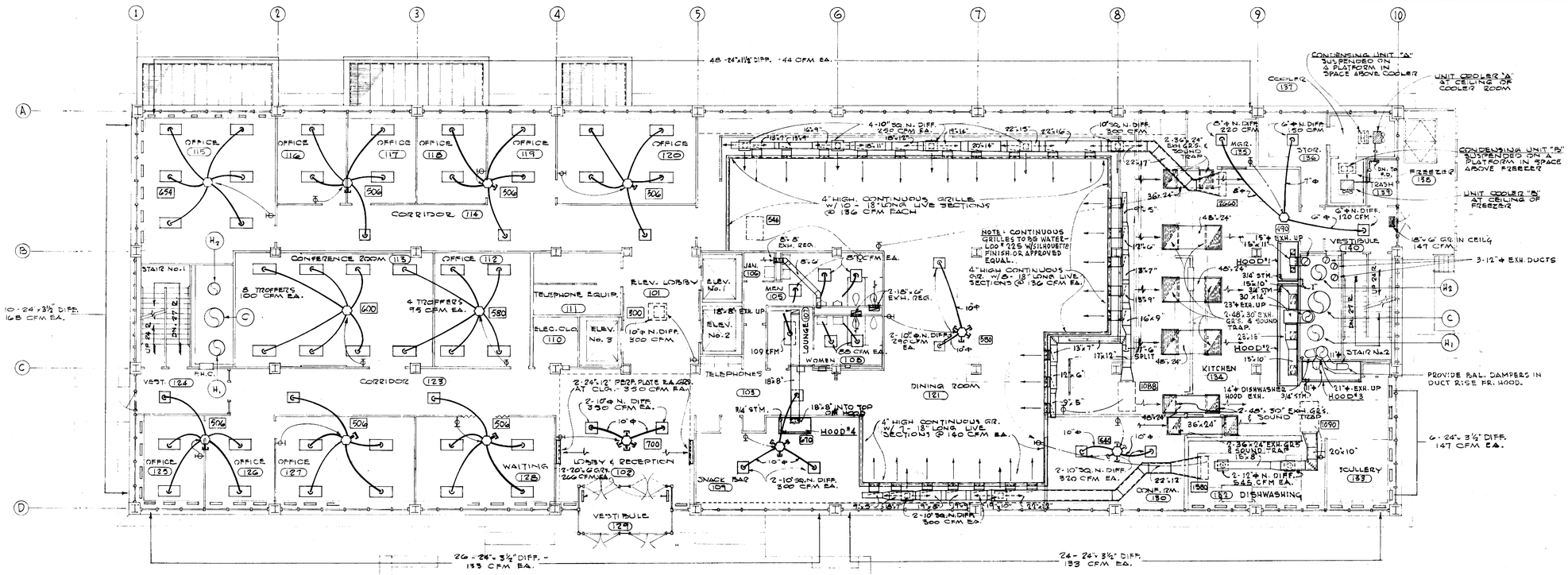
DETAIL - EXHAUST HOODS

SCALE: ⅜" = 1'-0"

COLD STORAGE REFRIGERATION SCHEDULE							
MARK	ROOM SERVED	CAPACITY BTU/HR. FOR ROOM, PULL DOWN	SUCT. TEMP.	ROOM TEMP.	CONDENSING UNIT H.P.	EVAPORATOR FAN, H.P.	REMARKS
A	COOLER #137	6,050	22°F.	35°F.	¾	1/20	—
B	FREEZER #138	6,350	(-)17°F.	(+)5°F.	1½	1/20	INCLUDES WATER DEFROST



SCHEMATIC DIAGRAM OF PIPING AT COLD STORAGE REFRIGERATION SYSTEMS



NOTES:

1. ALL LIGHT TROFFERS SHOWN ON MECHANICAL DRAWINGS SHALL BE SUPPLY AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOWN ON MECHANICAL DRAWINGS SHALL BE RETURN AIR TROFFERS.
3. ALL 2'x4' TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 109 CFM UNLESS NOTED OTHERWISE.
4. ALL 2'x4' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 91 CFM UNLESS NOTED.
5. ALL 2'x2' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED W/ 70 CFM UNLESS NOTED OTHERWISE.
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS 5/14 INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSERS SHALL BE 6" DIAMETER UNLESS NOTED OTHERWISE.
8. THESE DRAWINGS SHOW HEXAGONAL PLENUM AT EACH MIXING BOX AND FLEXIBLE DUCTS TO DIFFUSER OUTLETS. SEE SHEET No. M-4 FOR MIXING BOX LOCATIONS AND HIGH-PRESSURE DUCT LAYOUT. SEE DETAIL OF MIXING BOX & FLEXIBLE DUCT ON SHEET No. M-10.
9. SIZES OF LINED DUCTS SHOWN ON THE PLANS REPRESENT THE DIMENSIONS FROM THE INSIDE SURFACES OF THE LINING.

FIRST FLOOR PLAN

SCALE ⅛" = 1'-0"

NOTES: 1. ABOVE PLAN SHOWS AIR DISTRIBUTION SYSTEM ONLY. SEE SHT. M-2 FOR HIGH VELOCITY DUCTWORK.
2. SQUARE DIFFUSER IN ELEV. LOBBY TO FIT INTO CEILING GRID.

NORTH

REV.	BY	DATE		C. I. NO.	APPROVED
1	JD	2-10-65	ADDED & RELOCATED THERMOSTATS	10758-4	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECTS ENGINEERS OKLAHOMA CITY, OKLA.

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

FIRST FLOOR PLAN — AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8931

SUBMITTED: CHIEF, AE. — APPROVAL RECOMMENDED: LAB. — APPROVED: CHIEF - DESIGN BRANCH, NASA — DATE: 3-16-64

DESIGNED RE
DRAWN RE
CHECKED W.J.C.
SCALE: AS NOTED

APPROVAL RECOMMENDED: D. Bain — DESIGN SECTION
DESIGN DATE: 3-16-64
SPEC. NO. F&D-441

DRWG. NO. F&D-A4202M3

REF NO. M-3

SECURITY CLASSIFICATION — MAR 17 1964

MSFC-FORM 232 (REV. APRIL 1962)

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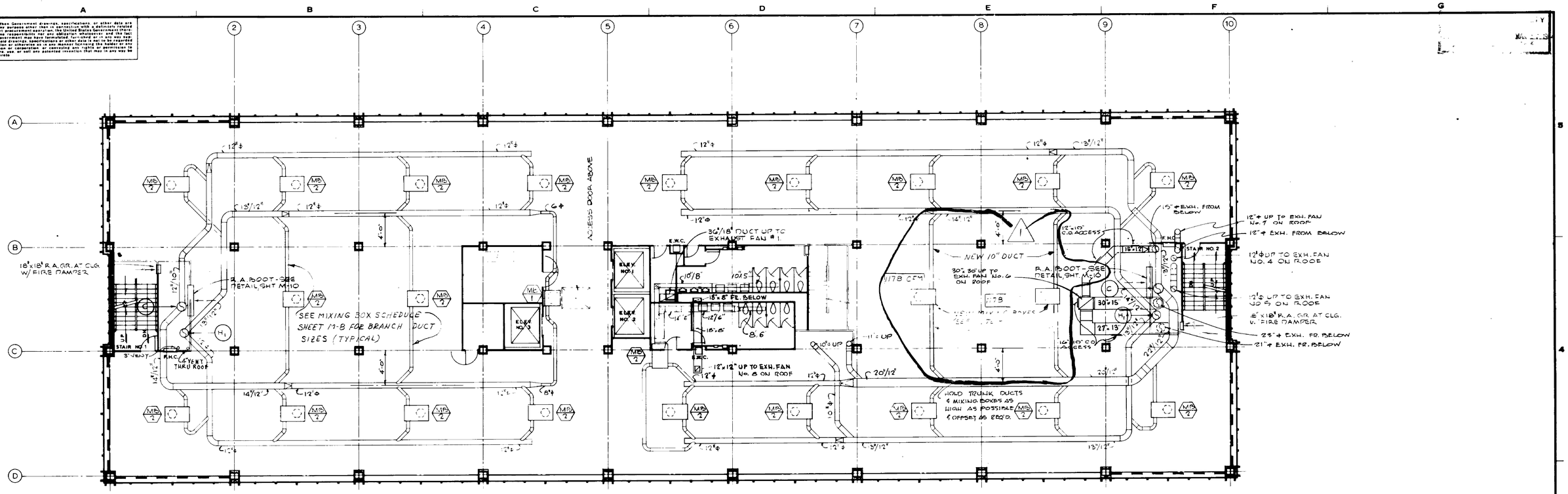
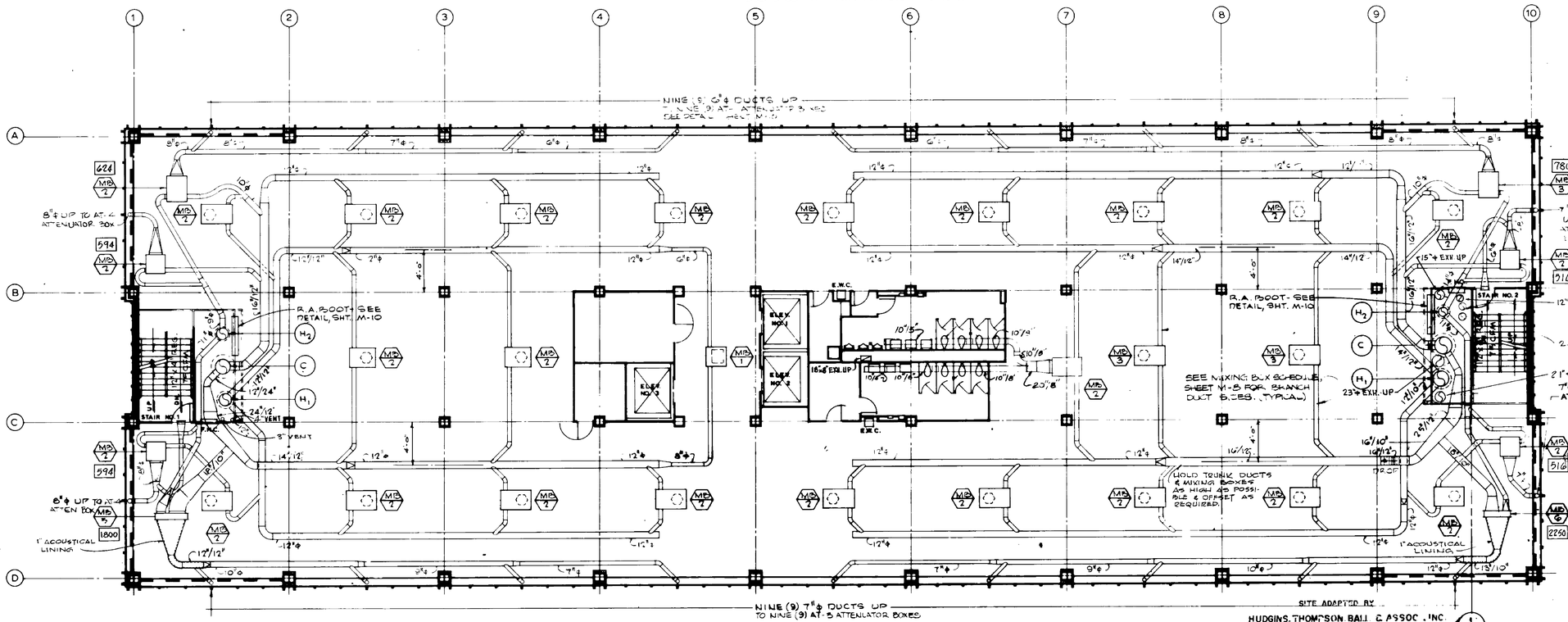


SIXTH FLOOR PLAN

SCALE 1/8" - 1'-0"

NOTE
ABOVE PLAN SHOWS HIGH VELOCITY DUCTWORK ONLY.
SEE SHEET M-7 FOR AIR DISTRIBUTION.

NORTH



NOTES:

1. ALL LIGHT TROFFERS SHOWN ON MECHANICAL DRAWINGS SHALL BE SUPPLY AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOWN ON MECHANICAL DRAWINGS SHALL BE RETURN AIR TROFFERS.
3. ALL 2' x 4' TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 135 CFM UNLESS NOTED OTHERWISE.
4. ALL 2' x 4' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 91 CFM UNLESS NOTED.
5. ALL 2' x 2' TROFFERS SHALL BE SUPPLIED WITH 70 CFM UNLESS NOTED OTHERWISE.
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS 576 INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSERS SHALL BE 6" DIAMETER UNLESS NOTED OTHERWISE.

8. NEW MIXING BOX SHALL BE TITUS E & BAILEY PIN MRPD, SIZE E VARIABLE VOLUME DIAL DUCT W/ 18" BOTTOM OUTLET (2 REQ'D) CAP. 780 CFM. DUCT SIZE AS SCHEDULED ON SHEET M-8 FOR NEW BOXES

TYPICAL SECOND THRU FIFTH FLOOR PLAN

SCALE 1/8" - 1'-0"

NOTE:
ABOVE PLAN SHOWS HIGH VELOCITY DUCTWORK ONLY. SEE SHEETS M-5 AND M-6 FOR AIR DISTRIBUTION SYSTEMS.

NORTH

NOTE: SIZES OF LINED DUCTS SHOWN ON THE PLANS REPRESENT THE DIMENSIONS FROM THE INSIDE SURFACES OF THE LINING.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS ENGINEERS
OKLAHOMA CITY, OKLAHOMA

NOTE: SQUARE DIFFUSER IN ELEV. LOBBY TO FIT INTO CEILG GRID.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	M S F C HUNTSVILLE, ALABAMA
WYATT C. HEDRICK, ARCHITECT ENGINEER	FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

TYPICAL & SIXTH FLOOR PLAN-AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8932

SUBMITTED: CHIEF ... ENGINEERING — APPROVAL RECOMMENDED: CHIEF, MECHANICAL SECTION — APPROVED: CHIEF, DESIGN BRANCH

AE DATE 11-17-66 — DES. DATE — APPROVAL RECOMMENDED DATE — APPROVED DATE 3/16/64

DESIGNED CURD, DRAWN CURD, CHECKED WILLGE — SCALE 1/8" & 1'-0" — SPEC. NO. F&D-441 — REVISIONS DATE

REF. NO. M-4 — F&D-A-4202-M4

MSFC-FORM 232 (REV. DEC., 1960)

4202

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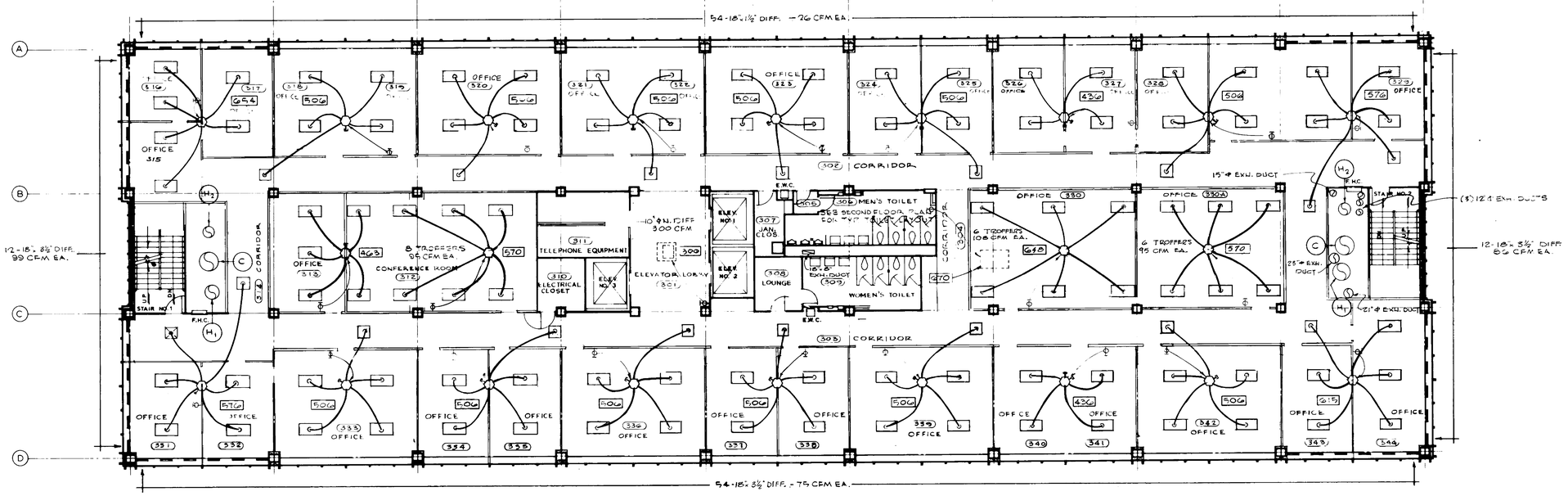
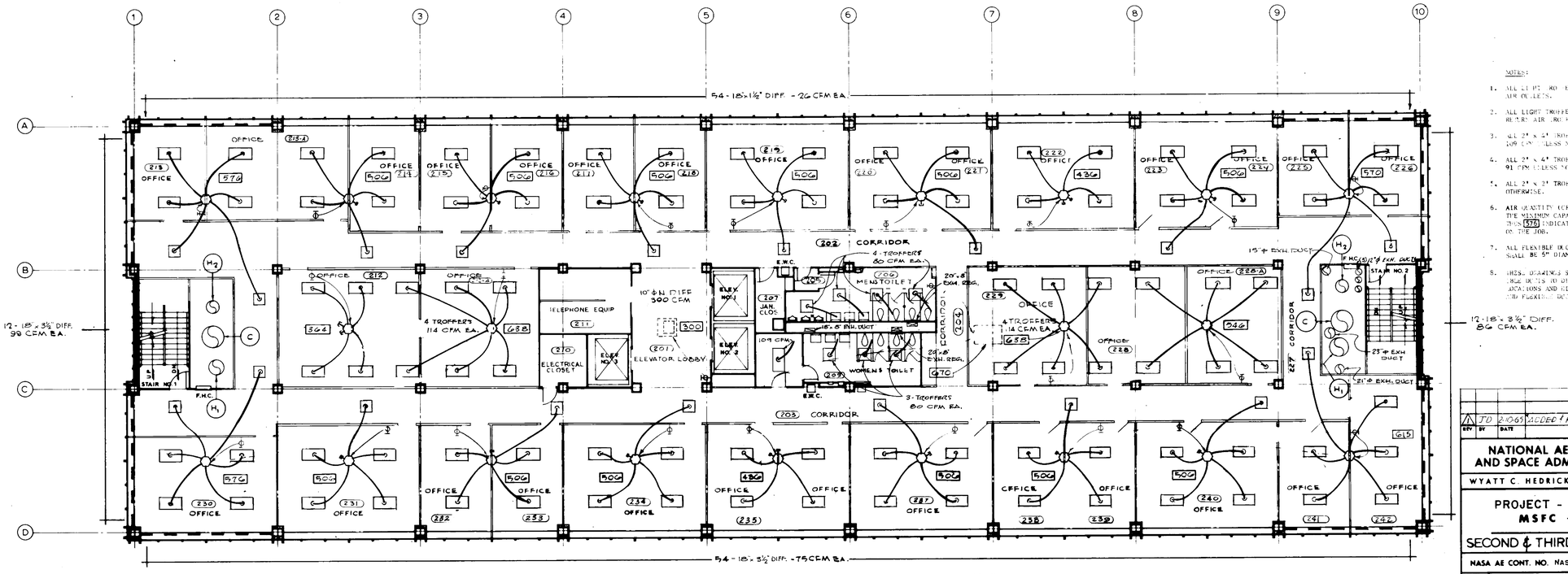


THIRD FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH



SECOND FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH

NOTES:

1. ALL LIGHT TROFFERS SHOWN ON MECHANICAL DRAWINGS SHALL BE SUPPLIED AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOWN ON MECHANICAL DRAWINGS SHALL BE RETURN AIR TROFFERS.
3. ALL 2" x 4" TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 109 CFM UNLESS NOTED OTHERWISE.
4. ALL 2" x 4" TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 91 CFM UNLESS NOTED.
5. ALL 2" x 2" TROFFERS SHALL BE SUPPLIED WITH 70 CFM UNLESS NOTED OTHERWISE.
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS 576 INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSERS SHALL BE 5" DIAMETER UNLESS NOTED OTHERWISE.
8. THESE DRAWINGS SHOW HEXAGONAL PLENUM AT EACH MIXING BOX AND FLEXIBLE DUCTS TO DIFFUSER OUTLETS. SEE SHEET NO. M-4 FOR MIXING BOX LOCATIONS AND HIGH-PRESSURE DUCT LAYOUT. SEE DETAILS OF MIXING BOX AND FLEXIBLE DUCT ON SHEET NO. M-10.

AS BUILT

NOTE: SQUARE DIFFUSER IN ELEV LOBBY TO FIT INTO CEILG. GRID.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV	BY	DATE		C.I. NO.	APPROVED
1	JD	2-10-65	ADDED & RELOCATED THERMOSTATS	12038-4	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SECOND & THIRD FLOOR PLAN-AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8935

SUBMITTED: CHIEF Wyatt C. Hedrick — APPROVAL RECOMMENDED: CHIEF, Proj. Eng. — APPROVED: CHIEF, DESIGN BRANCH

AE DATE 11-17-66 — APPROVAL RECOMMENDED: CHIEF, MECHANICAL SECTION — NASA DATE 3/16/64

DESIGNED CASH, CURD — DRAWN CURD — CHECKED HILLER — SCALE 1/8"=1'-0" — DESIGN DATE — SPEC. NO. F&D-441 — DRWG. NO. F&D-A-4202-M5

REF. NO. M-5

MSFC-FORM 232 (REV. DEC., 1960)

4202

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APPR... MAR 17 1964

FIFTH FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH

54 - 18"x1½" DIFF. - 26 CFM EA.

12 - 18"x3½" DIFF. 99 CFM EA.

12 - 18"x3½" DIFF. 80 CFM EA.

(3) 2"Φ EXH DUCTS

54 - 18"x3½" DIFF. - 75 CFM EA.

NOTE: NEW TROFFERS SHALL BE TUTTLE & BAILEY MODEL # 4TD6-T2 STYLE EE (2 REQ'D)

NL = NEW LOCATION

NLΦ EXIST'G T'STAT AT NEW LOCATION

EXIST'G DUCT & TROFFER TO BE RELOCATED

EXIST'G DUCT & TROFFER @ NEW LOCATION N.L. SEE NOTES 4 & 6 (ORIGINAL SET)

FLEX. CONNECTION FROM

GENERAL NOTES

1. REMOVE EXISTING CEILING CONSTRUCTION AT LOCATIONS INDICATED FOR INSTALLATION OF DIFFUSERS-CAREFULLY SAVE ALL LAY-IN CEILING SUSPENSION COMPONENTS WITH OFF-WHITE BAKED ENAMEL FINISH, CONCEALED SPRING OR OVAL WIRE OR OVAL OR OVAL-SHAPE DAMPERS AS SHOWN.
2. INSTALL 22x22 RETURN AIR LOUVER-EQUIPPED WITH 45° ANGLED STEEL CONSTRUCTING AIR TO PLENUM ABOVE CEILING.
3. DIFFUSERS AND RETURNS AT 6'-0" OR SMALL FIT 2' X 4' CEILING SUSPENSION GRID.
4. REMOVE EXISTING AIR MIXING BOX AND INSTALL NEW AIR MIXING BOX-GERRARD MODEL AIC SIZE A-10-C-M.
5. AIR MIXING BOX SHALL HAVE FLANGE WITH 4-10" CONNECTIONS TO 10" FLEXIBLE DUCT.

NOTES: (ORIGINAL)

1. ALL LIGHT TROFFERS SHOWN ON MECHANICAL DRAWINGS SHALL BE SUPPLY AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOWN ON MECHANICAL DRAWINGS SHALL BE RETURN AIR TROFFERS.
3. ALL 2' x 4' TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 109 CFM UNLESS NOTED OTHERWISE.
4. ALL 2' x 4' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 91 CFM UNLESS NOTED.
5. ALL 2' x 2' TROFFERS SHALL BE SUPPLIED WITH 70 CFM UNLESS NOTED OTHERWISE.
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS [576] INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSERS SHALL BE 6" DIAMETER UNLESS NOTED OTHERWISE.
8. THESE DRAWINGS SHOW HEXAGONAL PLENUM AT EACH MIXING BOX AND FLEXIBLE DUCTS TO DIFFUSER OUTLETS. SEE SHEET NO. M-4 FOR MIXING BOX LOCATIONS AND HIGH-PRESSURE DUCT LAYOUT. SEE DETAIL OF MIXING BOX AND FLEXIBLE DUCT ON SHEET NO. M-10.

AS BUILT

FOURTH FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH

54 - 18"x1½" DIFF. - 26 CFM EA.

12 - 18"x3½" DIFF. 93 CFM EA.

12 - 18"x3½" DIFF. 80 CFM EA.

(3) 12"Φ EXH. DUCTS

54 - 18"x3½" DIFF. - 75 CFM EA.

SITE ADAPTED BY

HUDGINS, THOMPSON, BALL & ASSOC, INC.

ARCHITECTS-ENGINEERS

OKLAHOMA CITY, OKLAHOMA

NOTE: SQUARE DIFFUSER IN ELEV. LOBBY TO FIT INTO CEILG. GRID.

CONCURRENCE									
DATE	CS21	DATE	AB41	DATE	ASOIM	DATE	AN21	DATE	AB21
3/24/83	[illegible]	4-07-83		4-7-83	[illegible]	3/28/83	M.E. Mann	4-27-83	R Dennison

SA02

4-7-83

REV. NO.	M-6

NO.	BY	DATE	DESCRIPTION	PER	JOB NO.	DRAWING NO.
1	TLS	10/26/83	AS BUILT	PER X-3583	Y-2-1	11/1/83
2	GLM	3/11/83	RELOCATE TROFFERS		2038-3	3/28/83
1	MJ	2/16/83	ADDED MIXING BOX & DUCT TO SERVE MAINTENANCE		BY WALT	2/16/83
1	J.D.	2-14-65	ADDED & RELOCATED THERMOSTATS		2038-4	2/16/65
REV.	BY	DATE			CHG.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING

MSFC - HUNTSVILLE, ALABAMA

FOURTH & FIFTH FLOOR PLAN-AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015

FILE NO. MSFC 8734

DESIGNED: Wyatt C. Hedrick — APPROVED: [illegible] — 11-17-65

DRAWN: CASH, CERVO — CHECKED: CLIKO — MECHANICAL SECTION

SUPV. DIV. — CHIEF, DIVISION — SUPV. BR. — CHIEF, BRANCH

SPEC. NO. F & D-441

DWG. NO. F&D-A-4202-M

MSFC-FORM 238 (REV. DEC., 1980)

420

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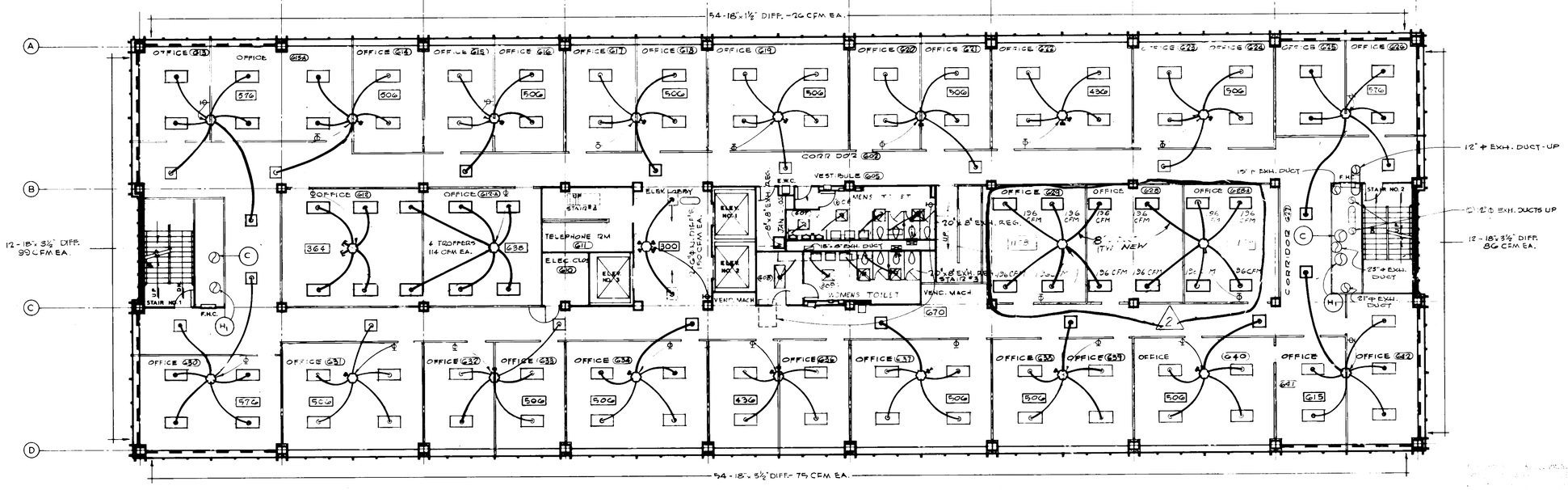
SAFETY

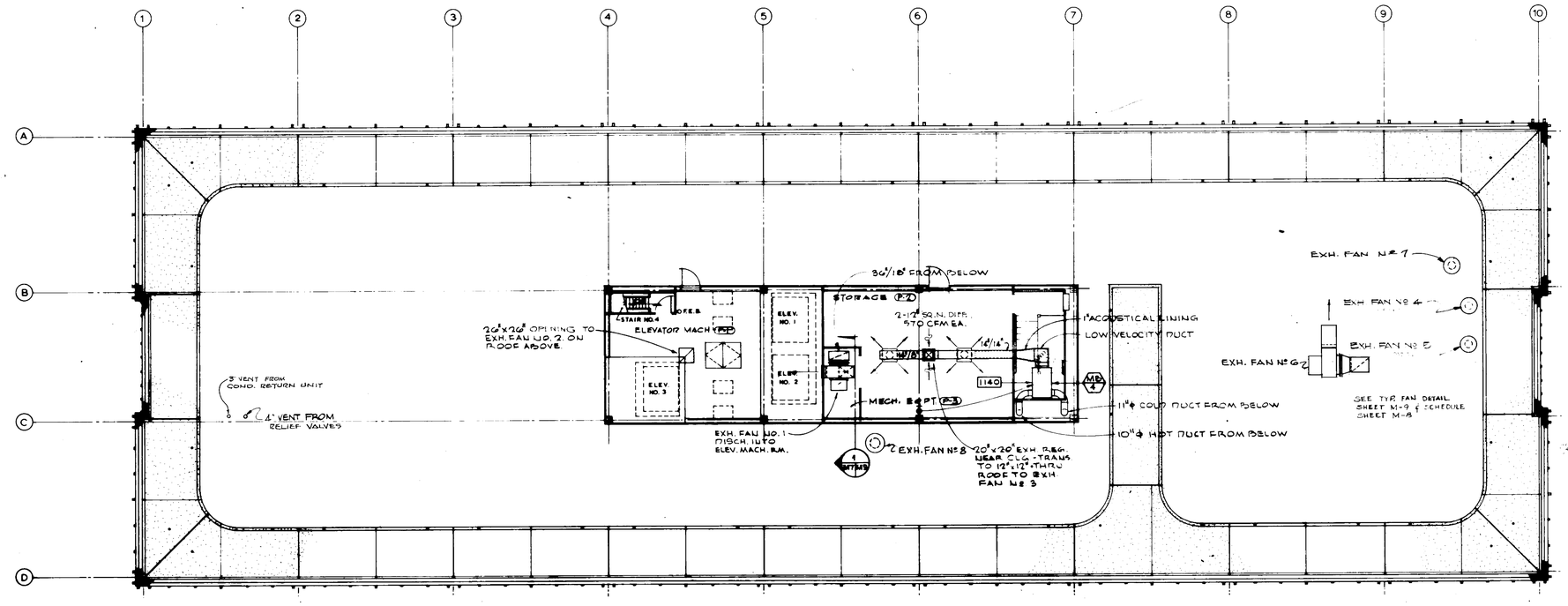


SIXTH FLOOR PLAN

SCALE 1/8" - 1'-0"

NORTH

NOTE: SQUARE DIFFUSERS IN ELEV. LOBBY TO FIT INTO CEILG. GRID



NOTE: SIZES OF LINED DUCTS SHOWN ON THE PLANS REPRESENT THE DIMENSIONS FROM THE INSIDE SURFACES OF THE LINING.

ELEVATOR PENTHOUSE & TOWER ROOF PLAN

SCALE 1/8" 1'-0"

NORTH

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS ENGINEERS
OKLAHOMA CITY, OKLAHOMA

NOTES:

1. ALL LIGHT TROFFERS SHOWN ON MECHANICAL DRAWINGS SHALL BE SUPPLY AIR OUTLETS.
2. ALL LIGHT TROFFERS NOT SHOWN ON MECHANICAL DRAWINGS SHALL BE RETURN AIR TROFFERS.
3. ALL 2' x 4' TROFFERS IN EXTERIOR BAYS SHALL BE SUPPLIED WITH 109 CFM UNLESS NOTED OTHERWISE.
4. ALL 2' x 4' TROFFERS IN INTERIOR BAYS SHALL BE SUPPLIED WITH 71 CFM UNLESS NOTED.
5. ALL 2' x 2' TROFFERS SHALL BE SUPPLIED WITH 76 CFM UNLESS NOTED OTHERWISE.
6. AIR QUANTITY (CFM) SHOWN IN THE MIXING BOX SCHEDULE INDICATES THE MINIMUM CAPACITY OF THE MIXING BOX DESIGNATED. FIGURES SHOWN THUS 576 INDICATE THE CFM FOR WHICH THE MIXING BOX SHALL BE SET ON THE JOB.
7. ALL FLEXIBLE DUCT FROM MIXING BOXES TO TROFFERS OR DIFFUSERS SHALL BE 6" DIAMETER UNLESS NOTED OTHERWISE.
8. THESE DRAWINGS SHOW HEXAGONAL PLENUM AT EACH MIXING BOX AND FLEXIBLE DUCTS TO DIFFUSER OUTLETS. SEE SHEET NO. M-4 FOR MIXING BOX LOCATIONS AND HIGH-PRESSURE DUCT LAYOUT. SEE DETAIL OF MIXING BOX AND FLEXIBLE DUCT ON SHEET NO. M-10.

REV	BY	DATE	
			ADD 24HR CLOCK OUTLET IN PENTHOUSE (TYP.) ADD 24HR CLOCK OUTLET IN ELEV. THERMOSTATS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SIXTH & PENTHOUSE FLOOR PLAN AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8935

SUBMITTED: CHIEF Wyatt Hedrick AE DATE: 11-19-62
APPROVAL RECOMMENDED: SUB DAW
APPROVED: CHIEF, DESIGN BRANCH; NASA DATE: 3/15/63
DESIGNED CASH, CURD; DRAWN CURD; CHECKED HILLGE; SCALE 1/8"=1'-0"
APPROVAL RECOMMENDED: CHIEF MECHANICAL SECTION; DESIGN DATE
DRWG NO. F&D-A-4202-M7
SPEC NO F & D-441

REF. NO. M-7

MSFC-FORM 232 (REV. DEC., 1960)

4202

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COOLING TOWER REQUIREMENTS

CAPACITY, GPM	1170
INLET WATER TEMPERATURE, °F.	95
OUTLET WATER TEMPERATURE, °F.	85
AMBIENT WET BULB TEMPERATURE, °F.	78
NUMBER OF CELLS	ONE
MOTOR HORSEPOWER	30
ELECTRICAL CHARACTERISTICS	440/3/60

SCHEDULE - CHILLED WATER COILS

MARK	TOTAL CFM	% O.A. MIN.	% O.A. MAX.	DUTY	MAX. FACE VEL.-F.P.M.	NUMBER ROWS	ENT. AIR TEMP. °F.D.B.	ENT. AIR TEMP. °F.W.B.	LVG. AIR TEMP. °F.D.B.	LVG. AIR TEMP. °F.W.B.	FLOW, GPM	MAX. WATER P.D. - FEET	MAX. AIR FRICTION, IN.	NUMBER SECTIONS	MAX. HT, IN.
№ 1	51641	9	100	SF-1	575	6	83.7	65.7	52.0	51.5	434	10	0.7	4	114
№ 2	68975	9	100	SF-2	580	6	83.7	65.7	52.0	51.5	554	18	0.7	4	120

NOTE: CAPACITIES BASED ON AIR AT STANDARD CONDITIONS, EWT = 42°F & LWT = 52°F. MAX HEIGHT INCLUDES CASING.

SCHEDULE - MIXING BOXES

	MARK	MIN. CAP. CFM	BRANCH DUCT SIZE, DIA. COLD	BRANCH DUCT SIZE, DIA. HOT	SOUND POWER LEVEL	
	MB-1	300	6"	6"	50	STANDARD CAPACITY
	MB-2	675	8"	7"	50	
	MB-3	825	9"	8"	50	
	MB-4	1350	10"	9"	50	
	MB-5	1800	14"	9"	61	HIGH CAPACITY
	MB-6	2250	14"	10"	65	
	MB-7	2675	15"	9"	63	
	MB-8	4000	16"	9"	69	

NOTE: HIGH CAPACITY MIXING BOXES SHALL HAVE ADDITIONAL SOUND ATTENUATION IN DISCHARGE DUCTS (AS SHOWN ON PLANS) TO REDUCE PWL OF BOX AND DUCT TO THE SPECIFIED LEVEL OF 50 DB.
MIXING BOXES WITH RECTANGULAR CONNECTIONS SHALL HAVE BRANCH DUCTS SIZED FOR SAME VELOCITY AS ROUND DUCTS SCHEDULED.

SCHEDULE - STEAM COILS

MARK	DUTY	TOTAL CFM	% O.A. MIN.	% O.A. MAX.	MAX. F.V. FPM	№ ROWS	E.D.B. °F.	L.D.B. °F.	MAX. AIR FRICTION	MAX. HEIGHT	STEAM TRAP SIZE	STEAM TRAP LBS/HR.
№ 1	WEST EXTERIOR ZONE	14070	9	100	1000	2	64.5	135.0	0.6	72 IN.	1"	3450
№ 2	WEST INTERIOR ZONE	8060	9	100	700	1	64.5	119.0	0.4	72 IN.	3/4"	1500
№ 3	EAST EXTERIOR ZONE	15840	9	100	1000	2	64.5	135.0	0.6	72 IN.	1 1/4"	5900
№ 4	EAST INTERIOR ZONE	8857	9	100	800	1	64.5	119.0	0.4	72 IN.	3/4"	1500

NOTE: CAPACITIES BASED ON STEAM AT 25 PSIG.
COILS SHALL BE INSTALLED WITH VERTICAL TUBES.

COND. RETURN UNITS

MARK	CRP-1	CRP-2
MAXIMUM CAPACITY, SQ.FT. E.D.R.	13,000	10,000
DISCHARGE PRESSURE, PSIG	50	50
PUMP CAPACITY, GPM	27.5	19.0
MOTOR H.P.	1½	1½
CURRENT CHARACTERISTICS	440/3/60	440/3/60
RECEIVER CAPACITY, GALS.	23	23
TYPE	DUPLEX	DUPLEX

SCHEDULE - FANS

MARK	DUTY	TYPE	CFM	S.P. IN. W.C.	CLASS	MOTOR HP	MOTOR VOLTS	MOTOR PH	SIZE IN.	RPM	DISCH.
SF-1	SUPPLY AIR	DIDW	67911	5.2	II	75	440	3	49	855	CW
SF-2	SUPPLY AIR	DIDW	85192	6.0	II	100	440	3	54	800	CCW
RA-1	RETURN AIR	DIDW	66,000	0.75	I	25	440	3	54	485	CW
RA-2	RETURN AIR	DIDW	66,000	0.75	I	25	440	3	54	485	CCW

NOTE: CAPACITIES BASED ON AIR AT STANDARD CONDITIONS.
ALL FANS SHALL BE TOP HORIZONTAL DISCHARGE.
MOTORS SHALL NOT BE OVERLOADED AT DESIGN CONDITIONS.

SCHEDULE - DAMPERS

DUTY	№ REQ'D.	SIZE, IN. HEIGHT	SIZE, IN. WIDTH
RETURN AIR	2	9'-8"	10'-2"
OUTSIDE AIR	2	9'-8"	10'-2"
RELIEF AIR	2	9'-8"	10'-2"

SEE PLAN OF EQUIPMENT ROOM, SHEET M-1 FOR LOCATION OF DAMPERS

SCHEDULE - REFR. MACHINES

TWO MACHINES REQUIRED, EACH TO MEET THE FOLLOWING:		
MACHINE CAPACITY, TONS REFRIGERATION		195
EVAPORATOR	GPM	494
EVAPORATOR	LEAVING WATER TEMP., °F.	42
EVAPORATOR	PRESSURE DROP, FT.	17
EVAPORATOR	SCALE FACTOR	.0005
EVAPORATOR	NUMBER OF PASSES	2
CONDENSER	GPM	585
CONDENSER	INLET WATER TEMPERATURE, °F.	85
CONDENSER	OUTLET WATER TEMPERATURE, °F.	95
CONDENSER	PRESSURE DROP, FT.	19
CONDENSER	SCALE FACTOR	.001
CONDENSER	NUMBER OF PASSES	2
CONDENSER	MOTOR H.P.	200
CONDENSER	ELECTRIC CHARACTERISTICS	440/3/60

SCHEDULE - PUMPS

MARK	DUTY	@ PM	HEAD, FT.	MOTOR HP	MOTOR VOLTS	MOTOR PH	RPM	EFF. %
CH-1	CHILLED WATER	494	57.5	10	440	3	1750	80
CH-2	CHILLED WATER	494	57.5	10	440	3	1750	80
CW-1	CONDENSER WATER	585	60.2	15	440	3	1750	80
CW-2	CONDENSER WATER	585	60.2	15	440	3	1750	80

NOTE: MOTORS SHALL NOT BE OVERLOADED AT DESIGN CONDITIONS.

SCHEDULE - ATTENUATOR BOXES

MARK	CFM	EXPOSURE	VALVE SIZE	№ REQ'D.
AT-1	156	NORTH	6" x 6"	45
AT-2	516	EAST	12" x 6"	10
AT-3	450	SOUTH	12" x 6"	45
AT-4	594	WEST	12" x 6"	10

SOUND POWER LEVEL SHALL NOT EXCEED 50 DB AT 1" INLET S.P. & SCHEDULED CFM.

SCHEDULE - EXHAUST FANS

MARK	DUTY	TYPE	CFM	S.P. IN.W.C.	MOTOR HP	MOTOR VOLTS	MOTOR PH	MAX RPM	REMARKS
EF-1	TOILET EXHAUST	BISW	5560	0.80	1	440	3	580	27" UTILITY SET
EF-2	ELEV. EQUIP. RM. EXH.	POWER ROOF EXH.	6000	0.25	2	440	3	530	30" DIA. WHEEL
EF-3	EXERCISE ROOM EXH.	POWER ROOF EXH.	1140	0.25	1/3	120	1	1140	14" DIA. WHEEL
EF-4	BLUEPRINT EXH.	POWER ROOF EXH.	1500	0.75	3/4	440	3	695	24" DIA. WHEEL
EF-5	BLUEPRINT EXH.	POWER ROOF EXH.	1500	0.75	3/4	440	3	695	24" DIA. WHEEL
EF-6	FOOD SER. AREA	SISW	10,450	0.75	3	440	3	285	33" UTILITY SET
EF-7	BSMT. LOCKER RM.	POWER ROOF EXH.	530	0.50	1/6	120	1	750	14" DIA. WHEEL
EF-8	SNACK BAR	POWER ROOF EXH.	1,500	0.75	3/4	440	3	695	24" DIA. WHEEL

NOTE: CAPACITIES BASED ON AIR AT STANDARD CONDITIONS. MOTORS SHALL NOT BE OVERLOADED AT DESIGN CONDITIONS.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED
2	JO	11/13/62	REVISED COIL CAPACITY	12032-10	
1	JO	9/10/62	REVISED FAN CAPACITY		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA
WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS
PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA
SCHEDULES & DETAILS - AIR CONDITIONING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8936
SUBMITTED: CHIEF Wyatt Hedrick AE DATE 11-17-62
APPROVAL RECOMMENDED: CHIEF DATE
APPROVED: CHIEF, DESIGN BRANCH NASA DATE 5/6/64
DESIGNED CASH DRAWN CASH CHECKED HILLER
APPROVAL RECOMMENDED: CHIEF MECHANICAL SECTION DESIGN DATE
SCALE NO SCALE — SPEC NO. F&D 441
REF. NO. M-8 — DRWG NO. F&D-A-4202-M8

MSFC-FORM 232 (REV. DEC., 1960)

4202

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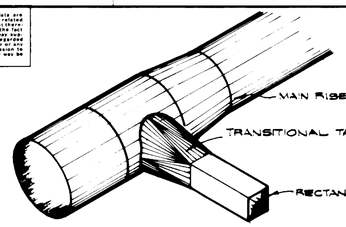
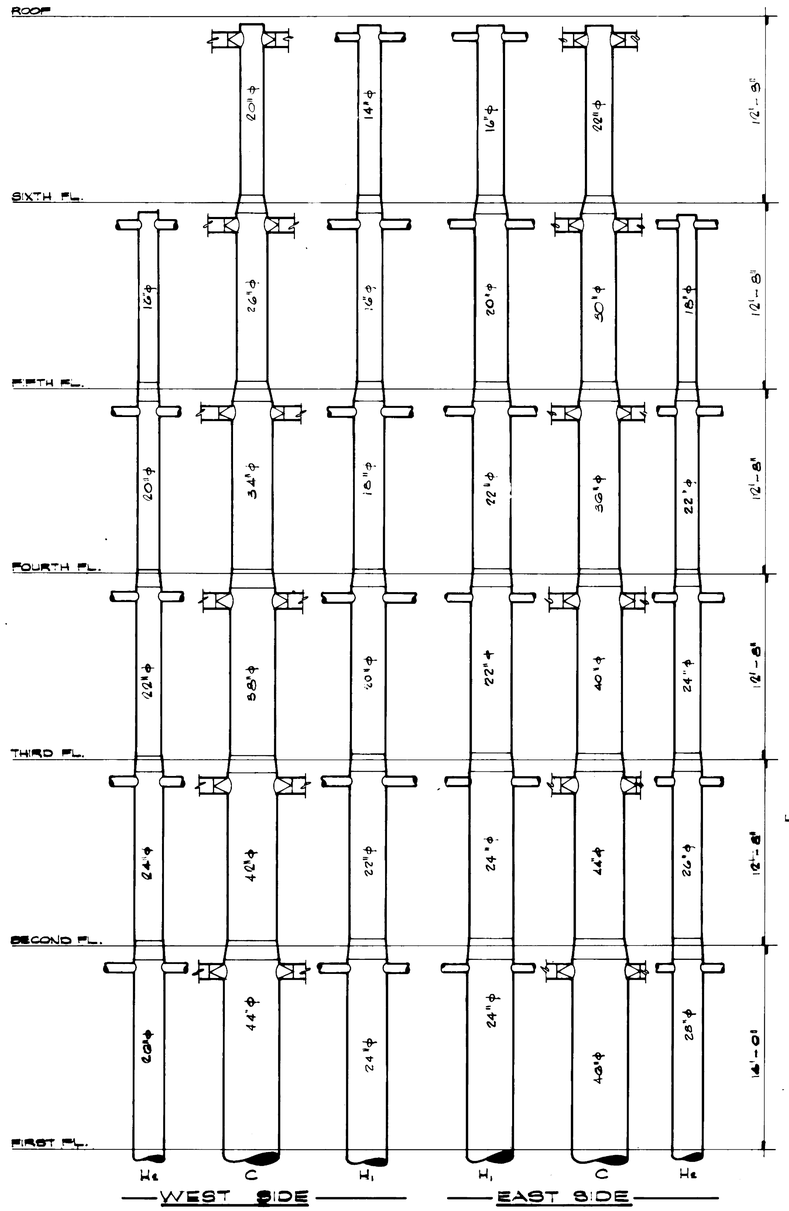
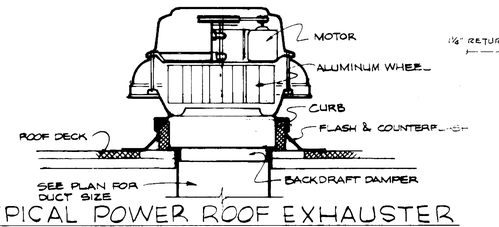


TYPICAL RISER TAP
NOT TO SCALE

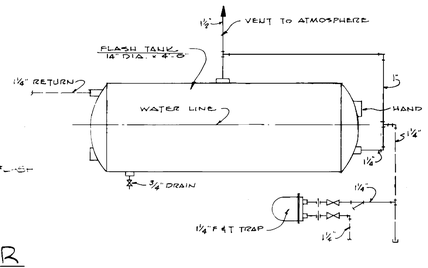
NOTE - FIRE DAMPERS ARE REQUIRED IN ALL DUCTS PASSING THRU DUCT SHAFT WALLS.



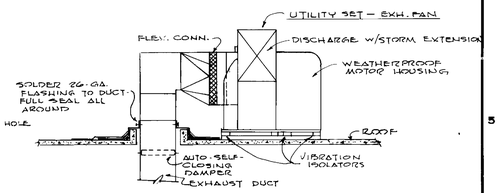
DUCT RISER DIAGRAMS
NOT TO SCALE



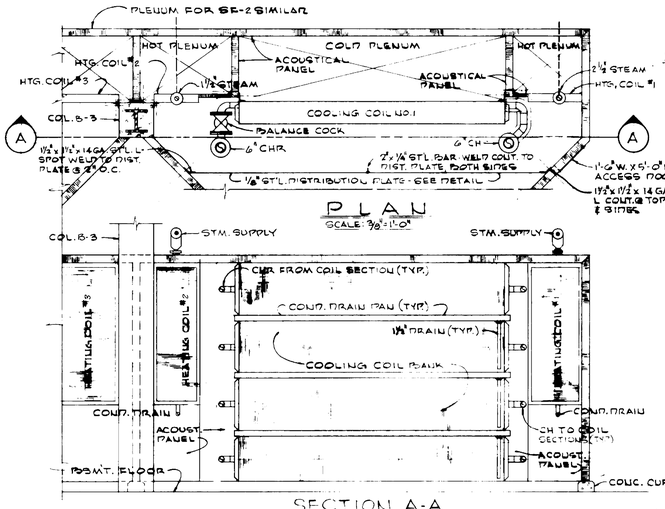
TYPICAL POWER ROOF EXHAUSTER
NOT TO SCALE



HIGH PRESSURE CONDENSATE FLASH TANK
NOT TO SCALE



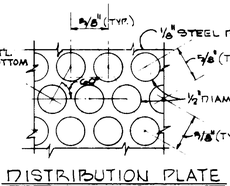
TYPICAL ROOF MOUNTED UTILITY SET TYPE EXHAUST FAN
NOT TO SCALE



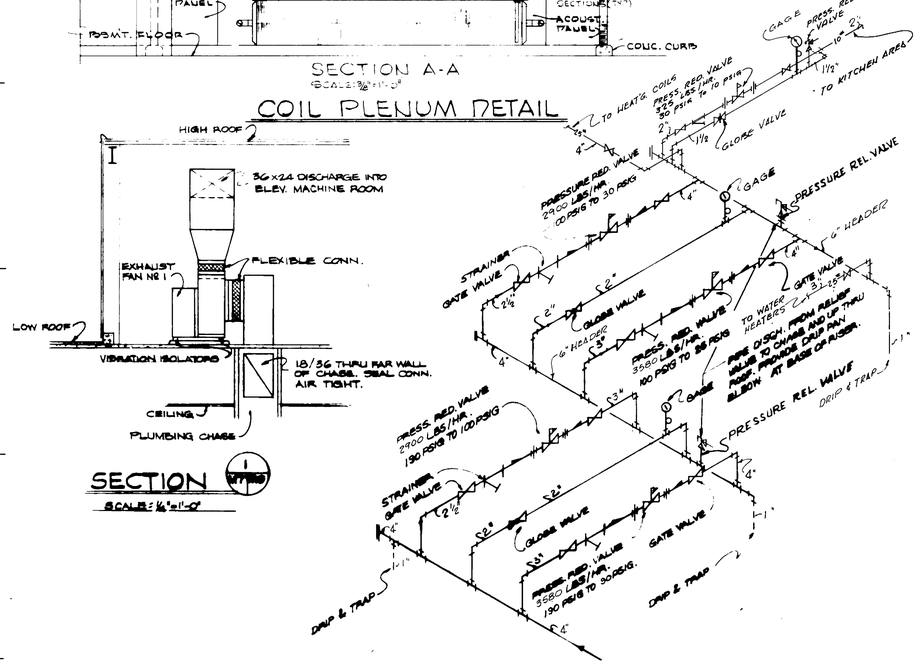
PLAN
SCALE: 3/8" = 1'-0"

SECTION A-A
SCALE: 3/8" = 1'-0"

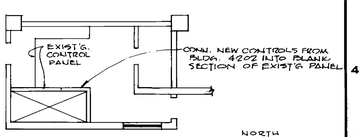
COIL PLENUM DETAIL



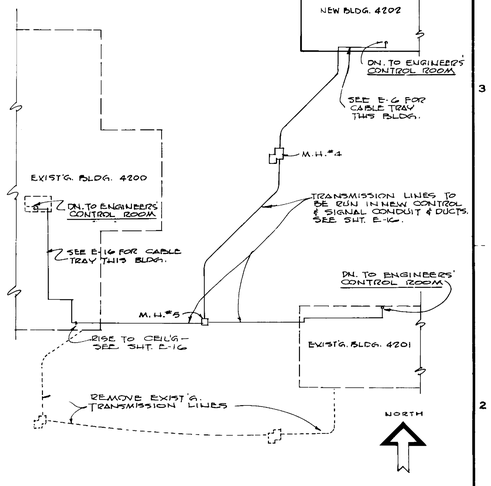
DISTRIBUTION PLATE DRILLING DETAIL
SCALE: FULL SIZE



PRESSURE REDUCING STATION
NOT TO SCALE



ENGR'S. CONTROL ROOM BLDG. 4200 (EXISTING)



PLOT PLAN
SHOWING CONTROL & SIGNAL CABLE ROUTING.
SCALE: 1" = 50'-0"

REV	BY	DATE		CI NO.	APPROVED
1	JO	4/10/64	ADDED NOTE		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

RISER DIAGRAMS & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8937

SUBMITTED: CHIEF Wyatt Hedrick, AE, DATE 11-17-62 — APPROVAL RECOMMENDED: CHIEF, DATE — APPROVED: CHIEF, DESIGN BRANCH, NASA, DATE

DESIGNED CASH, DRAWN KOLPS, CHECKED HILLER, SCALE AS NOTED — APPROVAL RECOMMENDED: CHIEF MECHANICAL SECTION, DESIGN DATE, SPEC NO. F & D-441

REF. NO. M-9 — DRWG NO. F&D-A-4202-M9

SITE ARCHITECT BY
HUDGINS, THOMPSON, BALL & ASSOCIATES
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

MSFC-FORM 232 (REV. DEC., 1960)

4202

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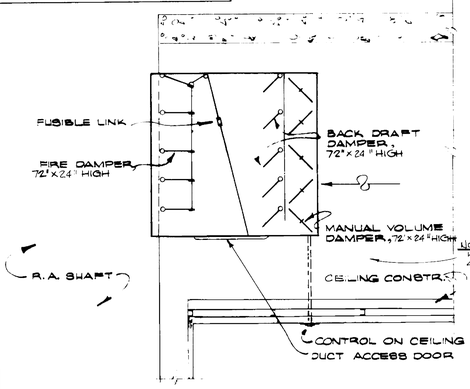
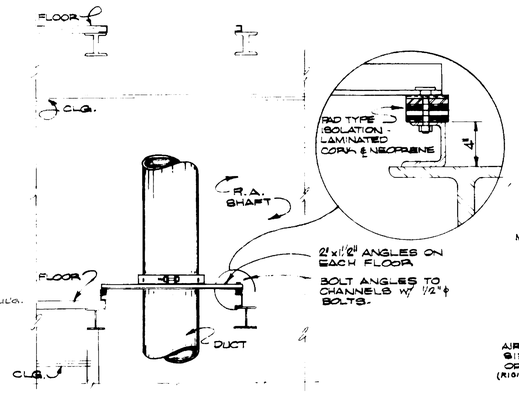


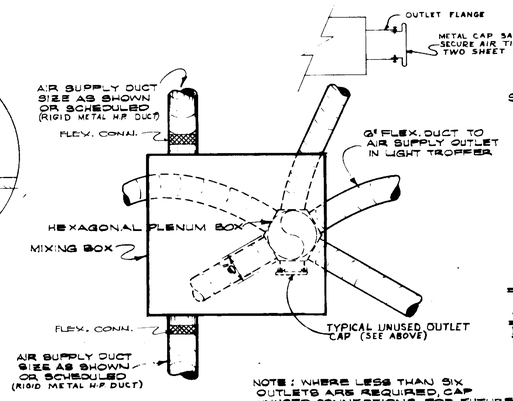
DETAIL OF TYPICAL RETURN AIR BOOT INTO R.A. SHAFT

SCALE: 1½" = 1'-0"



DETAIL OF DUCT RISER SUPPORT

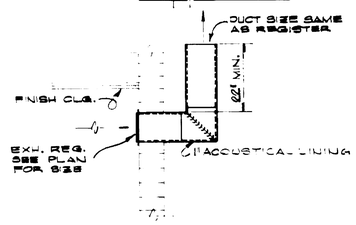
NOT TO SCALE



NOTE: WHERE LESS THAN SIX OUTLETS ARE REQUIRED, CAP UNUSED CONNECTIONS FOR FUTURE. HEX. PLENUM BOX MAY BE OMITTED IF MIXING BOX HAS SIX SEPARATE SUPPLY CONNECTIONS.

TYPICAL MIXING BOX & PLENUM

NOT TO SCALE



TOILET EXHAUST REG. DETAIL

NOT TO SCALE

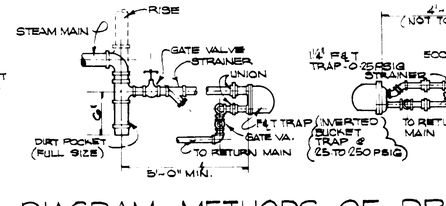
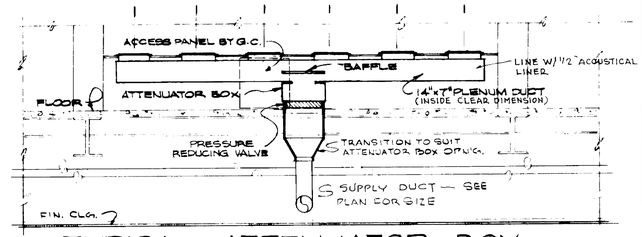


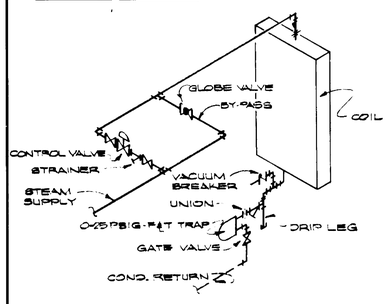
DIAGRAM - METHODS OF DRIPPING END OF STEAM MAIN OR RISE IN STEAM MAIN

NOT TO SCALE



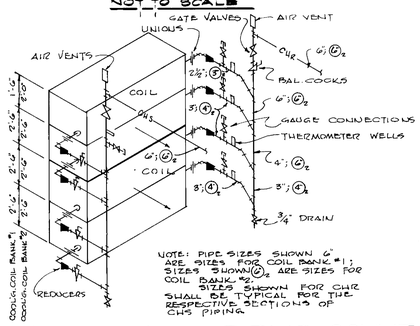
TYPICAL ATTENUATOR BOX UNDER WINDOWS

NOT TO SCALE



TYPICAL PIPING CONNECTIONS FOR STEAM COILS

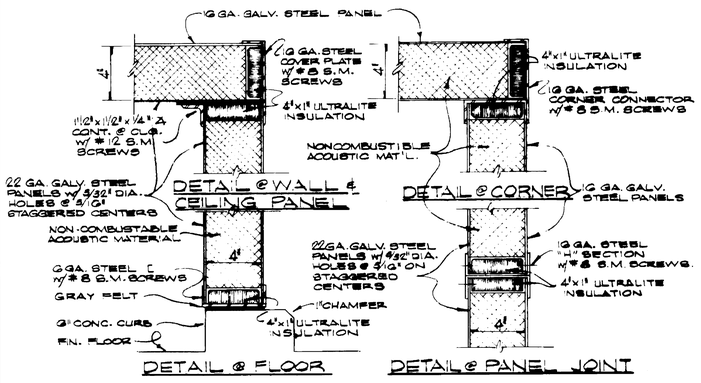
NOT TO SCALE



NOTE: PIPE SIZES SHOWN 6" ARE SIZES FOR COIL BANK #1; SIZES SHOWN (6) ARE SIZES FOR COIL BANK #2. SIZES SHOWN FOR CHR SHALL BE TYPICAL FOR THE RESPECTIVE SECTIONS OF CHS PIPING

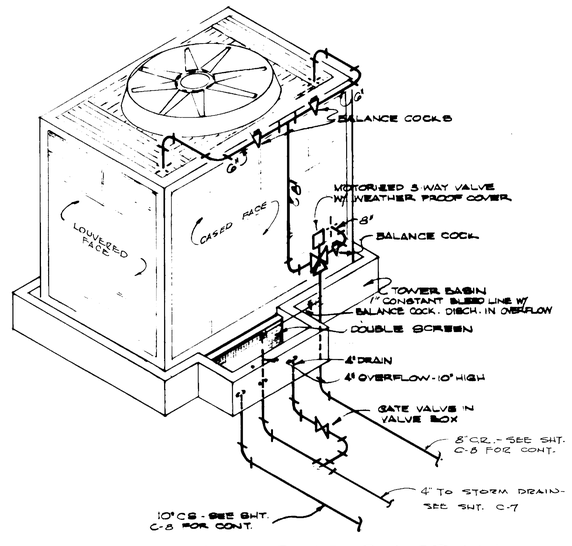
TYPICAL PIPING CONNECTIONS FOR COOLING COILS

NOT TO SCALE



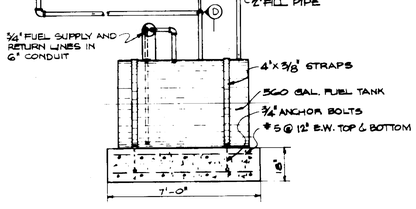
FAN HOUSING & DISCHARGE PLENUM CONSTRUCTION

SCALE: 3" = 1'-0"



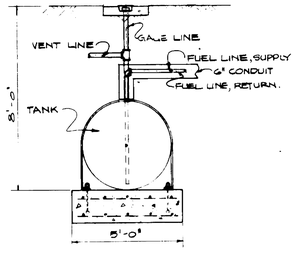
COOLING TOWER PIPING DIAGRAM

NOT TO SCALE



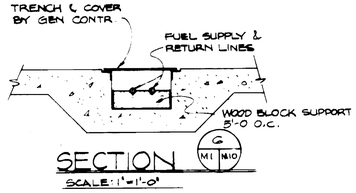
ELEV. - ENGINE GENERATOR FUEL TANK

SCALE: 3/8" = 1'-0"



SECTION D-D

SCALE: 3/8" = 1'-0"



SECTION

SCALE: 1" = 1'-0"

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV	BY	DATE	C I NO	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

AIR CONDITIONING DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8938

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: Lyman Prof. Eng. — APPROVED: CHIEF, DESIGN BRANCH

AE — DATE: 11-17-64 — SEE — DATE — NASA — DATE

DESIGNED CASH
DRAWN HOLD
CHECKED HILLER

APPROVAL RECOMMENDED: CHIEF MECHANICAL SECTION
DESIGN DATE:
SPEC NO F-8-D-441

SCALE AS NOTED

DRWG NO. F&D-A-4202-M10

REF. NO. M-10

A SECTION FOR SAFETY — DATE

MSFC-FORM 232 (REV. DEC. 1960)

1202

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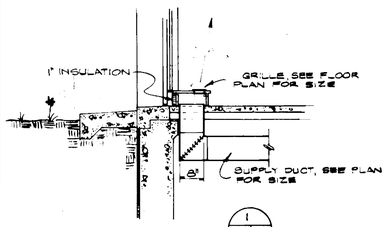
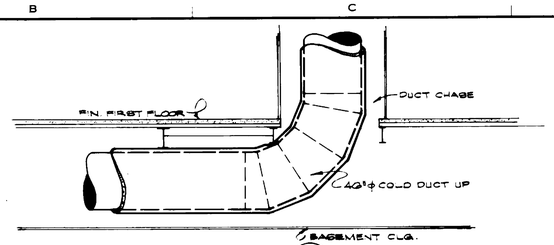
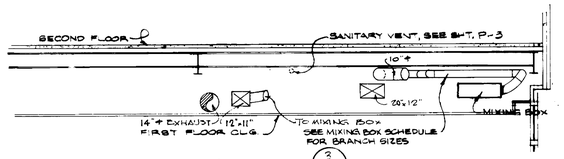


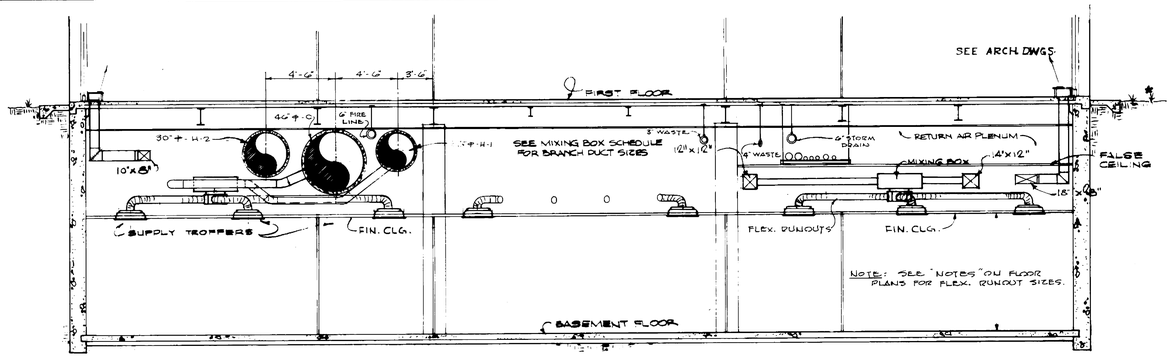
SECTION (1 M-2 | M-11)
SCALE: 1"=1'-0"



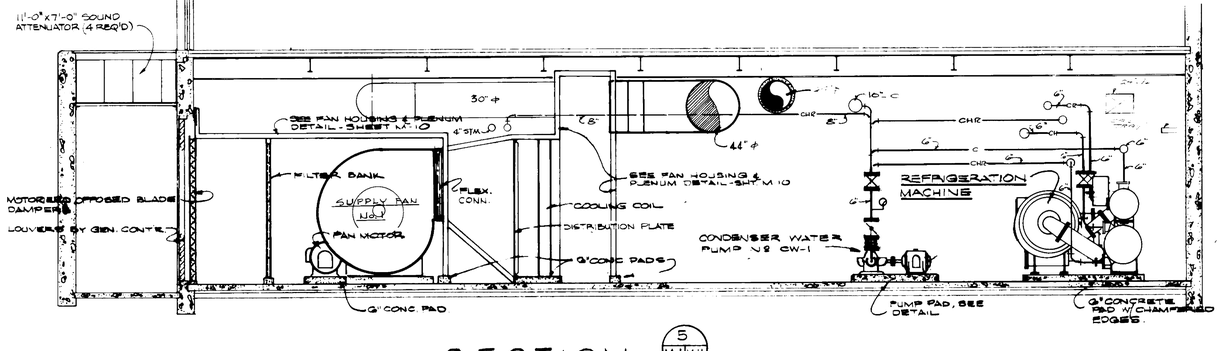
SECTION (2 M-1 | M-11)
SCALE: 1/4"=1'-0"



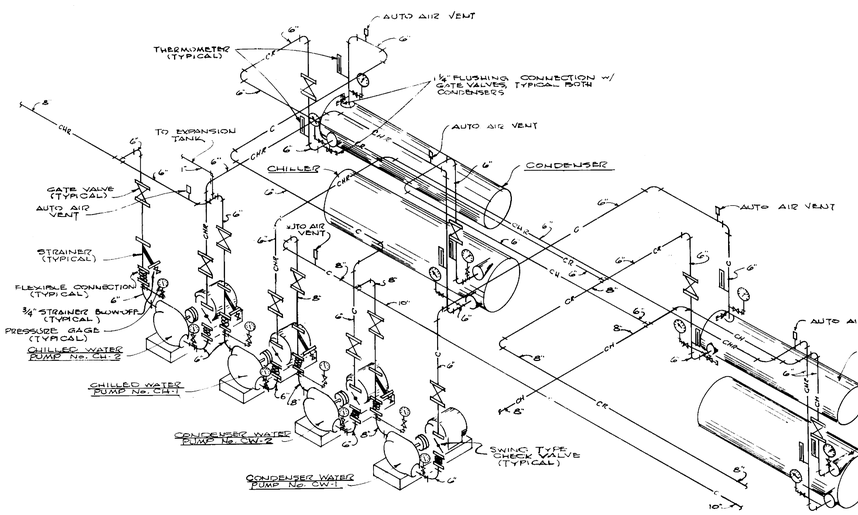
SECTION (3 M-2 | M-11)
SCALE: 1/4"=1'-0"



SECTION (4 M-1 | M-11)
SCALE: 1/4"=1'-0"

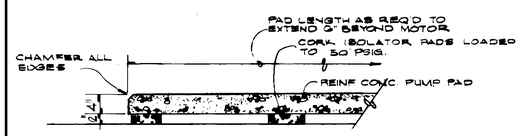


SECTION (5 M-1 | M-11)
SCALE: 1/4"=1'-0"



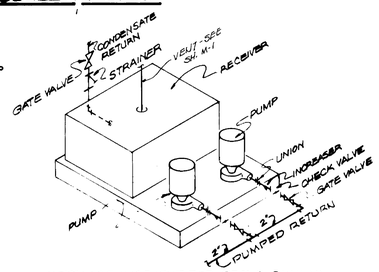
CHILLED WATER & CONDENSER WATER PIPING
NOT TO SCALE

NOTE: USE LONG-RADIUS ELLS ON ALL CHILLED WATER PIPING.



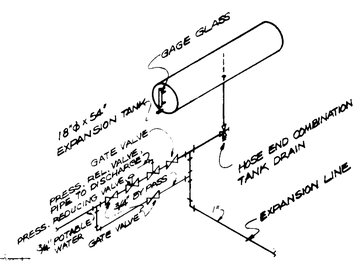
SECTION

NOTE:
ALL CONCRETE EQUIPMENT BASES SHALL HAVE #4 BARS 12" O.C. BOTH WAYS IN CENTER OF SLAB.

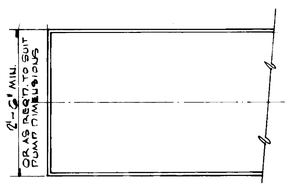


NOTE: ARRANGEMENT FOR CRP-2 SIMILAR.

CONDENSATE RETURN PUMP PIPING DETAIL
NOT TO SCALE

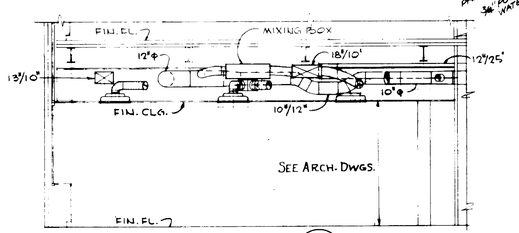


EXPANSION TANK PIPING
NOT TO SCALE



PLAN

PUMP PAD DETAIL
SCALE: 1"=1'-0"



SECTION (1 W-5 | M-11)
SCALE: 1/4"=1'-0"

SITE ADAPTED BY
HUDGINS, THOMPSON BALL & ASSOC., INC
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

AS BUILT

REV	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK (ARCHITECT ENGINEER) — FORT WORTH, TEXAS

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SECTIONS & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8939

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: Lyman Peay, Eng. — APPROVED: CHIEF, DESIGN BRANCH
AE DATE 11-17-62 — CHIEF DATE — NASA DATE

DESIGNED CASH
DRAWN HOLLIS
CHECKED HILLER

APPROVAL RECOMMENDED: CHIEF MECHANICAL SECTION
DESIGN DATE
SPEC NO. F&D-441

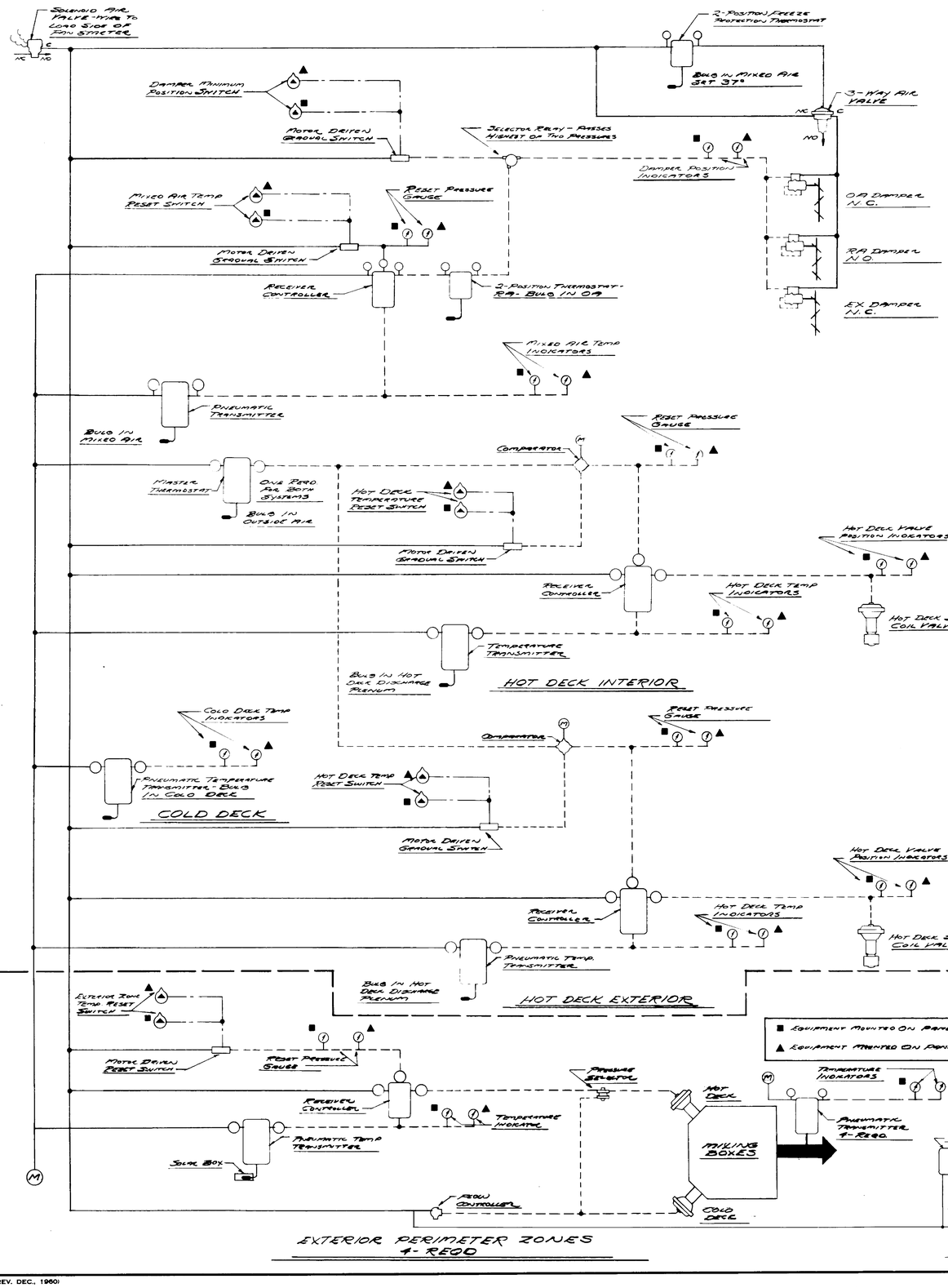
SCALE AS NOTED

DRWG NO. F&D-A-4202-M11

REF. NO. M-11

MSFC-FORM 232 (REV. DEC. 1960)

-202-



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ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

PROJECT - ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

AIR CONDITIONING CONTROLS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8940

SUBMITTED: CHIEF, A.E. DATE:	APPROVAL RECOMMENDED: CHIEF, DESIGN BRANCH DATE: 10-14-63	APPROVED: CHIEF, DESIGN DIVISION / NASA DATE: 3-10-64
DESIGNED JD, DRAWN JD, CHECKED JD	APPROVAL RECOMMENDED: CHIEF, DESIGN SECTION — DESIGN DATE: 10/14/63	DRWG. NO. F&D-A-4202-M12
SCALE: AS SHOWN	SPEC. NO. F&D-441	

REF. NO. M-12

4202

MSFC-FORM 232 (REV. DEC., 1960)

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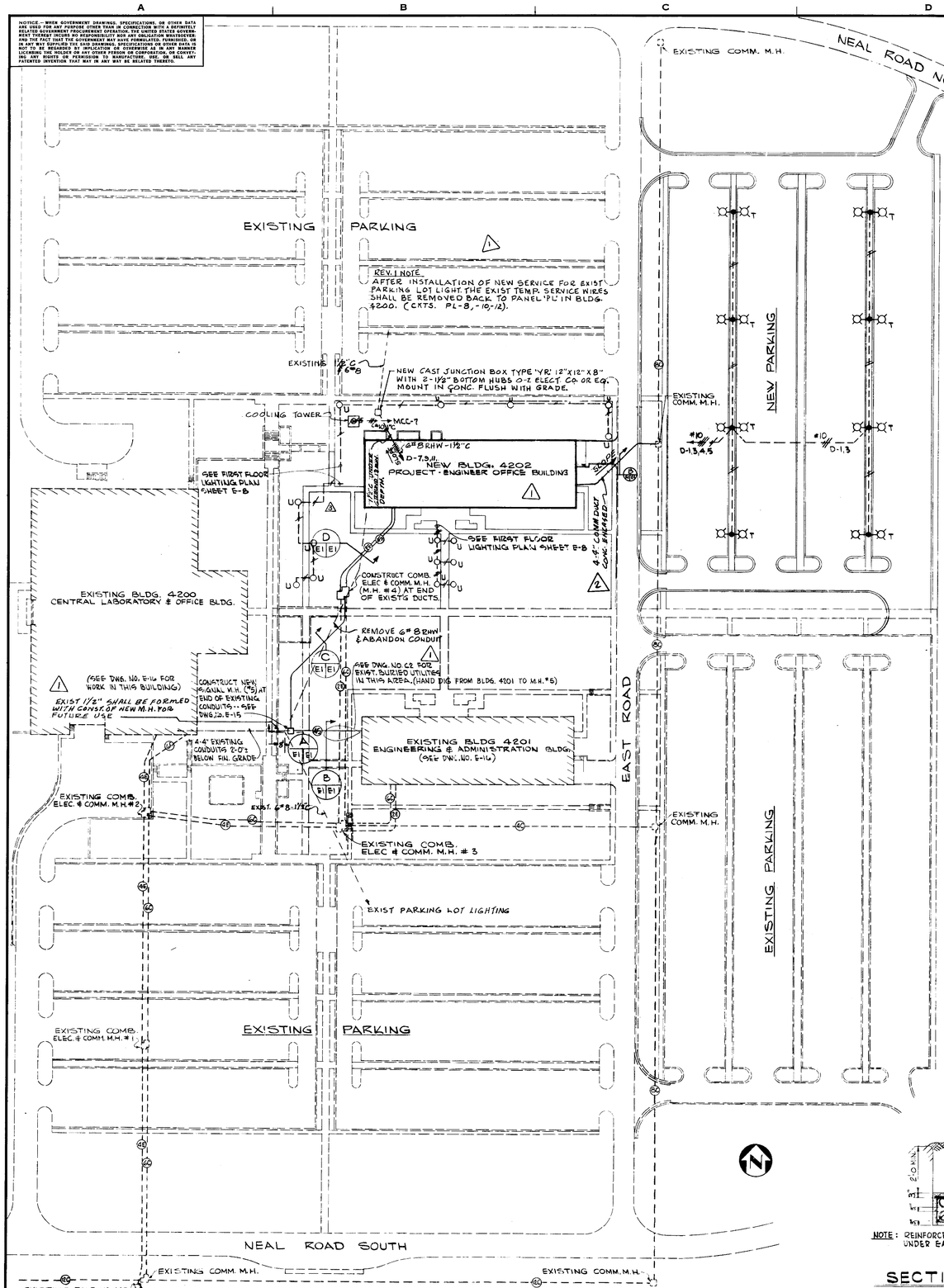
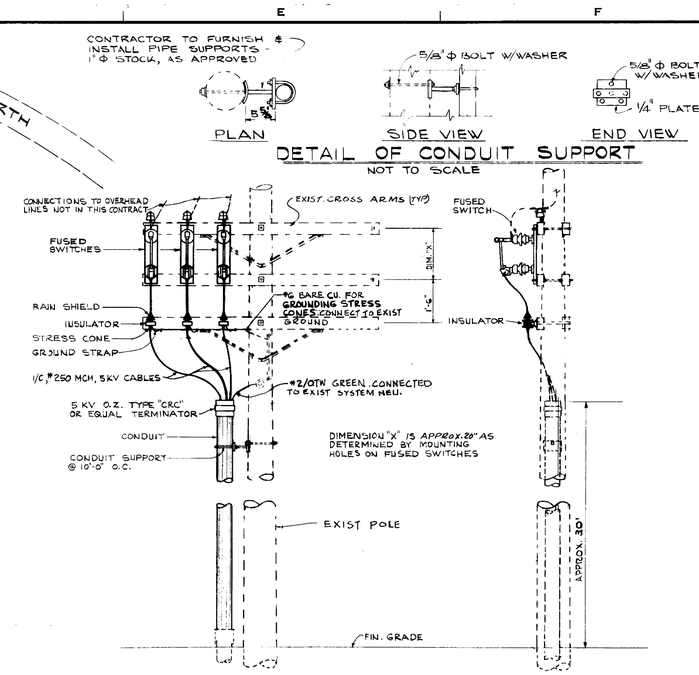
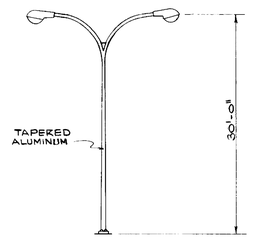


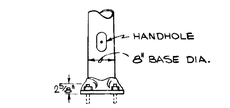
ELECTRICAL PLOT PLAN
SCALE - 1" = 50'-0"



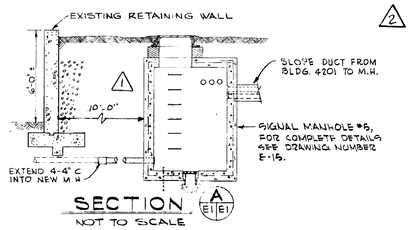
RISER POLE DETAILS
(POLE NO 148)
NOT TO SCALE



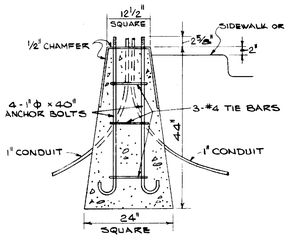
LIGHTING STANDARD TWIN 9' DAVIT
SCALE - 1/8" = 1'-0"



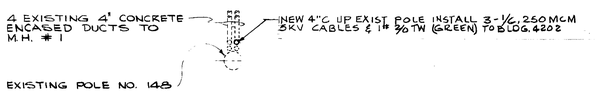
POLE BASE DETAIL
SCALE - 3/4" = 1'-0"



SECTION
NOT TO SCALE

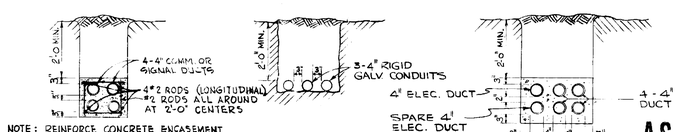


CONCRETE BASE FOR LIGHTING STANDARDS
SCALE - 3/4" = 1'-0"



SYMBOLS

- (45) CONC. ENCASED DUCTS, 4-4" FOR SIGNAL
- TWIN DAVIT LIGHTING STANDARD
- (42) CONC. ENCASED DUCTS, 4-4" FOR COMMUNICATIONS
- (73) " " " , 2-4" " ELECTRICAL
- (46) EXISTING DUCTS, 4 COMMUNICATIONS
- (48) " " " 4 ELECTRICAL
- UNDERGROUND WIRING IN RIGID GALV. CONDUIT



NOTE: REINFORCE CONCRETE ENCASEMENT UNDER EAST ROAD ONLY.

SECTION (B E1|E1) NOT TO SCALE
SECTION (C E1|E1) NOT TO SCALE
SECTION (D E1|E1) NOT TO SCALE

PLAN AT RISER POLES
(NOS. 148 (EXIST.)
NOT TO SCALE

AS BUILT

REV.	BY	DATE		C. I. NO.	APPROVED
3	RLL	5-14-65	DELETED TWO STAIR LIGHTS	12039-14	GH
2	TM	10-20-64	DELETED POWER POLE LIGHTNING ARRESTOR, ETC. REVISED TELEPHONE ENTRANCE	12039-5	GH
1	TM	6-4-64	ADDED NEW SERVICE TO EXISTING PARKING LOT LIGHTS / INSUL. GRD WIRE.	12038-1	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA
HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

ELECTRICAL PLOT PLAN AND DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8941

SUBMITTED: CHIEF		APPROVAL RECOMMENDED:	APPROVED: G. D. Ramsey Jr. CHIEF, DESIGN BRANCH
A.E.	DATE: 3/15/64	LAB.	DATE: MASA DATE: 3-16-64
DESIGNED HERRING	DRAWN HALL	CHECKED HERRING	APPROVAL RECOMMENDED: C. J. Remus CHIEF, ELECTRICAL SECTION
DESIGN DATE: 3-16-64	SCALE: AS NOTED	SPEC. NO. PE-D-441	DRWG. NO. FED-A4202-E-1

REF NO. E-1

MSFC-FORM 232 (REV. APRIL 1962)

4202

ELECTRICAL PLOT PLAN AND DETAILS E-1

Notice— When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

FEEDER SCHEDULE

DESIGNATION	R.H.W. WIRE & CONDUIT	
(A)	4#6	1 1/2"C
(B)	4#2	2"C
(C)	4#4/0	3"C
(D)	3#1	2"C
(E)	4#1	2 1/2"C
(F)	2-4#4/0	2-3"C
(G)	4#1/0	2"C
(H)	3#8	1"C
(I)	3#6	1 1/4"C
(J)	3#350MCM & 1#2	3 1/2"C

NOTES:

1. A-PANELS, B-PANELS, C-PANELS SHALL BE FULL SIZE -42 SPACES PANELBOARDS.
2. ** 3WIRE-3P. MLO.
3. * SUB-FEEDER CIRCUIT BREAKERS WITH LOCK-OUT FEATURE.
4. *** TWO SECTION PANEL WITH ONE FRONT.
5. PROVIDE 2-1" EMPTY CONDUITS FROM ALL FLUSH-MOUNTED PANELS TO AREA ABOVE CEILING FOR FUTURE USE, BUSH CONDUIT ENDS.
6. PROVIDE 2-2" CONDUITS FROM PANEL TO FLOOR CELL BELOW FOR BRANCH FEEDER FOR ALL 120/208V. PANELBOARDS EXCEPT E, EM 208 AND 1D. (Rev. 1)

PANEL SCHEDULE

PANEL	MTG.	MAINS-3P. S/N 120/208V.	MAINS-3P. S/N 277/480V.	LUGS	1P-20A CONN.	1P-20A SPARE	1P-30A CONN.	1P-30A SPARE	CP-30A CONN.	CP-30A SPARE	2P-40A CONN.	2P-40A SPARE	2P-50A CONN.	2P-50A SPARE	2P-20A CONN.	2P-20A SPARE	3P-15A CONN.	3P-15A SPARE	3P-20A CONN.	3P-20A SPARE	3P-30A CONN.	3P-30A SPARE	3P-40A CONN.	3P-40A SPARE	3P-50A CONN.	3P-50A SPARE	3P-70A CONN.	3P-70A SPARE	2P-70A CONN.	2P-70A SPARE	3P-100A CONN.	3P-100A SPARE	3P-125A CONN.	3P-125A SPARE
A	FLUSH		M.L.O.	225A	15	7													2				1											
1A	SURF.		M.L.O.	225A	11	5																												
2A	"		CB 400AF		23	6																					1*						1*	
3A	"		M.L.O.	225A	23	7																												
4A	"		CB 400AF		23	6																									1*		1*	
5A	"		M.L.O.	225A	23	7																												
6A	"		CB 400AF		24	3											2														1*		1*	
B	FLUSH	M.L.O.		225A	31	5															2													
1B	SURF.	M.L.O.		225A	29	5																												
2B	"	M.L.O.		225A	29	4																					1*				1*		1*	
3B	"	M.L.O.		225A	27	3																												
4B	"	M.L.O.		225A	29	4																					1*						1*	
5B	"	M.L.O.		225A	29	9																												
6B	"	M.L.O.		225A	32	2			1																		1*						1*	
C	"	M.L.O.		225A	9	9																									1*			
1C***	FLUSH	M.L.O.		400A	35		1		1	1	1		1		1														1				1*	
2C	"	M.L.O.		225A	33	6																												
3C	"	M.L.O.		225A	33	5																												
4C	"	M.L.O.		225A	33	6																	1*											
5C	"	M.L.O.		225A	33	5																												
6C	"	M.L.O.		225A	37	2																	1*											
D (Rev. 2)	SURF.		M.L.O.	100A	[illegible]	6					1*																							
E	"	M.L.O.		100A	8	4																												
7P**	"		M.L.O.	400A											1																		3	
EM480	SW. GR.		M.L.O.	225A	9	8											4						1								1			
EM208	SW. GR.	M.L.O.		225A	14	6									2				3	1														
DP1	SURF.		M.L.O.	225A																					2*						1*			
1D	FLUSH	M.L.O.		225A	11	3	2								1														2					
1K			M.L.O.	400A	6	3															2		5										1*	

PANEL: EM480

FLOOR: BASEMENT; UNIT: ; LOC: SWITCHGEAR IN MECH. ROOM
VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W
CABINET: ☐ FLUSH ☐ SURFACE — IN SWITCHGEAR
MAINS: ☒ M.L.O. ☐ C.B. AMP 225
PANEL: EM480; SECT. 1 OF 1; TYPE: CB; DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
400	LIGHTS CONTR. RM.	12	1	20	20	2	12	EXIT LIGHTS	300
800	" AT SWITCHG.	"	3	"	"	4	"	EXIT LIGHTS	300
1400	" STAIR	"	5	"	"	6	"	LIGHTS FL. 5&6	1200
1400	" STAIR	"	7	"	"	8	"	" " 3&4	1200
3300	EMG. LTG & TRANSF.		9	"	"	10	"	" " 1&2+B	1200
3200	EMG. LTG. (Rev. 3)		11	"	"	12		SPARE	
	SPARE		13	"	"	14		SPARE	
	SPARE		15	"	"	16		SPARE	
	SPACE		17	"	"	18		SPARE	
	SPACE		19			20		SPACE	
	SPACE		21			22		SPACE	
	SPACE		23			24		SPACE	
	CONTROL AIR COMP.							JOCKEY PUMP	
3000	3 H.P.	12	25	15	15	26	12	2HP 2.5KVA	2500
	SEWAGE EJECTOR							SEWAGE EJECTOR	
2500	2HP 2.5KVA	12	27	15	15	28	12	2HP 2.5KVA	2500
	TRANSFORMER							FIRE PUMP	
15000	T6 15 KVA	8	29	40	100	30	6	30HP 30KVA	30000

PANEL: D (Rev. 1)

FLOOR: OUTDOOR; UNIT: ; LOC: MECH. ROOM IN BASEMENT
VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W
CABINET: ☐ FLUSH ☒ SURFACE
MAINS: ☒ M.L.O. ☐ C.B. AMP. 100
PANEL: D; SECT. 1 OF 1; TYPE: CB

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
2800	OUTSIDE LIGHTS	10	1	20	20	2		SPARE	
2800	" "	"	3	"	"	4	10	OUTSIDE LIGHTS	2800
2800	" "	"	5	"	"	6		SPARE	
	OUTSIDE LIGHTS	8	7	"	40	8	8	TRANSF. T7 10KVA. 1φ 3W 240/480	10,000
	OUTSIDE LIGHTS	8	9	"					
	OUTSIDE LIGHTS	8	11	"	20	10		SPARE	
	SPARE (Rev. 2)		13			12		SPARE	
	SPARE		15		20	14		SPARE	
	SPARE		17		20	16		SPARE	

PANEL: E

FLOOR: OUTDOOR; UNIT: ; LOC: MECH. ROOM IN BASEMENT
VOLTAGE: ☐ ~~277/480, 4W~~ ☐ ~~120/208, 4W~~ 120/240 3W
CABINET: ☐ FLUSH ☒ SURFACE
MAINS: ☒ M.L.O. ☐ C.B. AMP. 100
PANEL: E; SECT. 1 OF 1; TYPE: CB

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200	OUTSIDE LIGHTS	12	1	20	20	2	12	OUTSIDE LIGHTS	1200
1200	" "	"	3	"	"	4	"	" "	1200
1200	" "	"	5	"	"	6	"	CANOPY LIGHTS	900
1200	" "	"	7	"	"	8	"	" "	900
	SPARE		9	"	"	10		SPARE	
	SPARE		11	"	"	12		SPARE	

MAIN DISTRIBUTION PANEL "MDP"

MAIN BUS 2000A 2(TWO) 1/4"X4" CU/PHASE & NEUTRAL DRAW-OUT BREAKERS ; 480/277-3φ 4W

PLACE	BREAKER SIZE	POLES	SERVING	MISCEL.
1				METERS
2	300A	3	KITCHEN & CAFETERIA	
3	225A	3	FUTURE COMPUTER	SPARE
4	1000A	3	F.N. BUS	
5	400A	3	REFRIGERATOR I	
6	400A	3	REFRIGERATOR II	
7	600A	3	MOTOR CONTROL CENTER	
8	150A	3	PANELS IN BASEMENT	
9	400A	3	REG. EMERGENCY & ELEVATORS	VIA TRANSF. SWITCH
10	225A	3	FUTURE COMPUTER	SPARE

PANEL: "DP1"

FLOOR: BASEMENT; UNIT: ; LOC.: MECH. ROOM
VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W
CABINET: ☐ FLUSH ☒ SURFACE
MAINS: ☒ M.L.O. ☐ C.B. AMP. 225
PANEL: "DP1"; SECT.: 1 OF 1; TYPE: CB; DISTRIBUTION

WATTS	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATTS
49,400	PANEL "A"	1	1	100	50	2	6	PANEL "D"	22,200
								SPACE	
30,000	TRANSF. T2, 30KVA	6	3	50				"	

MOTOR CONTROL CENTER "MCC"

BUS 600A ; M.C.B. 600A ON MDP ; 480 V, 3φ, 3W

CIRCUIT	POLES	CIRCUIT BKR. FRAME	CIRCUIT BKR. SET	FLA	STR. SIZE/HP	SERVING	RHW. WIRE & CONDUIT	
1	3	E	70	32	3/25	RA-1	8	3/4"
2	3	J	175	93	4/75	SF-1	1	1 1/2"
3	3	E	70	32	3/25	RA-2	8	3/4"
4	3	J	200	123	4/100	SF-2	2/0	2"
5	3	E	50	20	2/15	CW-1	10	3/4"
6	3	E	50	20	2/15	CW-2	10	3/4"
7	3	J	100	39	3/30	COOLING TOWER	6	1"
8	3	E	50	20	2/15	CH-1	10	3/4"
9	3	E	50	20	2/15	CH-2	10	3/4"
10	3	E	15	1.8	0/1	EF1 IN PENTHOUSE	12	
11	3	E	15	3.3	0/2	EF2 ON ROOF	12	
12-13	3	E	20	7.5	C.B. ONLY/5	HP1 & HP2 CONTROL	12	
14-19	3	E	15	2.5-3.3	C.B. ONLY/1 1/2-2	BP; CRP-1; CRP-2	12	

NOTE: SEE ALSO SHEETS E-3, E-4 & E-5 (Rev. 1)

AS BUILT

NOTE "A"
5KV, 400A. LOAD BREAK AIR INTERRUPTER SWITCH, 200A. FUSES.

ELECTRICAL RISER DIAGRAM

NOT TO SCALE

REV.	BY	DATE		C.I. NO.	APPROVED
3	[illegible]	6-1966	ADDED 2 CKT BKR TO PNL EM 480		
2	TM	6-4-64	ADDED 6 CIRC. BKR. TO PNL. 'D'	[illegible]	GH
1	TM	5-7-64	REVISION FOR AMMENDMENT No. 3	—	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

ELECTRICAL RISER DIAGRAMS AND SCHEDULES

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8942

SUBMITTED: CHIEF [signature] — AE DATE: 11-17-63
APPROVAL RECOMMENDED: [signature] Proj. Eng. — DATE:
APPROVED: [signature] CHIEF, DESIGN BRANCH — NASA DATE:
DESIGNED - C.F. WENDELKEN; DRAWN - H. STONE; CHECKED - C.F.W.; SCALE:
APPROVAL RECOMMENDED: [signature] CHIEF, ELECTRICAL SECTION; DESIGN DATE: ; SPEC. NO. FED-44

REF. NO. E-2 — DRWG. NO. FED-A-4202-E2

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

4202

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FLOOR: BASEMENT · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: B · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200		12	1	20	20	2	12	RECEPT.	1200
1200	"	"	3	"	"	4	"	"	1200
1200	"	"	5	"	"	6	"	"	1200
1200	VEND. MACH.	"	7	"	"	8	"	FLOOR DUCTS	800
1200	" "	"	9	"	"	10	"	" "	800
800	FLOOR DUCTS	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	LIGHTS TOILETS	800
400	[illegible] NG	"	27	"	"	28	"	[illegible] #7 1/8 H.P.	400
800	SUMP PUMP	"	29	"	"	30	"	CLOCK OUTLETS	800
800	CLOCK OUTLETS	"	31	"	"	32		SPARE	
	SPARE		33	"	"	34		SPARE	
	SPARE		35	"	"	36		SPARE	
			37			38			
	BLUE PRINT	10	39	30	30	40	10	B & W	
			41			42			

FLOOR: 1 · UNIT: · LOC: ELEC. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL 1B · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
800	SPARE (rev. 1)	12	1	20	20	2	12	MUSIC SYS. AMP.	300
800	"	"	3	"	"	4	"	FLOOR DUCTS	800
800	FLOOR DUCTS	"	5	"	"	6	"	" "	800
800	" "	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	PHOTOELEC. CONTROL	200
1200	RECEPT	"	27	"	"	28	"	CLOCK OUTLETS	800
1200	"	"	29	"	"	30		SPARE	
	SPARE		31	"	"	32		SPARE	
	SPARE		33	"	"	34		SPARE	
	SPACE		35			36		SPACE	
	SPACE		37			38		SPACE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 2 · UNIT: · LOC: ELEC. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL 2B · SECT. 1 OF 1 · TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
800	SPARE (rev. 1)	12	1	20	20	2	12	FLOOR DUCTS	800
800	"	"	3	"	"	4	"	" "	800
800	FLOOR DUCTS	"	5	"	"	6	"	" "	800
800	" "	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
1200	RECEPT	"	27	"	"	28	"	CLOCK OUTLETS	800
1200	"	"	29	"	"	30		SPARE	
			31		"	32		SPARE	
			33		"	34		SPARE	
			35		"	36		SPARE	
			37			38			
27,200	PANEL 2C	2	39	100	70	40	6	PANEL 1B	31600
			41			42			

FLOOR: 3 · UNIT: · LOC: ELEC. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL 3B · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
800	SPARE (rev. 1)	12	1	20	20	2	12	FLOOR DUCTS	800
800	"	"	3	"	"	4	"	" "	800
800	FLOOR DUCTS	"	5	"	"	6	"	" "	800
800	" "	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
1200	RECEPT	"	27	"	"	28	"	CLOCK OUTLETS	800
1200	"	"	29	"	"	30		SPARE	
	SPARE		31	"	"	32		SPARE	
	SPARE		33	"	"	34		SPARE	
	SPACE		35			36		SPACE	
	SPACE		37			38		SPACE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 4 · UNIT: · LOC: ELEC. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL 4B · SECT. 1 OF 1 · TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
800	SPARE (rev. 1)	12	1	20	20	2	12	FLOOR DUCTS	800
800	"	"	3	"	"	4	"	" "	800
800	FLOOR DUCTS	"	5	"	"	6	"	" "	800
800	" "	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
1200	RECEPT	"	27	"	"	28	"	CLOCK OUTLETS	800
1200	"	"	29	"	"	30		SPARE	
			31		"	32		SPARE	
			33		"	34		SPARE	
			35		"	36		SPARE	
			37			38			
54400	PANEL 4C		39	125	70	40		PANEL 3B	23200
			41			42			

SEE DRWG. NO. E-5 FOR PANELS "1C" AND "1K"

FLOOR: 5 · UNIT: · LOC: ELEC. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL 5B · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
800	SPARE (rev. 1)	12	1	20	20	2	12	FLOOR DUCTS	800
800	"	"	3	"	"	4	"	" "	800
800	FLOOR DUCTS	"	5	"	"	6	"	" "	800
800	" "	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
1200	RECEPT	"	27	"	"	28	"	CLOCK OUTLETS	800
1200	"	"	29	"	"	30		SPARE	
	SPARE		31	"	"	32		SPARE	
	SPARE		33	"	"	34		SPARE	
	SPARE		35	"	"	36		SPARE	
	SPARE		37	"		38		SPARE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 6 · UNIT: · LOC: ELEC. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 6B · SECT. 1 OF 1 · TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
800	SPARE (rev. 1)	12	1	20	20	2	12	FLOOR DUCTS	800
800	"	"	3	"	"	4	"	" "	800
800	FLOOR DUCTS	"	5	"	"	6	"	" "	800
800	" "	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
1200	RECEPT.	"	27	"	"	28	"	LIGHTS ON ROOF	1000
1200	"	"	29	"	"	30	"	" "	1000
800	CLOCK OUTLETS	"	31	"	"	32	"	RECEPT. PENTH.	800
	SPARE	"	33	"		34			
	SPARE	"	35	"	30	36	10	WINDOW HOIST	5000
			37			38			
60000	PANEL 6C	2	39	125	70	40	6	PANEL 5B	23200
			41			42			

FLOOR: BASEMENT · UNIT: · LOC: MECH. ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☒ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: C · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
[illegible]	LIGHTS	12	1	20	20	2	12	RECEPT. & LIGHT	800
600	"	"	3	"	"	4	"	RECEPT.	1200
1200	RECEPT.	"	5	"	"	6	"	"	1200
1200	RECEPT.	"	7	"	"	8		SPARE	
300	H.W.C. 1/12 H.P.	"	9	"	"	10		SPARE	
300	H.W.C. 1/12 H.P.	"	11	"	"	12		SPARE	
	SPARE		13	"	"	14		SPARE	
	SPARE		15	"	"	16		SPARE	
	SPARE		17	"	"	18		SPARE	
	SPACE		19			20		SPACE	
	SPACE		21			22		SPACE	
	SPACE		23			24		SPACE	
	SPACE		25			26		SPACE	
	SPACE		27			28		SPACE	
	SPACE		29			30		SPACE	
	SPACE		31			32			
	SPACE		33		100	34	2	PANEL B	
	SPACE		35			36			
	SPACE		37			38		SPACE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 1 · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 1D · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1000		12	1	20	20	2	12	FOOD WARMER	1650
670	ICE MACH., 1/4 H.P.	"	3	"	"	4	"	REFRIG. 1/4 H.P.	670
500	MALT MIXER	"	5	"	"	6	"	SANDWICH UNIT 1/4 H.P.	830
600	SNACK BAR LTG.	"	7	"	"	8	"	RECEPT.	500
500	E.W.C.	"	9	"	"	10	"	"	500
700	RECEPT.	"	11	"	30	12	10	ICE CREAM UNIT 1 H.P.	1.34 KW
2.45 KW	TOASTER	10	13	30	20	14	12	COFFEE URN	3 KW
9.2 KW	FRYER	4	15	70	70	16	4	GRIDDLE	12 KW
	SPARE		17	20	20	18		SPARE	
	SPARE		19	20	20	20		SPARE	
			21			22			
			23			24			
			25			26			
			27			28			
			29			30			
			31			32			
			33			34			
			35			36			
			37			38			
			39			40			
			41			42			

FLOOR: 2 · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 2C · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200	E.W.C.	12	1	20	20	2	12	FLOOR DUCTS	800
800	RECEPT.	"	3	"	"	4	"	" "	800
800	"	"	5	"	"	6	"	" "	800
800	FLOOR DUCTS	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
800	" "	"	27	"	"	28	"	" "	800
800	" "	"	29	"	"	30	"	LIGHTS TOILETS	1200
800	CLOCK OUTLETS	"	31	"	"	32	"	VENDING MACH.	1200
	SPARE		33	"	"	34	"	" "	1200
	SPARE		35	"	"	36		SPARE	
	SPARE		37	"		38		SPACE	
	SPARE		39	"		40		"	
	SPARE		41	"		42		"	

FLOOR: 3 · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 3C · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200	E.W.C.	12	1	20	20	2	12	FLOOR DUCTS	800
800	RECEPT.	"	3	"	"	4	"	" "	800
800	"	"	5	"	"	6	"	" "	800
800	FLOOR DUCTS	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
800	" "	"	27	"	"	28	"	" "	800
800	" "	"	29	"	"	30	"	LIGHTS TOILETS	1200
800	CLOCK OUTLETS	"	31	"	"	32	"	VENDING MACH.	1200
	SPARE	"	33	"	"	34	"	" "	1200
	SPARE	"	35	"	"	36		SPARE	
	SPARE	"	37	"	"	38		SPARE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 4 · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 4C · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200	E.W.C.	12	1	20	20	2	12	FLOOR DUCTS	800
800	RECEPT.	"	3	"	"	4	"	" "	800
800	"	"	5	"	"	6	"	" "	800
800	FLOOR DUCTS	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
800	" "	"	27	"	"	28	"	" "	800
800	" "	"	29	"	"	30	"	LIGHTS TOILETS	1200
800	CLOCK OUTLETS	"	31	"	"	32	"	VENDING MACH.	1200
	SPARE		33	"	"	34	"	" "	1200
	SPARE		35	"	"	36		SPARE	
	SPARE		37	"		38			
	SPARE		39	"	70	40	6	PANEL 3C	27200
	SPARE		41	"		42			

FLOOR: 5 · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 5C · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200	E.W.C.	12	1	20	20	2	12	FLOOR DUCTS	800
800	RECEPT.	"	3	"	"	4	"	" "	800
800	"	"	5	"	"	6	"	" "	800
800	FLOOR DUCTS	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
800	" "	"	27	"	"	28	"	" "	800
800	" "	"	29	"	"	30	"	LIGHTS TOILETS	1200
800	CLOCK OUTLETS	"	31	"	"	32	"	VENDING MACH.	1200
	SPARE	"	33	"	"	34	"	" "	1200
	SPARE	"	35	"	"	36		SPARE	
	SPARE	"	37	"	"	38		SPARE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 6 · UNIT: · LOC: CORRIDOR · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☒ FLUSH ☐ SURFACE · MAINS: ☒ M.L.O. ☐ C.B. AMP 225 · PANEL: 6C · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
1200	EWC	12	1	20	20	2	12	FLOOR DUCTS	800
800	RECEPT.	"	3	"	"	4	"	" "	800
800	"	"	5	"	"	6	"	" "	800
800	FLOOR DUCTS	"	7	"	"	8	"	" "	800
800	" "	"	9	"	"	10	"	" "	800
800	" "	"	11	"	"	12	"	" "	800
800	" "	"	13	"	"	14	"	" "	800
800	" "	"	15	"	"	16	"	" "	800
800	" "	"	17	"	"	18	"	" "	800
800	" "	"	19	"	"	20	"	" "	800
800	" "	"	21	"	"	22	"	" "	800
800	" "	"	23	"	"	24	"	" "	800
800	" "	"	25	"	"	26	"	" "	800
800	" "	"	27	"	"	28	"	" "	800
800	" "	"	29	"	"	30	"	LIGHTS TOILETS	1200
1200	RECEPT. PENTH.	"	31	"	"	32	"	VENDING MACH.	1200
1200	" "	"	33	"	"	34	"	" "	1200
1200	" "	"	35	"	"	36	"	EF3 1/3 HP	900
800	CLOCK OUTLETS	"	37	"		38			
	SPARE		39	"	70	40	6	PANEL 5C	27200
	SPARE		41	"		42			

FLOOR: BASEMENT · UNIT: · LOC: SWITCHGEAR IN MECH ROOM · VOLTAGE: ☐ 277/480, 4W ☒ 120/208, 4W · CABINET: ☐ FLUSH ☐ SURFACE, IN SWITCHGEAR · MAINS: ☒ M.L.O. ☐ C.B. AMP. 225 · PANEL: EM208 · SECT. 1 OF 1 · TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
600	[illegible]		1	20	20	2	12	FIRE ALARM	400
	CONTROL		3	"	"	4		CONTROL	
	" RM B11 (rev. 1)		5	"	"	6		"	
	RECEPT. RM 211 (rev. 1)		7	"	"	8		RECEPT. RM 111 (rev. 1)	
	RECEPT. RM 411 (rev. 1)		9	"	"	10		RECEPT. RM 311 (rev. 1)	
	RECEPT. RM 611 (rev. 1)		11	"	"	12		RECEPT. RM 511 (rev. 1)	
600	BATTERY LIGHTS		13	"	"	14			
600	BATTERY LIGHTS		15	"		16		SPARE	
	SPARE		17	"	"	18		SPARE	
	SPARE		19	"	"	20	12	ELEV. LTS.	
	SPACE		21			22		SPACE	
	SPACE		23			24		SPACE	
	SPACE		25			26		SPACE	
400	CONTROL		27	20	20	28		CONTROL	400
600	M.C.C. CONTROL		29	20	20	30		SPARE	
1000	REF. I CONTROL		31	20	20	32		REF. II CONTROL	1000

NOTE: SEE ALSO SHEETS NO. E-2, E4 & E-5

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED
1	[illegible]	[illegible]	[illegible] EM RECEPT. TO EMERG. PWR.		[illegible]

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER, FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

ELECTRICAL 120/208 PANEL DIAGRAMS

NASA AE CONT. NO. NAS 8-2,05 · FILE NO. MSFC 8943

SUBMITTED: [illegible] · CHIEF · AE DATE: 1-7-62 · APPROVAL RECOMMENDED: [signature] Proj. Eng. · DATE · APPROVED: [signature], CHIEF, DESIGN BRANCH · NASA DATE: [illegible]

DESIGNED J. A. PETURSSON · DRAWN B. Y. BELL · CHECKED C. F. W. · SCALE · APPROVAL RECOMMENDED: [signature], CHIEF, ELECTRICAL SECTION · DESIGN DATE: [illegible] · SPEC. NO. F&D-441

REF. NO. E-3 · DRWG. NO. F&D-A-4202-E3

4202

MSFC-FORM 232 (REV. DEC., 1960)

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FLOOR: PENTHOUSE — UNIT: — LOC: ELEVATOR RM. — VOLTAGE: ☒ 277/480, 3 W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☒ M.L.O. ☐ C.B. AMP. 400 — PANEL: 7P — SECT. 1 OF 1 — TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
	ELEVATOR 1		1	125	125	2		ELEVATOR 2	
	ELEVATOR 3		3	125	20	4		CONTROL CIRCUIT	

FLOOR: BASEMENT — UNIT: — LOC: CORRIDOR — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☒ FLUSH ☐ SURFACE — MAINS: ☒ M.L.O. ☐ C.B. AMP. 225 — PANEL: A — SECT. 1 OF 1 — TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3200	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3200	"	"	3	"	"	4	"	"	1500
3200	"	"	5	"	"	6	"	"	3000
1000	"	"	7	"	"	8	"	"	3000
900	"	"	9	"	"	10	"	"	2800
2950	"	"	11		"	12	"	"	2400
2400	"	"	13	"	"	14	"	"	3200
2400	"	"	15	"	"	16		SPARE	
	SPARE		17	"	"	18		SPARE	
	SPARE		19	"	"	20		SPARE	
	SPARE		21	"	"	22		SPARE	
	EXH. FAN ON ROOF		23			24		EXH. FAN ON ROOF	
1000	START. IN RM. B-10	12	25	20	20	26	12	STARTER IN RM. B-10	1000
	3/4 HP		27			28		3/4 HP	
	FREIGHT ELEVATOR		29			30		SPACE	
11000	10HP 11KVA	10	31	40		32		SPACE	
			33			34		SPACE	
	SPACE		35			36		SPACE	
	SPACE		37			38		SPACE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 1 — UNIT: — LOC: ELEC. ROOM — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☒ M.L.O. ☐ C.B. AMP 225 — PANEL: 1A — SECT. 1 OF 1 — TYPE: C.B

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3300	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3000	"	"	3	"	"	4	"	"	1100
3000	"	"	5	"	"	6		"	700
3000	"	"	7	"	"	8		"	400
3200	"	"	9	"	"	10	"	"	1100
3200	"	"	11	"	"	12	"	SPARE	
	SPARE		13	"	"	14	"	"	
	"		15	"		16	"	"	
	SPACE		17	"	"	18		SPACE	
	"		19	"	"	20		"	
	"		21	"	"	22		"	
	"		23	"	"	24		"	
	"		25	"	"	26		"	
	"		27			28		"	
	"		29			30		"	
	"		31			32		"	
	"		33			34		"	
	"		35			36		"	
	"		37			38		"	
	"		39			40		"	
			41			42		"	

FLOOR: 2 — UNIT: — LOC: ELEC. ROOM — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☐ M.L.O. ☒ C.B. 400A FRM 300A TRP — PANEL: 2A — SECT. 1 OF 1 — TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3200	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3200	"	"	3	"	"	4	"	"	3200
3200	"	"	5	"	"	6	"	"	3200
2600	"	"	7	"	"	8	"	"	3200
3600	"	"	9	"	"	10	"	"	3200
2200	"	"	11	"	"	12	"	"	3200
3200	"	"	13	"	"	14	"	"	1600
3200	"	"	15	"	"	16	"	"	2400
3200	"	"	17	"	"	18	"	"	2000
1700	"	"	19	"	"	20	"	"	2400
1100	"	"	21	"	"	22	"	"	2100
3200	"	"	23	"	"	24		SPARE	
			25			26			
75000	75 KVA TRANSF.	3	27	125	70	28	6	PANEL 1A	25200
			29			30			
	SPARE		31	20		32			
	SPARE		33	20		34			
	SPARE		35	20		36			
	SPARE		37	20	20	38		SPARE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 3 — UNIT: — LOC: ELEC. ROOM — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☒ M.L.O. ☐ C.B. AMP 225 — PANEL: 3A — SECT. 1 OF 1 — TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3200	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3200	"	"	3	"	"	4	"	"	3200
3200	"	"	5	"	"	6	"	"	3200
2600	"		7		"	8	"	"	3200
2800	"	"	9	"	"	10	"	"	3200
3000	"	"	11	"	"	12	"	"	3200
3200	"	"	13	"	"	14	"	"	2400
3200	"	"	15	"	"	16	"	"	1600
3200	"	"	17	"	"	18	"	"	2000
1500	"	"	19	"	"	20	"	"	3400
1200	"	"	21	"	"	22	"	"	2100
3200	"	"	23	"	"	24		SPARE	
	SPARE		25	"	"	26		SPARE	
	SPARE		27	"		28		SPARE	
	SPARE		29	"	"	30		SPARE	
	SPACE		31			32		SPACE	
	SPACE		33			34		SPACE	
	SPACE		35			36		SPACE	
	SPACE		37			38		SPACE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 4 — UNIT: — LOC: ELEC. ROOM — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☐ M.L.O. ☒ C.B. 400A.F. 300A.T. — PANEL: 4A — SECT. 1 OF 1 — TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3200	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3200	"	"	3	"	"	4	"	"	3200
3200	"	"	5	"	"	6	"	"	3200
2600	"	"	7	"		8	"	"	3200
3200	"	"	9	"	"	10	"	"	3200
2600	"	"	11	"	"	12	"	"	3200
3200	"	"	13	"	"	14	"	"	1600
3200	"	"	15	"	"	16	"	"	2400
3800	"	"	17	"	"	18	"	"	2000
1700	"	"	19	"	"	20	"	"	2400
1100	"	"	21	"	"	22	"	"	2100
3200	"	"	23	"	"	24		SPARE	
			25			26			
5000	75 KVA TRANSF.	3	27	125	100	28	1	PANEL 3A	66900
			29			30			
	SPARE		31	20		32			
	SPARE		33	20		34			
	SPARE		35	20		36			
	SPARE		37	20	20	38		SPARE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 5 — UNIT: — LOC: ELEC. ROOM — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☒ M.L.O. ☐ C.B. AMP 225 — PANEL: 5A — SECT. 1 OF 1 — TYPE: C.B.

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3200	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3200	"	"	3	"	"	4	"	"	3200
3200	"	"	5	"	"	6	"	"	3200
2600		"	7	"	"	8	"	"	3200
2800	"	"	9	"	"	10	"	"	3200
3000	"	"	11	"	"	12	"	"	3200
3200	"	"	13	"	"	14	"	"	2400
3800	"	"	15	"	"	16	"	"	1400
3200	"	"	17	"	"	18	"	"	2000
1500	"	"	19	"	"	20	"	"	3400
1200	"	"	21	"	"	22	"	"	2100
3200	"	"	23	"	"	24		SPARE	
	SPARE		25	"	"	26		SPARE	
	SPARE		27	"	"	28		SPARE	
	SPARE		29	"	"	30		SPARE	
	SPACE		31			32		SPACE	
	SPACE		33			34		SPACE	
	SPACE		35			36		SPACE	
	SPACE		37			38		SPACE	
	SPACE		39			40		SPACE	
	SPACE		41			42		SPACE	

FLOOR: 6 — UNIT: — LOC: ELEC. ROOM — VOLTAGE: ☒ 277/480, 4W ☐ 120/208, 4W — CABINET: ☐ FLUSH ☒ SURFACE — MAINS: ☐ M.L.O. ☒ C.B. 400A.FR. 300A.TRP. — PANEL: 6A — SECT. 1 OF 1 — TYPE: C.D.P. DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
3200	LIGHTS	12	1	20	20	2	12	LIGHTS	3200
3200	"	"	3	"	"	4	"	"	3200
3200	"	"	5	"	"	6	"	"	3200
2600	"	"	7	"	"	8	"	"	3200
2800	"	"	9	"	"	10	"	"	3200
2600	"	"	11	"	"	12	"	"	3200
3200	"	"	13	"	"	14	"	"	1600
3200	"	"	15	"	"	16	"	"	2400
3200	"	"	17	"	"	18	"	"	2000
1500	"	"	19	"	"	20	"	"	2400
1100	"	"	21	"	"	22	"	"	2100
3200	"	"	23	"	"	24	"	" PENTHOUSE	2000
			25			26			
75000	75 KVA TRANSF.	3	27	125	100	28	1	PANEL 5A	66900
			29			30			
	SPARE		31	20		32			
	SPARE		33	20		34			
	SPARE		35	20		36			
3 H.P.	EXH FAN ON ROOF	12	37	15	15	38	12	EXH. FAN ON ROOF	3/4 HP

MSFC-FORM 232 (REV. DEC., 1960)

PARTIAL BASEMENT PLAN
SCALE - 1/4" = 1'-0"

FRONT ELEVATION
NOT TO SCALE

NOTE:
SEE SHEET E-2 FOR RISER DIAGRAM & SCHEDULES

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED
1	TM	10-20-64	REVISED TELEPHONE ENTRANCE	12038-5	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SWITCHGEAR PLAN AND DETAILS

NASA AE CONT. NO. NAS 8 12,015 — FILE NO. MSFC 8944

SUBMITTED: CHIEF — AE DATE: 11-17-62 — APPROVAL RECOMMENDED: Proj. Eng. — APPROVED: CHIEF, DESIGN BRANCH — DATE: 64

DESIGNED - C.F. WENDELKEN — DRAWN - H. STONE — CHECKED - C.F.W. — SCALE

APPROVAL RECOMMENDED: E. Wendelken — CHIEF, ELECTRICAL SECTION — DESIGN DATE: 3-5-63 — SPEC. NO. F&D-441

REF. NO. E-4 — DWG. NO. F&D-A-4202-E4

4202

Notice – When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

LONGITUDINAL SECTIONAL

NOT TO SCALE

DETAILS - FIXTURES TYPE "A" & "E"

NOT TO SCALE

FLOOR: 1	VOLTAGE	CABINET	MAINS	PANEL: 1C
UNIT:	☐ 277/480, 4W	☒ FLUSH	☒ M.L.O.	2 SECTIONS
LOC: KITCHEN	☒ 120/208, 4W	☐ SURFACE	☐ C.B.	TYPE: C.B.
			AMP. 400	DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
670	GLASS WASHER	12	1	20	20	2	12	PROOF CABINET	1,000
500	DISHWASHER RM.	"	3	"	"	4	"	STEAM KET. 1/4 H.P.	670
670	POT WASH. 1/4 H.P.	"	5	"	"	6	"	REFR., 1/3 H.P.	830
830	REFR., 1/3 H.P.	"	7	"	"	8	"	JET SPRAY PUMP	500
830	REFR., 1/3 H.P.	"	9	"	"	10	"	MILK DISPENSER	500
500	LOWERATOR	"	11	"	"	12	"	ROLL WARMER	800
500	LOWERATOR	"	13	"	"	14	"	H.&C. CAB., 1/2 H.P.	1,130
500	SERV. LINE LTS.	"	15	"	"	16	"	HEAT LAMP	1,000
670	SLICER, 1/4 H.P.	"	17	"	"	18	"	ICE CREAM 1/5 H.P.	550
830	SLICER, 1/3 H.P.	"	19	"	"	20	"	CASH REGISTER	300
830	1/3 H.P.	"	21	"	"	22	"	COVE LIGHTS	1,350
1,000	ROLL WARMER	"	23	"	"	24	"	CAFETERIA LTS.	1,200
1,350	ENTR. LINE LTS.	"	25	"	"	26	"	CAFETERIA LTS.	900
1,500	SERV. LINE LTS.	"	27	"	"	28	"	CAFETERIA LTS.	1,200
1,350	SERV. LINE LTS.	"	29	"	"	30	"	DOOR DEFROSTER	500
400	UNIT COOLER FANS	"	31	"	"	32	"	RECEPTACLES	400
500	RECEPTACLES	"	33	"					
500	RECEPTACLES	"	35	"	30	34		SPARE	
500	ELEC. WTR. COOL.	"	37	"	30	36	10	H.&C. CABINET	2,080
1600	RADAR RANGE	4	39	70	20	38	12	ICE MACH. 1 1/2 H.P.	2,080
3,600	HEATED DISH CAB.	10	41	30	40	40	8	COFFEE URN	5,000
8,000	SERVING LINE	6	43	50	125	42	1	PANEL "1D"	36,000
	SPACE								
	SPACE							SPACE	
	SPACE							SPACE	
	SPACE							SPACE	
	SPACE							SPACE	
	SPACE							SPACE	
	SPACE							SPACE	
	SPACE							SPACE	

FLOOR: 1	VOLTAGE	CABINET	MAINS	PANEL: 1K
UNIT:	☒ 277/480, 4W	☒ FLUSH	☒ M.L.O.	1 SECTION
LOC: KITCHEN	☐ 120/208, 4W	☐ SURFACE	☐ C.B.	TYPE: C.B.
			AMP. 400	DISTRIBUTION

WATT	SERVES	WIRE	CCT.	AMP.	AMP.	CCT.	WIRE	SERVES	WATT
2,080	DISPOSAL, 1 1/2 H.P.	12	1	15	15	2	12	DISPOSAL 1 1/2 H.P.	2,080
4,160	DISHWASHER(2) 1 1/2 H.P.	"	3	15	15	4	"	MIXER, 1/2 H.P.	830
5,000	STEAM TABLE	"	5	15	15	6	"	BAKERS STOVE	5,300
830	MIXER 1/2 H.P.	"	7	15	15	8	"	PEELER, 3/4 H.P.	1,160
1,160	WATER STA., 3/4 H.P.	"	9	15	30	10	10	RANGE	12,500
12,500	RANGE	10	11	30	40	12	8	BAKE OVEN	18,600
21,000	RANGE	8	13	40	40	14	8	RANGE	22,500
22,500	RANGE	8	15	40	40	16	8	RANGE	22,500
2,080	COND. UNIT "A", 3/4 H.P.	12	17	15	15	18	12	COND. UNIT "B", 1 1/2 H.P.	2,080
	75 KVA				20	20	12	SNACK BAR LTS.	1,000
75,000	TRANSFORMER	1	19	125	20	21	"	KITCHEN LTS.	1,600
	(T7)				20	22	"	CAFETERIA LTS.	2,400
1,500	KITCHEN LTS.	12	23	20	20	24	"	CAFETERIA LTS.	1,800
2,100	KITCHEN LTS.	12	25	20	20	26		SPARE	
	SPARE		27	20	20	28		SPARE	

LIGHTING FIXTURE SCHEDULE

	TYPE	WATTS	LAMP	DESCRIPTION	MOUNTING
**	A	4/40	F40W T12	SUNBEAM # QPCXA-52024-R-48RS-M17 SUNBEAM # QPCXA-52024-S-48RS-M17-LT246 +	RECESS - SEE DETAIL
**	B	4/20	F20W T12	SUNBEAM # QPCXA-52024-R-24TS-M17 SUNBEAM # QPCXA-52024-S-24TS-M17-LT246 +	RECESS
	C	6/40	F40W T12	WAKEFIELD # THR-G4451-B-AA	#55 LAY-IN
	D	2/40	F40W. T12	WAKEFIELD PHR-214-AA	SURFACE
**	E	4/40	F40W. T12	SUNBEAM # QPCXA-52024-R-48RS-M17 *	RECESS - SEE DETAIL
**	F	4/20	F20W. T12	SUNBEAM # QPCXA-52024-R-24TS-M17 *	RECESS
	G	150	A-23	WHEELER # VO-1-HR OR VP-1-HR	BOX OR PENDENT
	H	100	A-21	PROGRESS # P3749C	SURFACE
	J	150	A-23	HALO # H2-25	RECESS
	K	2/40	F40W-T12	LIGHTOLIER # 10234 RECEPTACLE SHALL BE 110V.	WALL - 6'-6" UP
	L	4/20	F20T12	DAYBRITE # 2F42-393	RECESS
	M	4/40	F40W-T12	WHEELER # D8041-DIF-RS W/ # D 8088 LOUVER	CHAIN HUNG
	N	150	A-23	MARCO # A 102 WITH C50 COLLAR (1)	SURFACE
	P	300	PS-30-MED.	MARCO # J 8941	RECESS
	Q	150	R-40	MARCO # JR 7-184 SA	RECESS
	R	200	A-25-IF	MC PHILBEN # 43-54 VT	WALL 8' UP
	T	2-700	H35-18 ND/C	WESTINGHOUSE # OV-50-890-D331-G77 W/ 265 VOLT REGULATED-OUTPUT, HPF BALLAST	TWIN-ON POLE
	U	100	A-19-IF	SHALDA # 522-13 ALUM GR. WITH # 1414-34 JUNC. BOX	18" ABOVE GRADE
	V	150	PAR-38 FL	SHALDA # 438	SET FLUSH WITH FIN. GRADE
	W	2-60	A-19-I.F.	DEVINE LTG INC. # HCD 327F (STEP LT.)	WALL 8' ABOVE TREAD
**	Y	4/40	F40W. T12	SUNBEAM # QPCXA 52024-S-48RS M1LT246 +	RECESS
	X	2-6	2-F6-T5	PRESCOLITE # FCT-54 LR - 277 V.	CEILING
	X_1	2-6	2-F6-T5	PRESCOLITE # FC-54 - 277 V.	CEILING
	X_2	2-6	2-F6-T5	PRESCOLITE # FC-54 R - 277 V.	CEILING
	X_3	2-6	2-F6-T5	PRESCOLITE # FW-54 R - 277 V. END MOUNT	WALL
	X_4	2-6	2-F6-T5	PRESCOLITE # FS-54 - 277 V. SURFACE MOUNT	WALL
**	Z	4/20	F20W. T12	SUNBEAM # QPCXA 52024-S-24TS M1LT246 +	RECESS
	A_1	1/75	75R30/FL	GOTHAM # 947	RECESS
	B_1	1/75	A75-IF	GOTHAM # 947 (1/2" x 1/2" x 1/2" STYRENE CUBE LOUVRE, 24" SQUARE IN LAY-IN GRID BELOW FIXTURE -- SEE DETAIL, DWG. NO. A-25, INSTALLED BY GENERAL CONTRACTOR)	RECESS
	C_1	2/20	F20 T12	LIGHTOLIER # 10232	WALL 6'-6" UP
	D_1	8/40	F40 T12	LIGHTOLIER # 13148	SURFACE
	E_1	6/20	F20 T12	LIGHTOLIER # 13126	SURFACE
	F_1	2/40	F40 T12	SUNBEAM # QPCXA 9102-48RS	RECESS
	G_1	4/40	F40 T12	SUNBEAM # QPCXA 9204-48RS	RECESS
	H_1	4/40	F40 T12	SUNBEAM # QPCXA 9102-96RS	RECESS
	J_1	1/100	100A	MILLER # AC 2010	INSIDE RANGE HOODS
	K_1	1/40	F40 T12	CURTIS ELECTRO # B140 RSE	COVE
	L_1	6/40	F40 T12	DAYBRITE # 4F64-593	RECESS
	M_1	1/100	100 A	MILLER # AC 2020 LESS GLOBE	SURFACE
	N_1	1/20	F20 T12	CURTIS ELECTRO # B120 TSH	SURFACE

* WITH SIDE BOOTS BUT WITHOUT THE SUPPLY DAMPER
** LENS FOR THESE UNITS SHALL BE EQUAL TO K-SH-5 ACRYLIC PLASTIC, PRISMATIC PATTERN.
\+ WITH THE SUPPLY DAMPER
ALL FIXTURE BALLASTS SHALL BE 277V EXCEPT TYPE K_1 & N_1.

SCHEMATIC DIAGRAM FOR THE EXTENSION OF ELECTRONIC CLOCK SYSTEM

SYMBOLS

- CONDUIT EXPOSED
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT CONCEALED IN FLOOR
- HOME RUN TO PANEL - NO. OF WIRES INDICATED
- CEILING LIGHT OUTLET (INCANDESCENT)
- CEILING LIGHT OUTLET (FLUORESCENT)
- CEILING JUNCTION BOX & FLEXIBLE CONDUIT WITH 90°C WIRE TO FIXTURE
- LOW VOLTAGE RELAY & CONTROL CKT. TO SWITCH.
- WALL MTD. LIGHTING OUTLET
- CONVENIENCE OUTLET (DUPLEX-GROUNDING) (12" ABOVE FLOOR) FLUSH
- CONVENIENCE OUTLET (SPECIAL PURPOSE) (" ") FLUSH
- CONVENIENCE OUTLET 3 POLE, 2 WIRE 250V (SINGLE PH.) WITH CAP (24" ABOVE FF)
- FLUSH JUNC. BOX, 7'-0" UP - WITH SPEC'D. BATTERY LIGHT SET INSTALLED (SEE NOTE 5, SH. E-6)
- SWITCH - SINGLE POLE, 4'-6" ABOVE FIN. FLOOR
- SWITCH - SINGLE POLE WITH PILOT LIGHT, 4'-6" ABOVE FIN. FLOOR
- SWITCH, S.P.D.T., LOW VOLTAGE, 4'-6" ABOVE FIN. FLOOR
- SWITCH, S.P.D.T., LOW VOLTAGE, WITH PILOT LIGHT 4'-6" ABOVE FIN. FLOOR
- CONVENIENCE OUTLET (DUPLEX GROUNDING) STUB UP FROM FLOOR (HEIGHT AS SHOWN)
- CLOCK HANGER RECEPTACLE 8'-0" UP - H&H NO. 5708 (SEE NOTE 1 - DWG E 6)
- FLOOR MTD. CONVENIENCE OUTLET
- FLUORESCENT BRACKET LIGHT
- RECEPTACLE PANEL - 120/208 V. 3φ-4W.
- LIGHTING PANEL - 277/480 V. 3φ-4W. (ALSO DISTRIBUTION)
- EXIT LIGHT
- MOTOR CONNECTION - HORSEPOWER INDICATED
- MAGNETIC MOTOR STARTER WITH RED PILOT LIGHT & START STOP PUSHBUTTONS
- DISCONNECT SWITCH (SIZE AND FUSE AS NOTED) (#1-50A)
- PHOTO-ELECTRIC CONTROL
- TELEPHONE CONDUIT (SIZE AS NOTED OR SPEC'D.)
- TELEPHONE OUTLET - WALL MTD. - 12" ABOVE FL.
- TELEPHONE OUTLET - FLOOR CELL OR HEADER DUCT MTD.
- MAGNETIC MOTOR STARTER WITH RED PILOT LIGHT, H.O.A. SWITCH & 2 N.O. AUX. CONT.
- MANUAL MOTOR STARTER WITH RED PILOT LIGHT (MP)
- PUSH BUTTON - 5'-0"
- FIRE DETECTOR CLG. MTD. - (AUTOMATIC - RATE OF RISE)
- FIRE REPORTING WITH BELL - 4'-6" UP - BELL @ 7'-6" UP.
- FIRE ALARM - 4'-6"
- SKELETON CLOCK - AS SPECIFIED - 15" SIZE
- LIGHTNING PROTECTION AIR TERMINAL
- CEILING LOUD SPEAKER (SEE SPEC.)
- VOLUME CONTROL (SEE SPEC.)
- 4" SQ. JUNCTION BOX ON WALL
- W.P. WEATHER PROOF
- 120/208 V. FLOOR CELL (CENTER CELL) / TELEPHONE FLOOR CELL } FLOOR CELL IN STRUCT. SECTION
- UNDERFLOOR DUCT WITH BOX
  - ELECTRIC - 3.31 SQ. INCHES (MIN. CROSS SECTIONAL AREA)
  - TELEPHONE - 8.58 SQ. INCHES (MIN. CROSS SECTIONAL AREA)

AS BUILT

REV.	BY	DATE		C I NO.	APPROVED
1	JJD	4-13-64	REV. FIXT'N' & CONDUIT FOR CLOCK SYSTEM	—	

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

SAFETY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC, HUNTSVILLE, ALABAMA
WYATT C. HEDRICK, ARCHITECT ENGINEER, FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SYMBOLS & FIXTURES

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8945

SUBMITTED: CHIEF [signature] — AE DATE: 11-17-62
APPROVAL RECOMMENDED: [signature] Proj. Eng.
APPROVED: [signature] CHIEF, DESIGN BRANCH — NASA DATE: 64
DESIGNED - C.F. WENDELKEN; DRAWN - H.H. STONE; CHECKED - C.F.W.
APPROVAL RECOMMENDED: [signature] CHIEF, ELECTRICAL SECTION
DESIGN DATE: 5-16-
SCALE:
SPEC. NO. FED-441
REF. NO. E-5
DRWG. NO. FED-A-4202-E5

4202

MSFC-FORM 232 (REV. DEC., 1960)

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BASEMENT FLOOR PLAN - POWER & SIGNAL

SCALE - 1/8" = 1'-0"

* OF THIS TOTAL 75 OUTLETS WILL BE GOV'T FURNISHED FOR INSTALLATION BY CONTRACTOR.

SIGNAL SERVICE FITTING

NOT TO SCALE

QUANTITY REQUIRED			
BASEMENT	38	4TH FLOOR	128
1ST FLOOR	28	5TH FLOOR	119
2ND FLOOR	135	6TH FLOOR	91
3RD FLOOR	121	TOTAL	* 661

120 VOLT ELECTRICAL OUTLET

NOT TO SCALE

QUANTITY REQUIRED			
BASEMENT	35	4TH FLOOR	92
1ST FLOOR	30	5TH FLOOR	75
2ND FLOOR	88	6TH FLOOR	75
3RD FLOOR	87	SPARE (NOT INSTALLED)	43
		TOTAL	544

18" TRENCHDUCT SECTION

NOT TO SCALE

NOTE: TRENCHDUCT SHALL ALIGN STRAIGHT AND PARALLEL WITH COLUMN CENTERLINES, AND BE TACKWELDED ON 6'-0" CENTERS. COVER PLATE SCREWS SHALL BE LOCATED WITHIN 1/8" OF THE CORNERS OF COVER PLATE.

NOTE FOR MAINT:
(1) RELOCATE 21-2'X4' LIGHTING FIXTURES IN ROOMS B-18 & B-21 AS SHOWN. REMOVE 3-2'X8' & 3-4'X2' LIGHTING FIXTURES AS SHOWN BY SYMBOL RM.
(2) REMOVE 7 FLOOR MOUNTED TELEPHONE AND RECEPTACLE OUTLETS & CAP OPENING IN ROOMS B-18 & B-21.
(3) INSTALL 5 JUNCTION BOXES ABOVE EXISTING CEILING AS SHOWN ON PLAN.
(4) CONTROL TRANSFORMER FOR RMS B-23, 24, & 25 ON CKT EM480-17.

NOTES:
1. THE ℄ OF ALL CLOCK OUTLETS SHALL BE 7'-8" ABOVE FINISH FLOOR EXCEPT IN AREA B-10 WHICH SHALL BE 8'-0".
2. ALL CLOCKS AND CLOCK HANGER OUTLETS SHALL BE WIRED ON CIRCUITS TO PANELS "B" AND/OR "C" ON ALL FLOORS.
3. ALL EXIT LIGHTS AND STAIR LIGHTS SHALL BE CIRCUITED TO PANEL "EM-480" ON SEPARATE CIRCUITS - 2 PER STAIR
4. ALL FLUORESCENT LIGHTS SHOWN CIRCUITED TO "EM" SHALL BE CONNECTED TO "EM-480" WITH NOT MORE THAN 2,000 WATTS PER CIRCUIT
5. CONNECT BATTERY LIGHT SETS ON STAIR LANDINGS TO "EM - 208" WITH 1 CIRCUIT (2 #10, 3/4"C) PER STAIR.
6. ALL WALL MOUNTED TELEPHONE OUTLETS SHOWN SHALL BE CONNECTED TO WE 9T WALL OF TEL. EQUIP. RM. WITH A 1" EMPTY CONDUIT EACH.

BASEMENT FLOOR PLAN - LIGHTING

SCALE - 1/8" = 1'-0"

NOTE: MOUNT ALL LIGHT FIXTURES IN ROOM B-9 APPROX. 12 FEET ABOVE FLOOR.

NOTES: ALL FIXTURES SHALL BE TYPE 'A' UNLESS OTHERWISE MARKED.
FIXTURES SHOWN SHADED ON EMERGENCY CKT

AS BUILT

REV.	BY	DATE	
1	ED	1-22-68	REVISED SIGNAL & ELECT. OUTLET QUANTITY
A	TM	10-20-66	REVISED TELEPHONE ENTRANCE
3	TMS	3-10-78	INSTALL VENT HOOD POWER, ROOM B-21, TO 268
C	GDP	7-1574	INSTALL EMERGENCY OPERATING CENTER RMS 623, 624 & 625
B	TMS	7-1578	WORK DONE BY MAINT. BR. W/R 1-RM-353-69
2	ED	10/16/74	ADD RECEPT TO EMERG. PWR RM B-11
B	ED	4/3/74	ADDED EMG LTG - RMS B-5 B-7 & B-8

C.I. NO.

CONCURRENCE									
DATE	CS21	DATE	AB41	DATE	ASOM1	DATE	AB51	DATE	AB14
3/30/78		3/31/78		8-11-78		9/19/78		9-20-78	

MSFC-FORM 232 (REV. APRIL 1962)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	MSFC HUNTSVILLE, ALABAMA
HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER	OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

BASEMENT FLOOR PLANS-POWER-LIGHTING

NASA AE CONT. NO. NAS 8 - 12,015	FILE NO. MSFC 8946
SUBMITTED:	APPROVAL RECOMMENDED:
CHIEF:	APPROVED: R. O. Ramsey Jr. CHIEF-DESIGN BRANCH
A.E. DATE: 3/17/1964	LAB. DATE: NASA DATE: 3-16-64
DESIGNED HERRING	APPROVAL RECOMMENDED: C. W. Weaver
DRAWN ROBERTS	CHIEF-ELECTRICAL SECTION
CHECKED HERRING	DESIGN DATE: 3-16-64
SCALE: AS NOTED	SPEC. NO. FED 441

DRWG. NO. FD A4202-E6

REF. NO. E-6

4202

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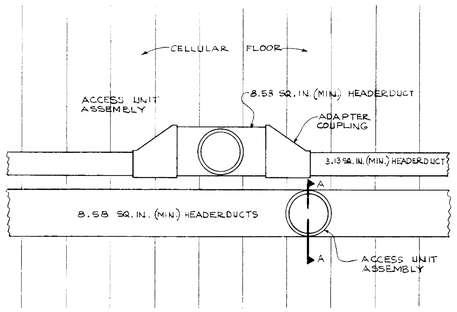
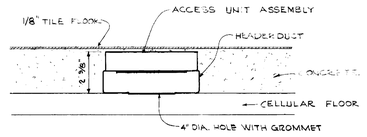


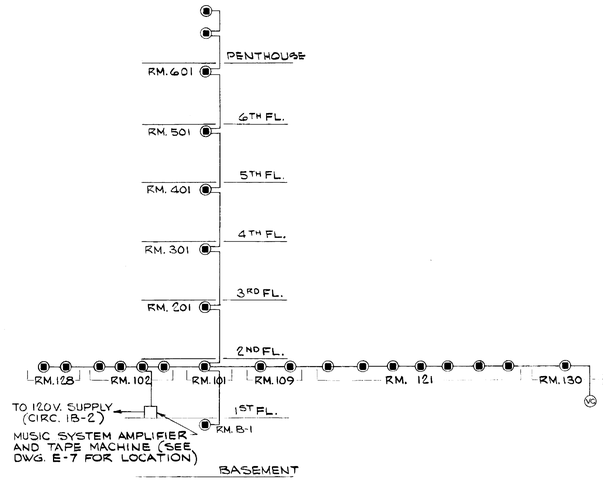
PLAN VIEW



SECTION "A"
(TYPICAL FOR SIGNAL & ELECTRIC)

ACCESS UNITS

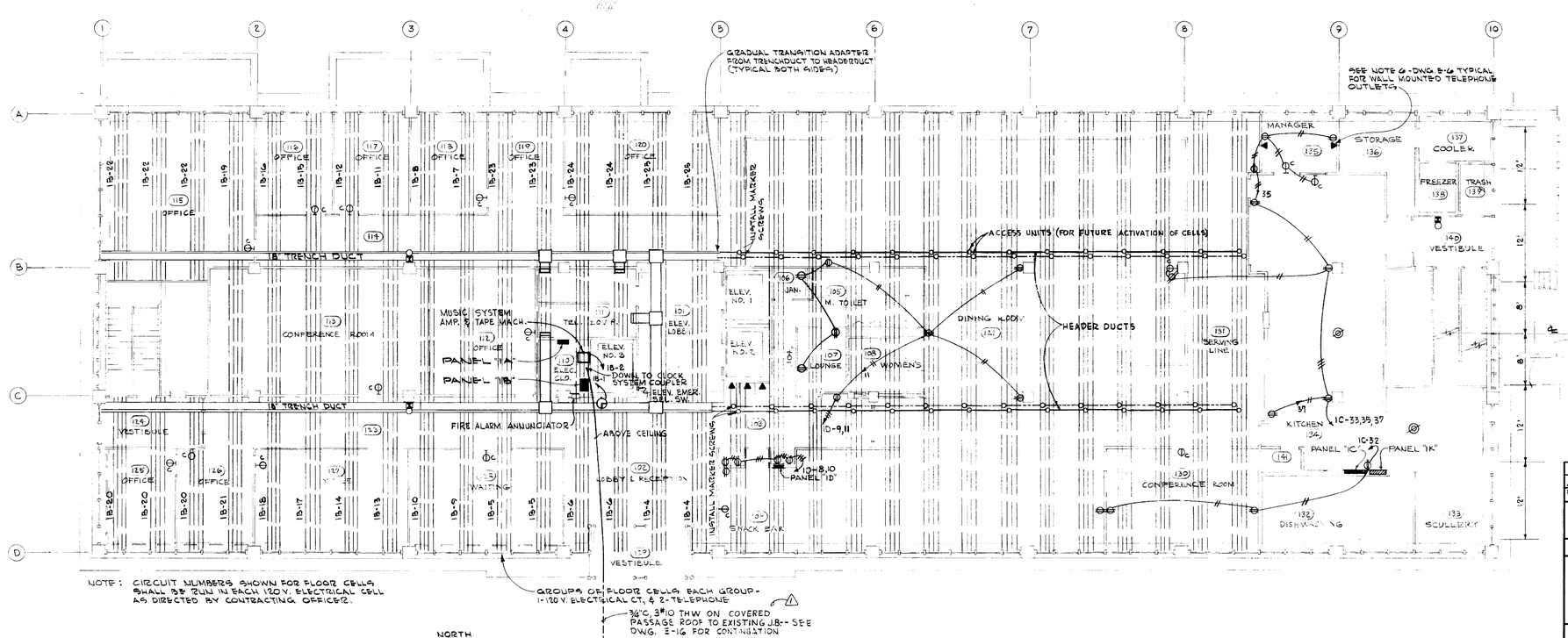
(FOR FUTURE ACTIVATION OF FLOOR CELLS)
NOT TO SCALE



MUSIC SYSTEM RISER DIAGRAM

NOT TO SCALE

NOTE: ALL SPEAKER WIRING SHALL BE 2/C # 20 AWG (10x30 STRANDING) BELDEN # 8205 OR EQUAL IN 3/4" C. ROUTED AS SHOWN IN DIAGRAM



NOTE: CIRCUIT NUMBERS SHOWN FOR FLOOR CELLS SHALL BE RUN IN EACH 120 V. ELECTRICAL CELL AS DIRECTED BY CONTRACTING OFFICER.

GROUPS OF FLOOR CELLS EACH GROUP - 1-120 V. ELECTRICAL CT. & 2-TELEPHONE

3/4"C. 3#10 THW ON COVERED PASSAGE ROOF TO EXISTING J.B.- SEE DWG. E-16 FOR CONTINUATION

NORTH

FIRST FLOOR PLAN - POWER & SIGNAL

SCALE: 1/8" = 1'-0"

REV.	BY	DATE		C.I. NO.	APPROVED
1	JJD	4-6-64	REVISED NOTE FOR CLOCK SYSTEM CON.	—	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

FIRST FLOOR PLAN-POWER

NASA AE CONT. NO. NAS 8-12,015			FILE NO. M S F C 8947
SUBMITTED: CHIEF A.E.	APPROVAL RECOMMENDED:		APPROVED: R. G. Rose, Jr. CHIEF, DESIGN BRANCH
DATE: 3/13/64	LAB.	DATE:	NASA DATE: 3-16-64
DESIGNED HERRING, DRAWN HALL, CHECKED HERRING	APPROVAL RECOMMENDED: C. H. Kennedy CHIEF, ELECTRICAL SECT.		DRWG. NO. F&D-A4202-E-7
SCALE: AS NOTED	DESIGN DATE: 3-16-64	SPEC. NO. F&D-441	

REVIEWED FOR SAFETY — MAR 17 1964 — DATE

REF NO. E-7

MSFC-FORM 232 (REV. APRIL 1962)

4202

FIRST FLOOR PLAN E-7

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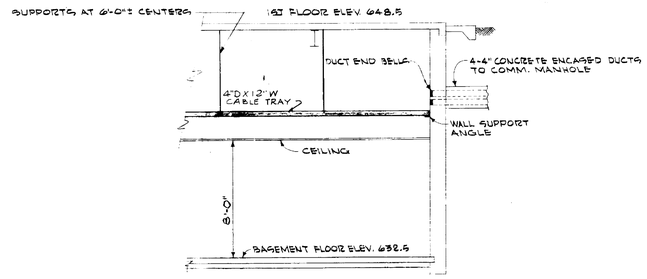
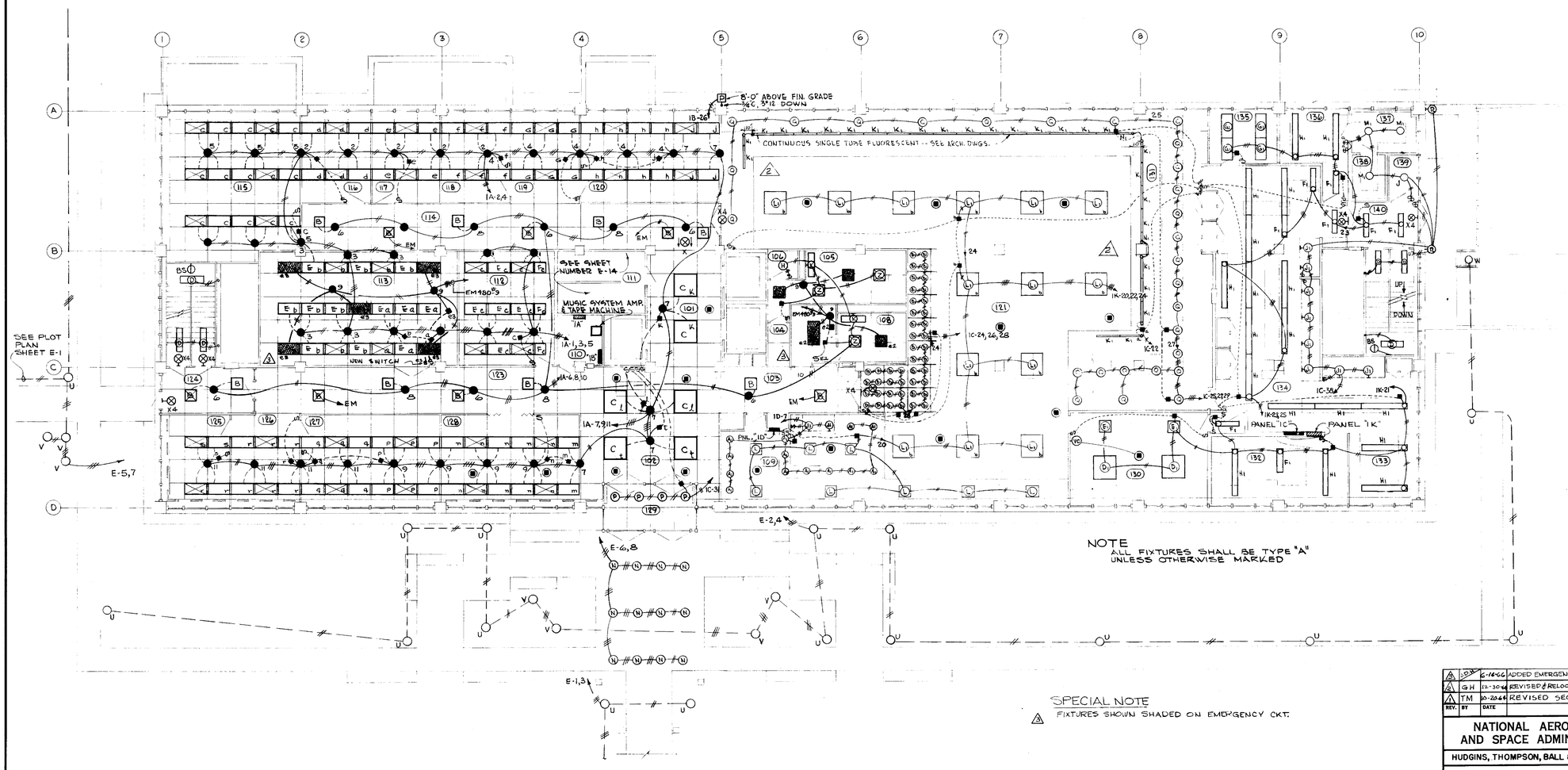


SECTION A/E6 E8
SCALE 1/4" = 1'-0"



NOTE
ALL FIXTURES SHALL BE TYPE "A" UNLESS OTHERWISE MARKED

SPECIAL NOTE
3 FIXTURES SHOWN SHADED ON EMERGENCY CKT.

AS BUILT

NORTH

FIRST FLOOR PLAN - LIGHTING

SCALE · 1/8" = 1'-0"

REV.	BY	DATE		C. I. NO.	APPROVED
3	JDW	6-16-66	ADDED EMERGENCY LTG. RM. 113 & REST RMS.		ED
2	GH	12-30-64	REVISED & RELOCATED LIGHTS IN SCREEN	12038-8	GH
1	TM	10-20-64	REVISED SECTION "A"	12038-5	GH

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FIRST FLOOR PLAN-LIGHTING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8948

SUBMITTED: CHIEF, AE. DATE: 3/13/64 — APPROVAL RECOMMENDED: — APPROVED: R. D. Ramsey Jr. CHIEF DESIGN BR.

DESIGNED HERRING, DRAWN ROBERTS, CHECKED HERRING — LAB. DATE: — NASA DATE: 3-16-64

APPROVAL RECOMMENDED: Ed. Wemyss, CHIEF: ELECTRICAL SECT. — DESIGN DATE: 3-16-64 — DRWG. NO. F&D-A4202-E8

SCALE: AS NOTED — SPEC. NO. F&D-441

REF. NO. E-8

APPROVED FOR SAFETY MAR 17 1964

MSFC-FORM 232 (REV. APRIL 1962)

4202

E-8

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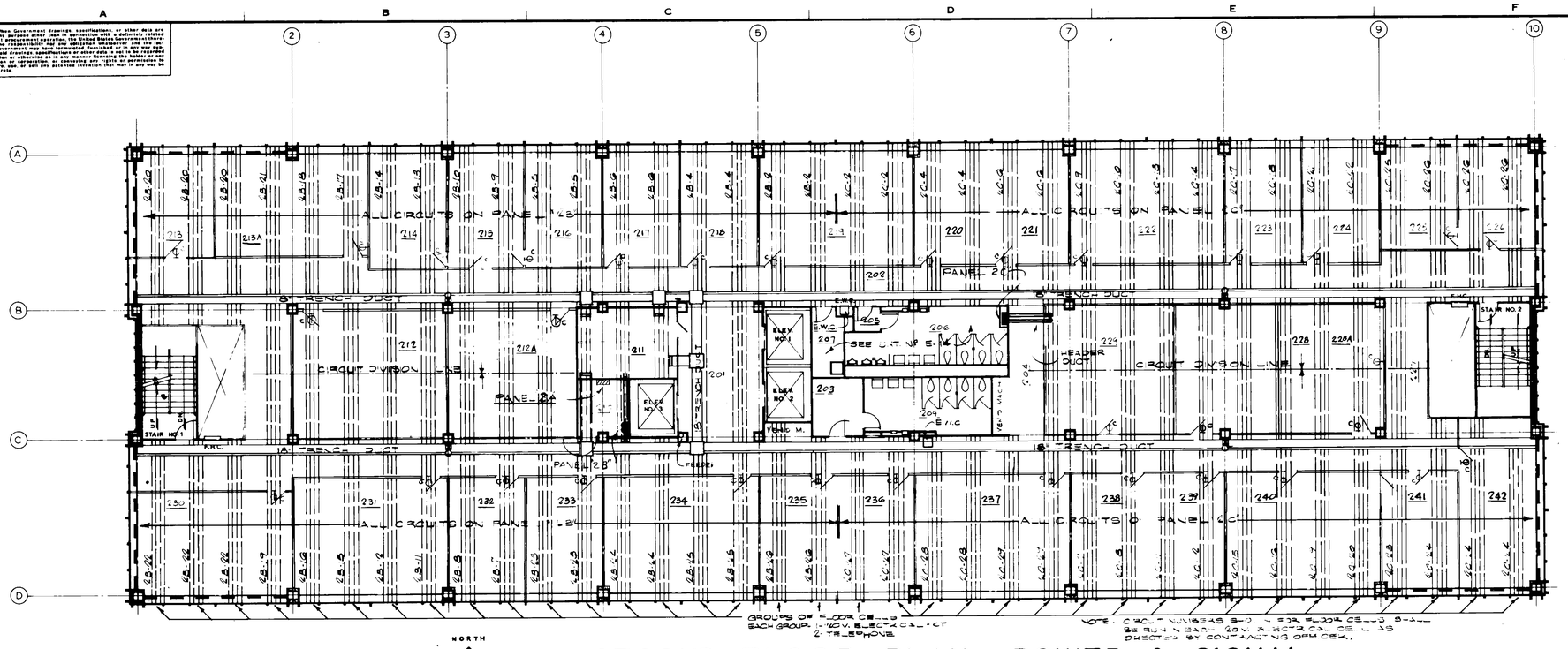
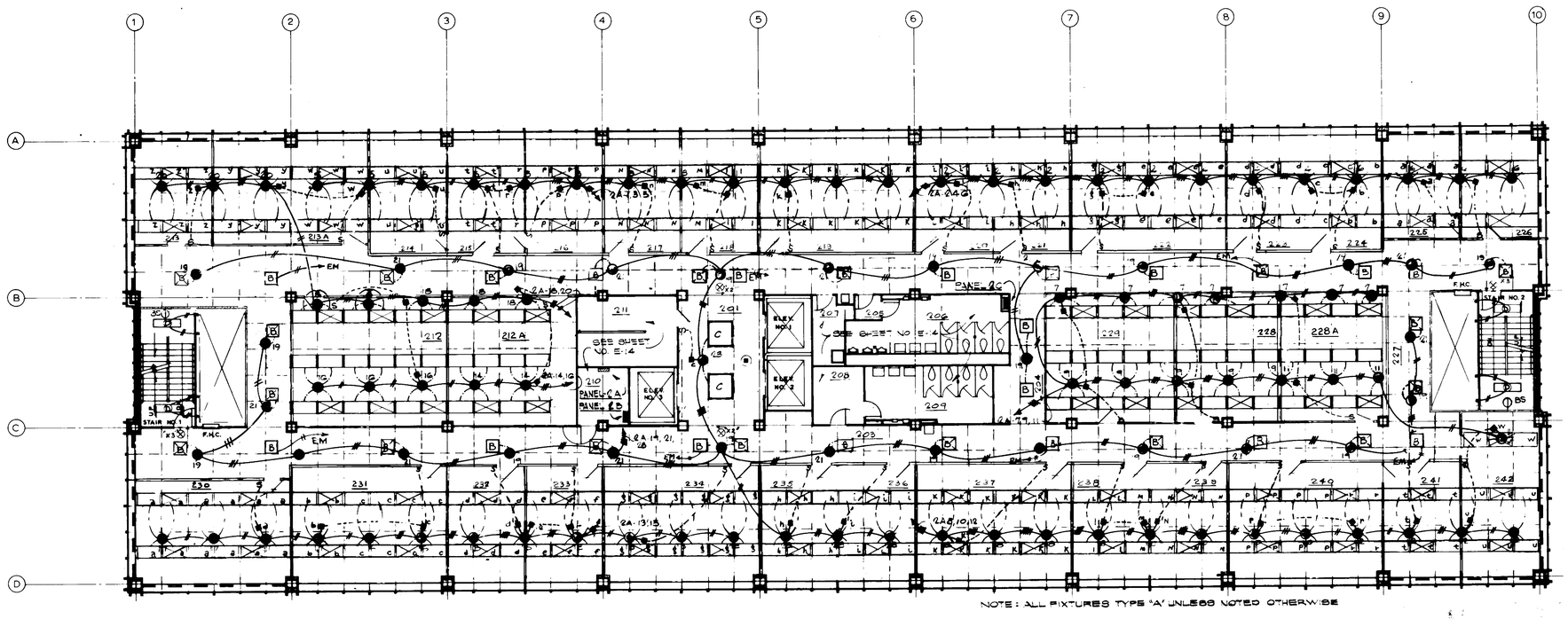


SECOND FLOOR PLAN - POWER & SIGNAL

SCALE 1/8" = 1'-0"



NOTE: ALL FIXTURES TYPE "A" UNLESS NOTED OTHERWISE

SECOND FLOOR PLAN - LIGHTING

SCALE 1/8" = 1'-0"

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SECOND FLOOR PLANS - POWER-LIGHTING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8949

SUBMITTED: [signature] — CHIEF — AE — DATE: 1-17-62
APPROVAL RECOMMENDED: [signature] Proj. Eng. — SEE — DATE
APPROVED: [signature] — CHIEF, DESIGN BRANCH — NASA — DATE: [illegible]
DESIGNED - J.F. WENDELKEN
DRAWN - GEO. KOLB
CHECKED - C.F.W.
SCALE:
APPROVAL RECOMMENDED: [signature] — CHIEF, ELECTRICAL SECTION — DESIGN DATE:
SPEC. NO. FED-441
REF. NO. E-9
DWG. NO. F&D-A-4202-E9

MSFC-FORM 232 (REV. DEC., 1960)

4202

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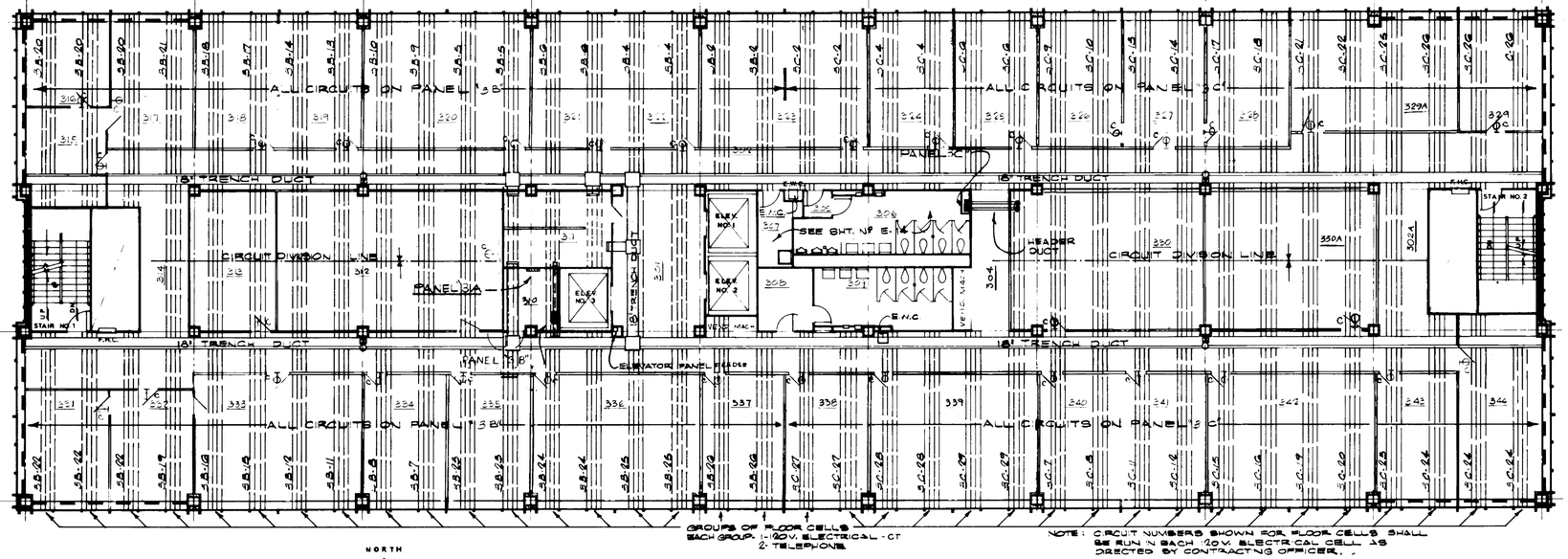
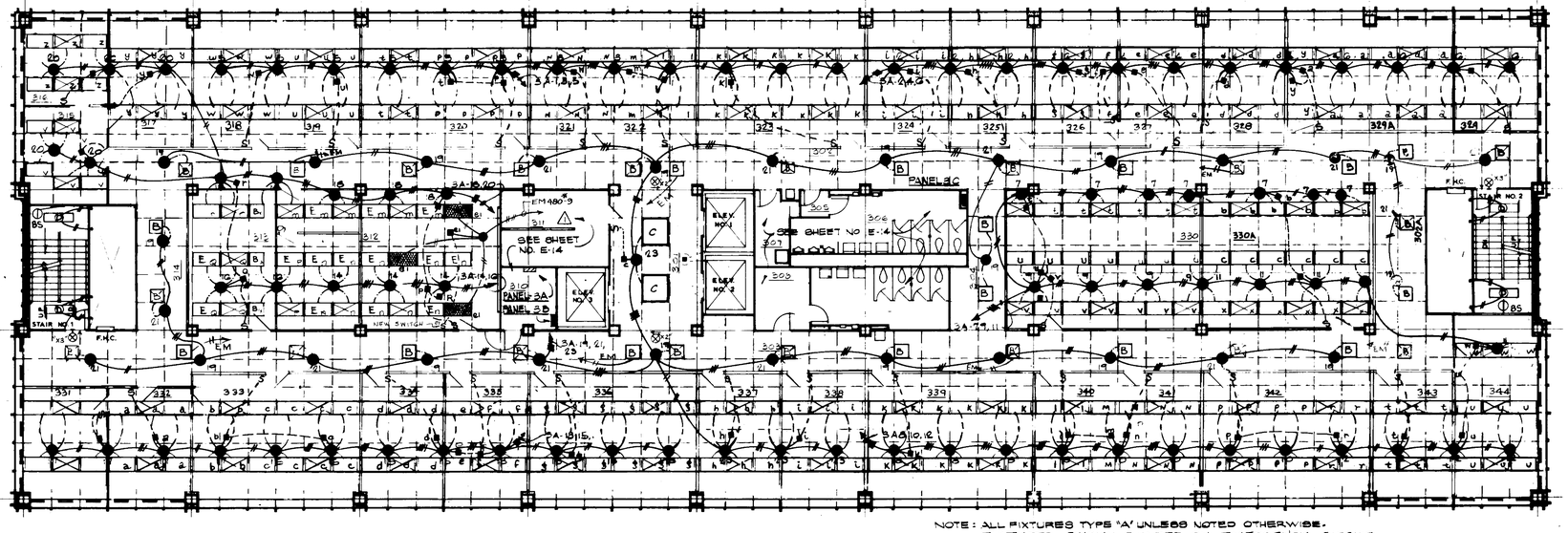


NORTH

THIRD FLOOR PLAN - POWER & SIGNAL

SCALE 1/8" - 1'-0"



NOTE: ALL FIXTURES TYPE 'A' UNLESS NOTED OTHERWISE.
△ FIXTURES SHOWN SHADED ON EMERGENCY CIRCUIT

NORTH

THIRD FLOOR PLAN - LIGHTING

SCALE 1/8" - 1'-0"

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV	BY	DATE		C.I. NO.	APPROVED
△		5/6/64	ADD EM & EMC'S RM 316 & 317 ELEC'L LINES		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M-S-F-C HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

THIRD FLOOR PLANS - POWER - LIGHTING

NASA AE CONT. NO. NAS 8-12,313 — FILE NO. MSFC 8950

SUBMITTED: CHIEF, AE	APPROVAL RECOMMENDED: DATE 12-17-62	APPROVED: CHIEF, DESIGN BRANCH, NASA	DATE
DESIGNED - L. E. LINDELUKEN DRAWN - SEE FOLD CHECKED - J. F. W.	APPROVAL RECOMMENDED: CHIEF, ELECTRICAL SECTION	DWG. NO. F&D-A-4202-E10	
SCALE	DESIGN DATE	SPEC. NO. F&D 441	

REF. NO. E-10

APPROVED FOR CONSTRUCTION

MSFC-FORM 232 (REV. DEC., 1960)

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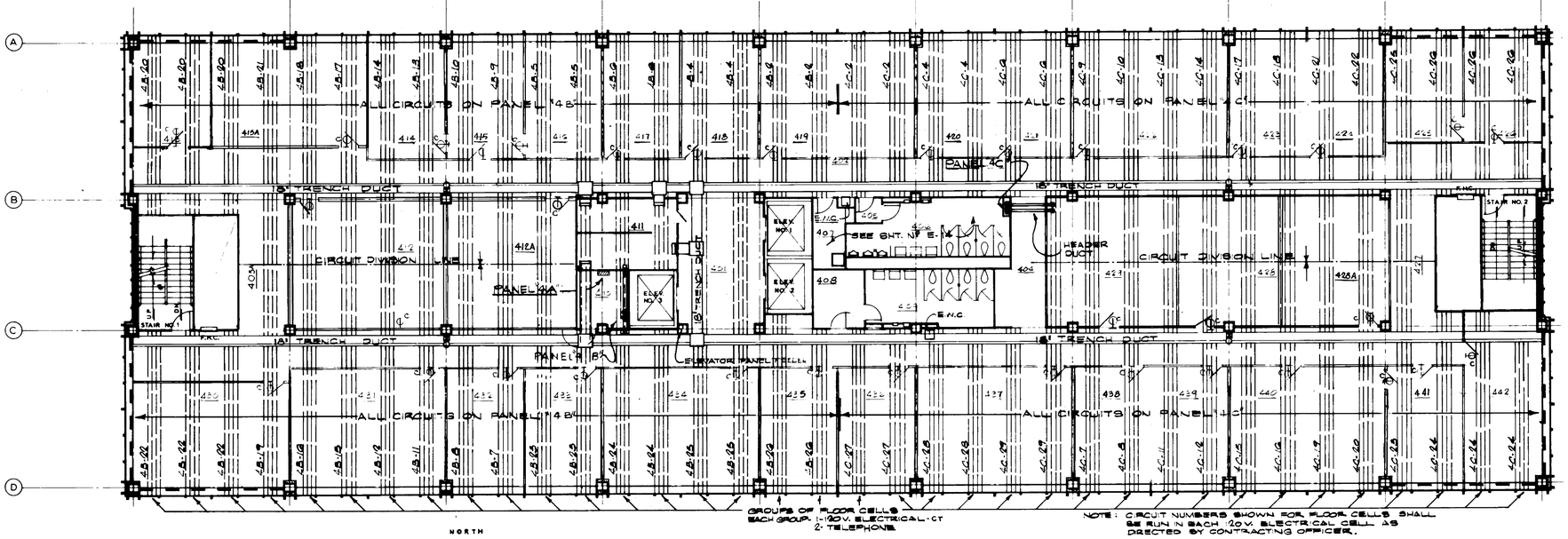


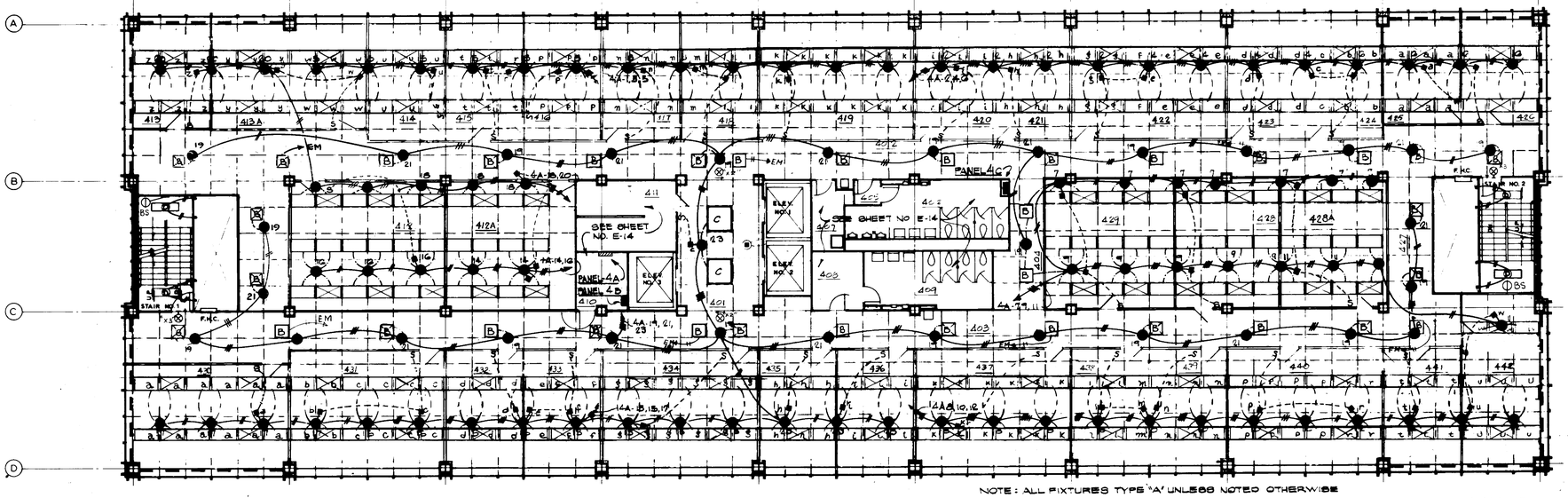
GROUPS OF FLOOR CELLS EACH GROUP: 1-120 V. ELECTRICAL-CT 2-TELEPHONE

NOTE: CIRCUIT NUMBERS SHOWN FOR FLOOR CELLS SHALL BE RUN IN EACH 120 V. ELECTRICAL CELL AS DIRECTED BY CONTRACTING OFFICER.

NORTH

FOURTH FLOOR PLAN - POWER & SIGNAL

SCALE 1/8" - 1'-0"



NOTE: ALL FIXTURES TYPE "A" UNLESS NOTED OTHERWISE

NORTH

FOURTH FLOOR PLAN - LIGHTING

SCALE 1/8" - 1'-0"

AS BUILT

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV	BY	DATE	C.I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE **BUILDING**
MSFC - HUNTSVILLE, ALABAMA

FOURTH FLOOR PLANS - POWER LIGHTING

NASA AE CONT. NO. NAS 8-12,018 — FILE NO. MSFC 8951

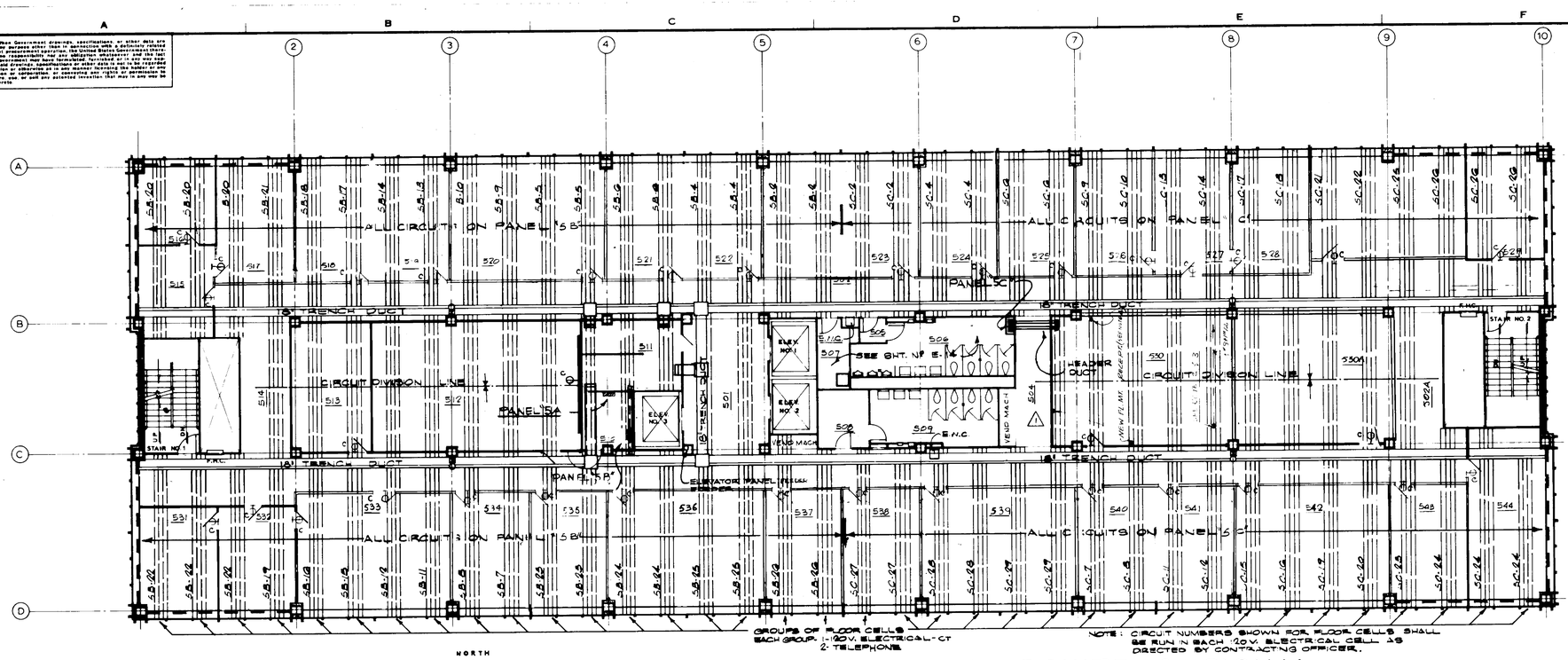
SUBMITTED: CHIEF — APPROVAL RECOMMENDED: [illegible] Proj. Eng. — APPROVED: D. S. Rowe A
AE DATE: 12-7-62 — MAP DATE: 6 — CHIEF, DESIGN BRANCH
DESIGNED - C. F. VENCILLKEN — APPROVAL RECOMMENDED: — NASA DATE: 3-4-64
DRAWN - SEE SHEET B — CHIEF, ELECTRICAL SECTION
CHECKED - C. F. V. — DESIGN DATE: 2-15-63 — DWGS. NO. F&D-A-4202-E11
SCALE: — SPEC. NO. F&D-441

REF. NO. E-11

CITY, MAR 17 1964

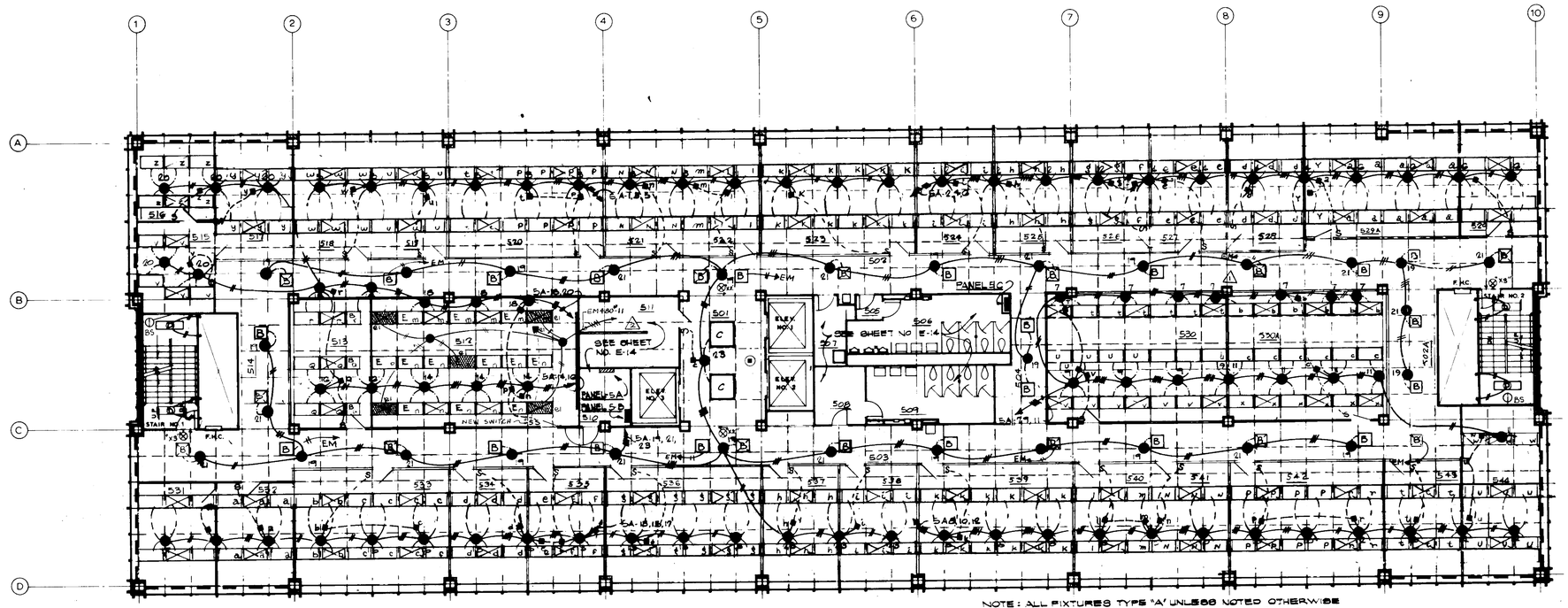
MSFC-FORM 232 (REV. DEC., 1960)

4202L



FIFTH FLOOR PLAN - POWER & SIGNAL

SCALE 1/8" = 1'-0"



FIFTH FLOOR PLAN - LIGHTING

SCALE 1/8" = 1'-0"

NOTE FOR MAINT.

1. ROOM No. 530 REMOVE OUTSIDE TUBES IN ALL 2 1/4" LIGHT FIXTURES, TO CUT DOWN HEAT LOAD DUE TO NEW COMPUTERS TO BE INSTALLED IN THIS ROOM.
2. INSTALL NEW 3P-50A CIRCUIT BREAKER & RUN 4#8 TW + 1#12 GND. TW IN UNDERFLOOR TO PANEL "5C" FOR POWER SUPPLY.
3. INSTALL DUPLEX OUTLET BOX (WITHOUT RECEPT. AND COIL UP 10'-0" OF WIRE OUTSIDE BOX.
4. INSTALL 3 FLOOR MOUNTED DUPLEX RECEPT. CONNECT TO EX. ST. 110V. CIRCUITS IN TRENCH.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

REV.	BY	DATE		C.I. NO.	APPROVED
2	TMB	6/14/62	[illegible] RMS		
1	[illegible]	8/2/62	[illegible] MAINT. RM. [illegible]		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — MSFC HUNTSVILLE, ALABAMA

WYATT C. HEDRICK — ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

FIFTH FLOOR PLANS - POWER - LIGHTING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. MSFC 8952

SUBMITTED: CHIEF — AE — DATE: 11-17-62
APPROVAL RECOMMENDED: [illegible] Proj. Eng. — DATE
APPROVED: [illegible] CHIEF, DESIGN BRANCH — NASA DATE

DESIGNED - C.F. WENDELKEN
DRAWN - GEO. KOLB
CHECKED - C.F.W.
SCALE:
APPROVAL RECOMMENDED: E. Wemeyer — CHIEF, ELECTRICAL SECTION — DESIGN DATE:
SPEC. NO. F&D-441

REF. NO. E-12 — DRWG. NO. F&D-A-4202-E12

Joe F. Morley 16 Oct 62

4202

MSFC-FORM 232 (REV. DEC., 1960)

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SIXTH FLOOR PLAN - POWER & SIGNAL

SCALE 1/8" - 1'-0"

NORTH

SIXTH FLOOR PLAN - LIGHTING

SCALE 1/8" - 1'-0"

NORTH

RISER DIAGRAM, EMERGENCY LIGHTING

NOTE:
Route conduit through electrical equipment room where possible.

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

SIXTH FLOOR PLANS — POWER - LIGHTING

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M-SFC 8953

REF. NO. E-13

DRAWING NO. FED-A-4202-E13

MSFC-FORM 232 (REV. DEC., 1960)

4202

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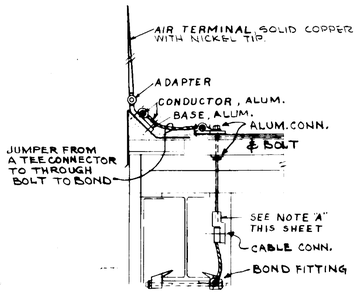
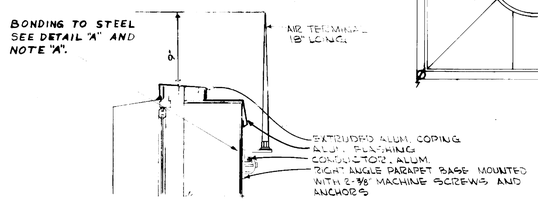


DETAIL "A"

MOUNTING AIR TERMINAL

ON PENTHOUSE ROOF

NO SCALE

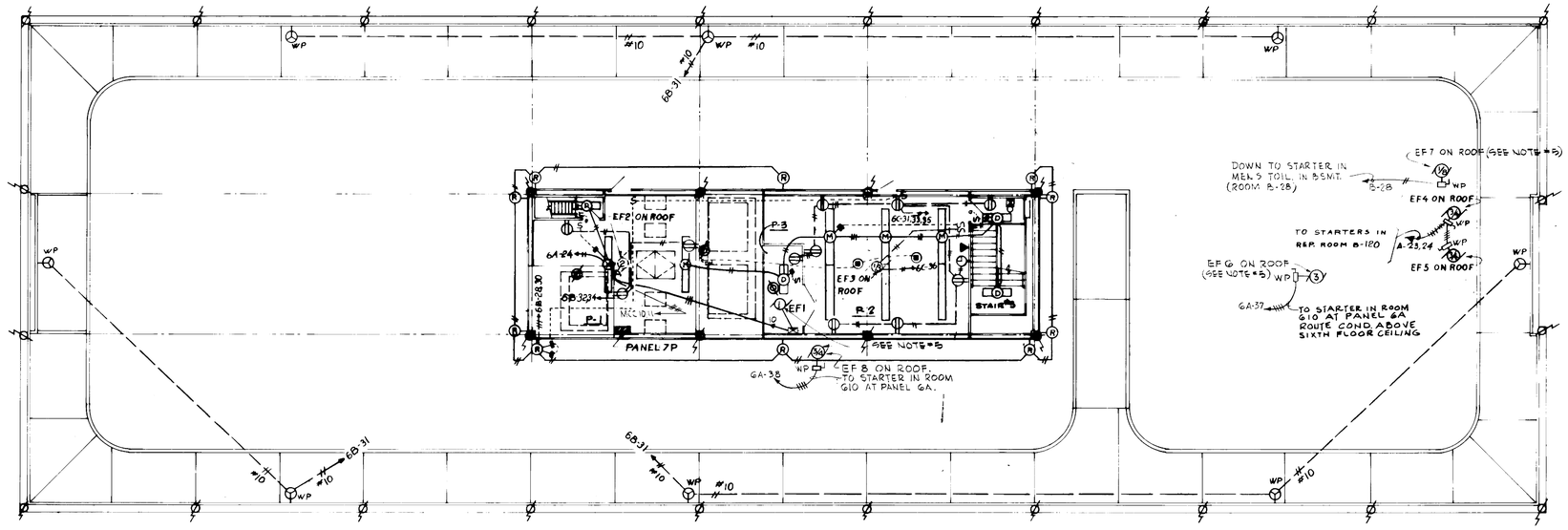


DETAIL "B"

MOUNTING AIR TERMINAL

ON MAIN ROOF

NO SCALE



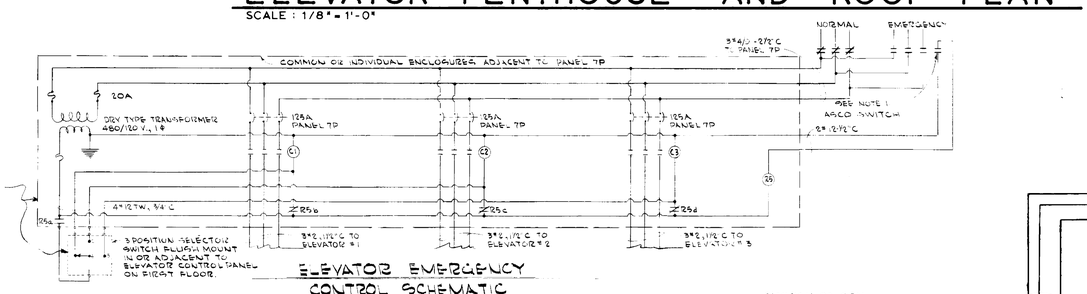
ELEVATOR - PENTHOUSE - AND ROOF PLAN

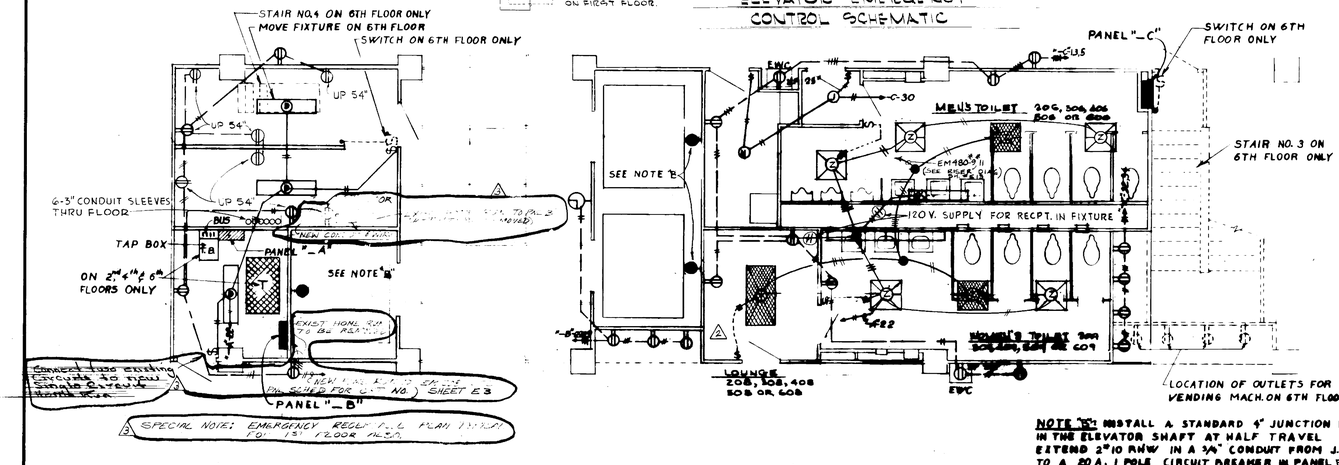
SCALE : 1/8" = 1'-0"

NOTE "A": LIGHTNING AIR TERMINALS SHOWN ON PENTHOUSE ARE ON ROOF OF PENTHOUSE. CONNECT AIR TERMINAL BONDING CONDUCTOR TO STEEL FRAMEWORK AT EVERY OTHER COLUMN, THE SAME COLUMNS AS ARE CONNECTED TO GROUNDING ELECTRODES, SEE DETAIL "A" THIS SHEET.

NOTES:

1. PROVIDE FACTORY-INSTALLED AUXILIARY CONTACT OPERATED FROM EMERGENCY SIDE OF AUTOMATIC TRANSFER SWITCH.
2. FURNISH AND INSTALL THE FOLLOWING COMPONENTS ADJACENT TO PANEL 7P.
   a. 480/120 VOLT SHIELD CONTROL TRANSFORMER
   b. THREE HEMA SIZE 3 CONTACTORS
   c. 10 RELAY 12A WITH 110 VOLT COIL AND THREE NC CONTACTORS AND ONE NO CONTACT
3. 480 V SWITCHED-A-4202-E2
4. THESE SHALL BE NO EXPOSED CONDUIT ON EXTERIOR WALLS OF PENTHOUSE.
5. INTERLOCK EXHAUST FANS EF5 & EF7 & EF8 WITH SUPPLY FAN EF2. PROVIDE 5 POLE RELAY IN MCC FOR THIS PURPOSE.



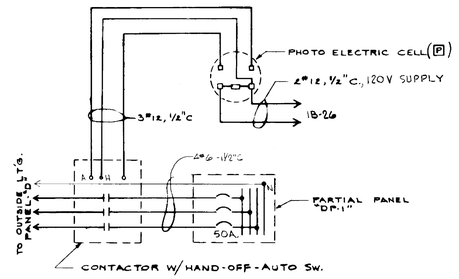


SPECIAL NOTE: EMERGENCY RECPT. & L. PLAN TYPICAL FOR 1ST FLOOR ALSO.

NOTE "B": INSTALL A STANDARD 4" JUNCTION BOX IN THE ELEVATOR SHAFT AT HALF TRAVEL EXTEND 2"10 RNW IN A 3/4" CONDUIT FROM J.B. TO A 20 A, 1 POLE CIRCUIT BREAKER IN PANEL EM 208

TYPICAL CORE PLAN - 2ND. THRU 6TH. FLOOR

SCALE : 1/4" = 1'-0"



WIRING DIAGRAM

OUTSIDE LIGHTING CONTROL

SPECIAL NOTE:
FIXTURES SHOWN SHADED ON EMERGENCY CIRCUIT

AS BUILT

REV.	BY	DATE	C.I. NO.	APPROVED
2	GB	10/14/66	ADDED RECEPT TO EMERG. PWR. TABLE RMS		GB 12/14/66
1	JWG	6-16-66	ADD EMER. LTS IN REST RMS		ED
			REVISED TYPE B'S		GM

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

WYATT C. HEDRICK, ARCHITECT ENGINEER — FORT WORTH, TEXAS

PROJECT ENGINEER OFFICE BUILDING
MSFC - HUNTSVILLE, ALABAMA

TYPICAL FLOOR CORE PLAN AND ROOF PLAN

NASA AE CONT. NO. NAS 8-12 015 — FILE NO. MSFC 8954

SUBMITTED: CHIEF Wyatt Hedrick — APPROVAL RECOMMENDED: Cynthia Prof Engr — APPROVED: CHIEF, DESIGN BRANCH

AE DATE 11-17-66 — BRNH DATE — NASA DATE

DESIGNED - J.A. PETURSSON
DRAWN - J.A. PETURSSON
CHECKED - C.F.W.

APPROVED: CHIEF, ELECTRICAL SECTION — DESIGN DATE — SPEC. NO. FED 441

SCALE: — DRWG. NO. F&D-A-4202-E14

SITE ADAPTED BY
HUDGINS, THOMPSON, BALL & ASSOC., INC.
ARCHITECTS-ENGINEERS
OKLAHOMA CITY, OKLAHOMA

APPROVED — CHIEF, DIVISION OF ENGINEERING AND CONSTRUCTION — Date

REF. NO. E-14

MSFC-FORM 232 (REV. DEC. 1960)

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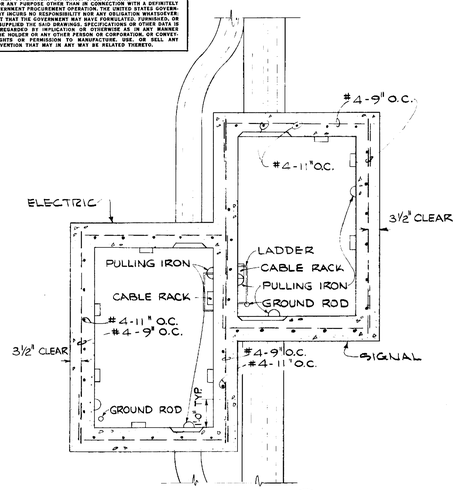
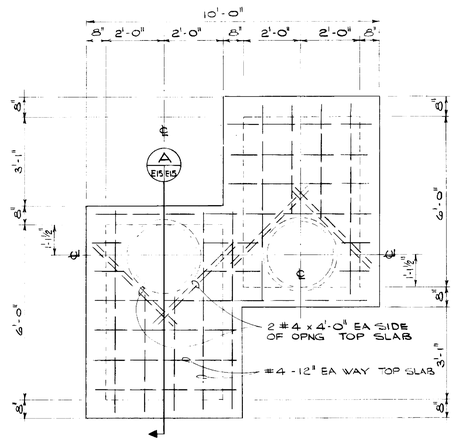
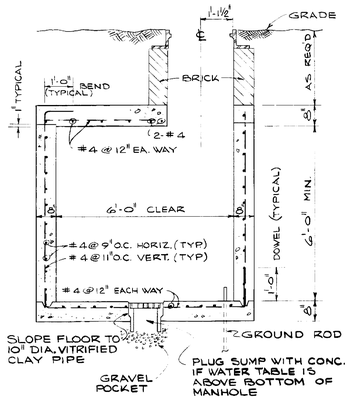


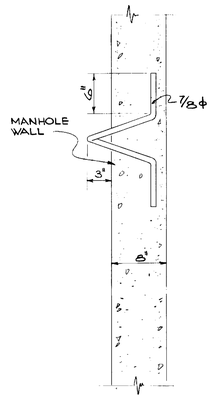
PLAN (N)
SCALE: 1/2" = 1'-0"



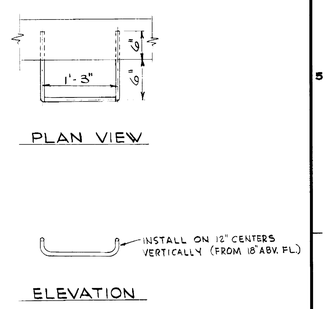
TOP VIEW
SCALE: 1/2" = 1'-0"



SECTION - A E15 E15
SCALE · 1/2" = 1'-0"

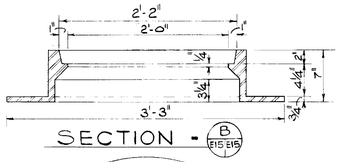


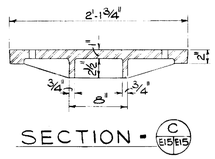
PULLING IRON
SCALE · 1½" = 1'-0"

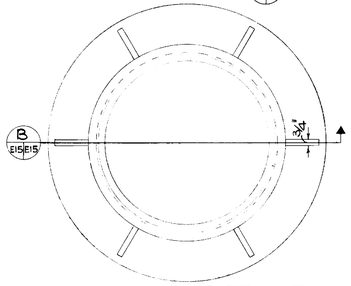


LADDER RUNG
SCALE · 1½" = 1'-0"

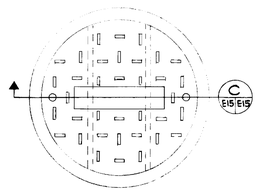
COMBINATION ELECTRICAL & SIGNAL MANHOLE NO. 4







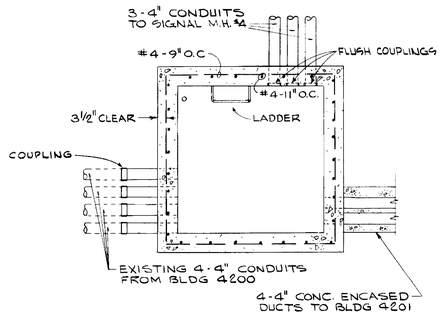
TOP VIEW OF FRAME



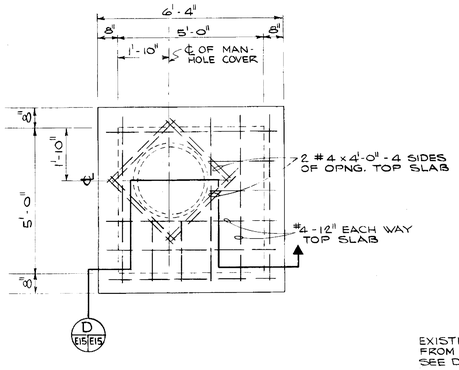
TOP VIEW OF COVER

NOTE:
MANHOLE COVERS TO BE MARKED SIGNAL OR ELECTRIC AS APPLICABLE. LETTERS TO BE 2" HIGH BY 3/8" STROKE

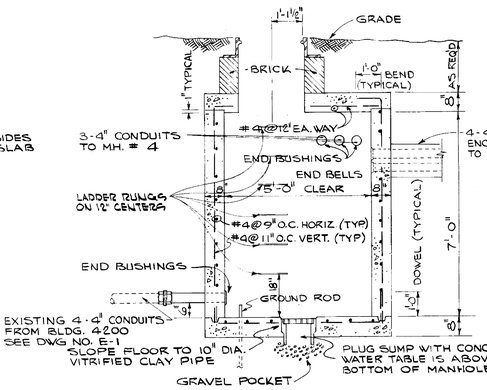
MANHOLE COVER AND FRAME
SCALE: 1½" = 1'-0"



PLAN (N)
SCALE: 1/2" = 1'-0"

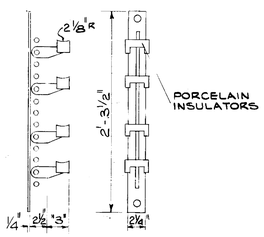


TOP VIEW
SCALE: 1/2" = 1'-0"



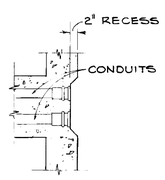
SECTION - D E15 E15
SCALE: 1/2" = 1'-0"

SIGNAL MANHOLE NO. 5



CABLE RACK
SCALE · 1½" = 1'-0"

NOTE · FASTEN CABLE RACK TO WALL WITH 1/2" ϕ x 2½" BOLTS AND EXPANSION SHIELDS



TYP. DUCT ENTRANCE
NO SCALE

REV.	BY	DATE		C. I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C — HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

MANHOLE DETAILS

NASA AE CONT. NO. NAS 8-12,015		FILE NO. M S F C 8955
SUBMITTED: CHIEF AE. DATE: 5/13/64	APPROVAL RECOMMENDED: LAB. DATE:	APPROVED: CHIEF DESIGN BRANCH MASA DATE: 7-14-64
DESIGNED HERRING DRAWN PAYTON CHECKED HERRING SCALE: AS NOTED	APPROVAL RECOMMENDED: CHIEF ELECTRICAL SECT DESIGN DATE: 3-16-64 SPEC. NO. FBD-441	DRWG. NO. FBDA4202-E-15

APPROVED FOR SAFETY MAR 17 1964

REF NO. E-15

MSFC-FORM 232 (REV. APRIL 1962)

4202

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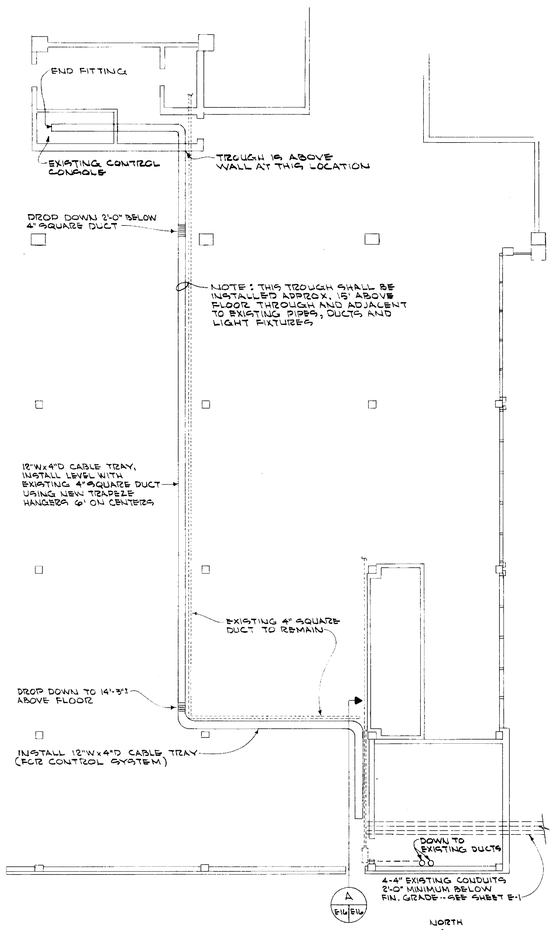
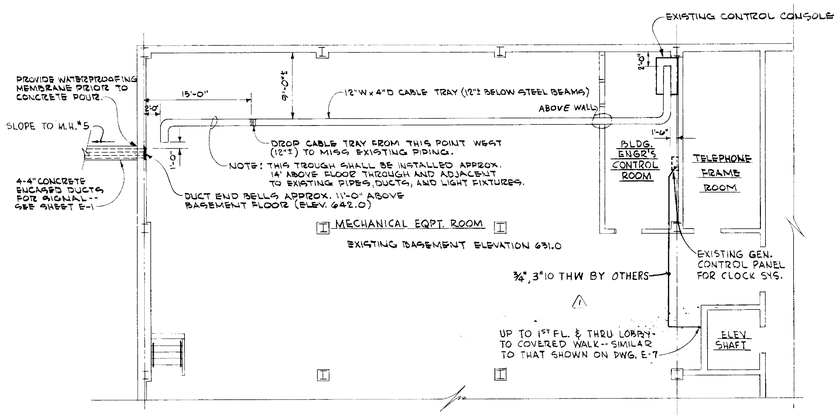
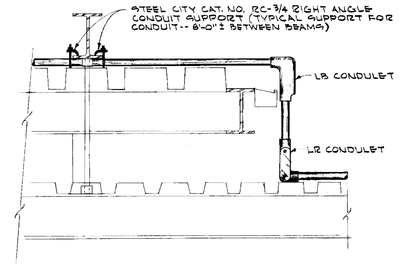


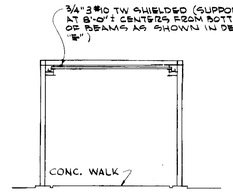
BSMT. PART. PLAN
BLDG. 4200
SCALE: 1/8" = 1'-0"



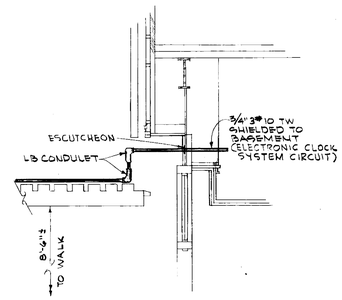
BSMT. PART. PLAN
BLDG. 4201
SCALE: 1/8" = 1'-0"



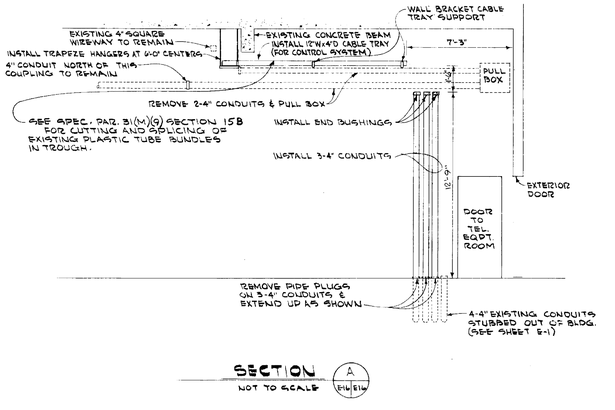
DETAIL "E"
SCALE: 1 1/2" = 1'-0"



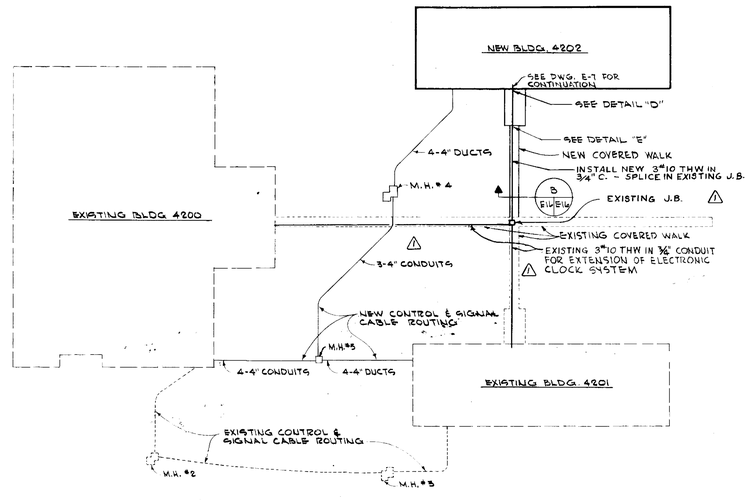
SECTION
SCALE: 1/4" = 1'-0"
B F1W E1W



DETAIL "D"
SCALE: 1/2" = 1'-0"



SECTION
NOT TO SCALE



PLOT PLAN
SHOWING CONTROL & SIGNAL CABLE ROUTING
SCALE: 1" = 50'-0"

AS BUILT

REV.	BY	DATE		C.I. NO.	APPROVED
1	JJD	4-23-64	REV. CLOCK SYSTEM CONDUIT	—	G.H.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT-ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

SIGNAL RACEWAY SYSTEM & DETAILS

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8961

SUBMITTED: CHIEF A.E. DATE: 3/13/64 — APPROVAL RECOMMENDED: LAB. DATE: — APPROVED: CHIEF: DESIGN BRANCH NASA DATE: 3-16-64

DESIGNED HERRING, DRAWN ROBERTS, CHECKED HERRING — APPROVAL RECOMMENDED: CHIEF, ELECTRICAL SECTION, DESIGN DATE: 3-16-64 — SPEC. NO. F&D-441 — SCALE: AS NOTED — DRWG. NO. F&D-A4202-E-16

APPROVED FOR SAFETY — MAR 17 1964 — REF NO. E-16

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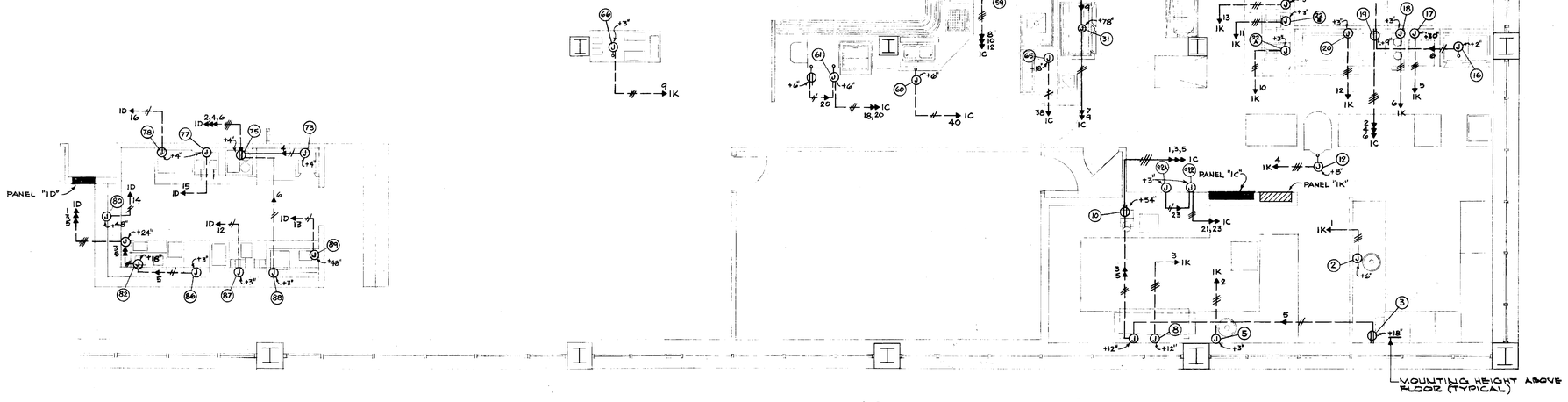
KITCHEN EQUIPMENT SCHEDULE

DESIG.	DESCRIPTION	H.P. OR K.W.	VOLTS	PHASE	SIZE WIRE & CDT.
2	DISPOSAL	1½	440	3	3#12 - ¾"
3	POT WASHER	¼	115	1	2#12 - ¾"
5	DISPOSAL	1½	440	3	3#12 - ¾"
8	DISHWASHER	(2) - 1½	440	3	3#12 - ¾"
10	GLASS WASHER		115	1	2#12 - ¾"
12	MIXER	½	440	3	3#12 - ¾"
16	REFRIGERATOR	⅓	115	1	2#12 - ¾"
17	STEAM TABLE	(Est.) 5 K.W.	440	3	3#12 - ¾"
18	BAKERS STOVE	5.3 K.W.	440	3	3#12 - ¾"
19	PROOF CABINET	1.0 K.W.	115	1	2#12 - ¾"
20	BAKE OVEN	18.6 K.W.	440	3	3#8 - ¾"
22A	RANGE	12.5 K.W.	440	3	3#10 - ¾"
22B	RANGE	12.5 K.W.	440	3	3#10 - ¾"
22C	RANGE	21.0 K.W.	440	3	3#8 - ¾"
22D	RANGE	22.5 K.W.	440	3	3#8 - ¾"
22E	RANGE	22.5 K.W.	440	3	3#8 - ¾"
22F	RANGE	22.5 K.W.	440	3	3#8 - ¾"
24	STEAMER & KETTLE	¼	115	1	2#12 - ¾"
26	MIXER	½	440	3	3#12 - ¾"
31	REFRIGERATOR	⅓	115	1	2#12 - ¾"
32	REFRIGERATOR	⅓	115	1	2#12 - ¾"
34	RADAR RANGE	1.6 K.W.	115	1	2#4 - 1¼"
35A	HOT & COLD CAB.	½	115	1	2#12 - ¾"
35B	HOT & COLD CAB.	2080 W.	115	1	2#10 - ¾"
37	VEG. CUTTER & SLICER	⅓	115	1	2#12 - ¾"

DESIG.	DESCRIPTION	H.P. OR K.W.	VOLTS	PHASE	SIZE WIRE & CDT.
42	SLICER	¼	115	1	2#12 - ¾"
43	PEELER	¾	440	3	3#12 - ¾"
53	HEAT LAMP	1.0 K.W.	115	1	2#12 - ¾"
54	HEATED LOWERATOR	.5 K.W.	115	1	2#12 - ¾"
55	HEATED LOWERATOR	.5 K.W.	115	1	2#12 - ¾"
56	ROLL WAMER	.8 K.W.	115	1	2#12 - ¾"
57	MILK DISP.	.5 K.W.	115	1	2#12 - ¾"
59	JET SPRAY DISP.	.5 K.W.	115	1	2#12 - ¾"
60	COFFEE URN	5 K.W.	208	1	2#8 - ¾"
61	ICE CREAM CAB.	⅛	115	1	2#12 - ¾"
64	HEATED DISH CAB.	3.6 K.W.	208	1	2#10 - ¾"
65	ICE MAKING MACH.	¼	115	1	2#12 - ¾"
66	WATER & CONDIMENT STA.	¾	440	3	3#12 - ¾"
73	REFRIGERATOR	¼	115	1	2#12 - ¾"
75	FOOD WARMER	1.65 K.W.	115	1	2#12 - ¾"
77	FRYER	9.2 K.W.	208	1	2#4 - 1¼"
78	GRIDDLE	12.0 K.W.	208	1	2#4 - 1¼"
80	COFFEE URN	3.0 K.W.	208	1	2#12 - ¾"
82	ICE MAKING MACH.	¼ H.P.	115	1	2#12 - ¾"
86	MALT MIX. MACH.	.5 K.W.	115	1	2#12 - ¾"
87	ICE CREAM FOUNT.	1 H.P.	115	1	2#12 - ¾"
88	SAND. UNIT	⅓ H.P.	115	1	2#12 - ¾"
89	TOASTER	2.45 K.W.	115	1	2#10 - ¾"
*	SERVING LINE LIGHTS	.5 KW	115	1	2#12 - ¾"
†	SERVING LINE HEATING	8.0 KW	208	1	2#6 - 1"
92A	WAITRESS STATION	1.0 KW	115	1	2#12 - ¾"
92B	WAITRESS STATION	⅛ H.P.	115	1	2#12 - ¾"



KITCHEN EQUIPMENT PLAN

SCALE : ¼" = 1'-0"

NOTES :
1. PROVIDE A GREEN INSULATED GROUNDING CONDUCTOR FOR EACH KITCHEN EQUIPMENT CIRCUIT SIZED IN ACCORDANCE WITH TABLE 250-95 OF THE NATIONAL ELECTRIC CODE.
2. SEE KITCHEN EQUIPMENT SCHEDULE FOR CONDUIT & WIRE SIZES.
3. EXACT HEIGHT & LOCATION OF OUTLETS FOR KITCHEN EQUIPMENT SHALL BE COORDINATED WITH EQUIPMENT FURNISHED.
4. MOTOR STARTERS FOR CONDENSING UNITS A & B ARE FURNISHED UNDER SPEC. SECT. 15 G.

AS BUILT

REV.	BY	DATE		C. I. NO.	APPROVED

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — M S F C, HUNTSVILLE, ALABAMA

HUDGINS, THOMPSON, BALL & ASSOC. INC. ARCHITECT ENGINEER — OKLAHOMA CITY, OKLA.

PROJECT ENGINEER OFFICE BUILDING
M S F C - HUNTSVILLE, ALABAMA

ELECTRICAL KITCHEN LAYOUT

NASA AE CONT. NO. NAS 8-12,015 — FILE NO. M S F C 8962

SUBMITTED CHIEF — A.E. DATE 3/13/64 — APPROVAL RECOMMENDED: — APPROVED G. A. Ramsey Jr. CHIEF: DESIGN BRANCH — LAB. DATE: — NASA DATE: 3-16-64

DESIGNED HERRING, DRAWN HALL, CHECKED HERRING — SCALE: ¼" = 1'-0" — APPROVAL RECOMMENDED: E. D. Harrison CHIEF: ELECTRICAL SECT. — DESIGN DATE: 3-16-64 — SPEC. NO. FED. SPEC.

DRWG. NO. FD-A4202-E-17

APPROVED FOR SAFETY — SAFETY OFFICE — MAR 17 1964 DATE

REF. NO. E-17

MSFC-FORM 232 (REV. APRIL 1962)

4202