1973 INSPECTION
NASA LEWIS RESEARCH CENTER
SEPTEMBER 19, 20 and 21
DAILY SCHEDULE

8:00 - 9:00	Arrival and Registration
9:00	Welcoming Remarks
9:10	Opening Address
9:25	Start Inspection Tour. Board bus marked with your badge color.
9:30	Buses leave DEB.
9:40	1st Stop
10:15	2nd Stop
10:40 - 10:55	Coffee Break. Group at Stop.
10:50 - 11:05	Coffee Break. Group coming to Stop.
11:05	3rd Stop
11:40	4th Stop
12:15	5th Stop
12:50	Lunch
1:40	Resume Tour. Board bus marked with your badge color.
1:45	Buses leave DEB.
1:55	6th Stop
2:30	7th Stop
2:55 - 3:10	Coffee Break. Group at Stop.
3:05 - 3:20	Coffee Break. Group coming to Stop.
3:20	8th Stop
3:55	9th Stop
4:30	Social at Hangar (Special Exhibits)
5:00	Buses start leaving for DEB Visitor Parking, Airport and Motels.

DAILY

DAILY SCHEDULE - 1973 INSPECTION OF LEWIS RESEARCH CENTER - SEPTEMBER 19, 20 & 21

7:30 Start Guest pickup at Motels and Airport
8:00 REGISTRATION. Baggage Checking; . . . . . Development Engineering Bldg. Cafeteria
9:00 WELCOMING REMARKS by Director . . . . . DEB Auditorium
9:10 OPENING ADDRESS by NASA Administrator
9:25 START TOUR. Board bus marked with same color as your badge.

STOP NO.	SUBJECT (Location)	TELEPHONES PAX	TELEPHONES PBX	SILVER	GOLD	GREEN	BLUE	YELLOW	PINK	WHITE	BUFF	SALMON
1	QUIETING THE FLEET (10x10 Shop)	4127	362	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40
2	CLEANER SKIES (PSL 3 & 4)	5269	6980	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20
3	POWERED LIFT (9x15)	8305	None	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05
4	BIG BOOST FROM ROCKETS (Zero-G)	8528	6928	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45
5	SPACE ELECTRONICS TECHNOLOGY (EPL)	8188	206	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30
6	CLEAN ENERGY FOR A BETTER LIFE (ERB - Center)	3202 & 5225	251	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20
7	MATERIALS FOR MAN (MPL)	2298	391	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05
8	THE IMPACT OF WEAR (ERB - West Wing)	3172 & 6218	251	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40
9	SERVANTS IN SPACE (Ad. Bldg. Aud.)	2228		1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55
	MORNING COFFEE BREAK (15 Minutes)			10:40 - 10:55 (EPL)	10:50 - 11:05 (ERB - West)	10:40 - 10:55 (ERB - West)	10:50 - 11:05 (Ad. Bldg.)	10:40 - 10:55 (Ad. Bldg.)	10:50 - 11:05 (PSL)	10:40 - 10:55 (PSL)	10:50 - 11:05 (10x10)	10:40 - 10:55 (10x10)
	AFTERNOON COFFEE BREAK (15 Minutes)			3:05 - 3:20 (PSL)	2:55 - 3:10 (PSL)	3:05 - 3:20 (10x10)	2:55 - 3:10 (10x10)	2:55 - 3:10 (EPL)	3:05 - 3:20 (ERB - West)	2:55 - 3:10 (ERB - West)	3:05 - 3:20 (Ad. Bldg.)	2:55 - 3:10 (Ad. Bldg.)
	LUNCHEON (50 Minutes) (DEB Cafeteria)			12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40

4:30 SOCIAL - Hangar (Stop 10) - Special Exhibits (Telephones: PAX, 4171 & 6232; PBX, 448)
5:00 Buses begin to leave for visitor parking, airport, and motels via DEB for baggage pickup.
5:15 Last bus and NASA cars depart Hangar.

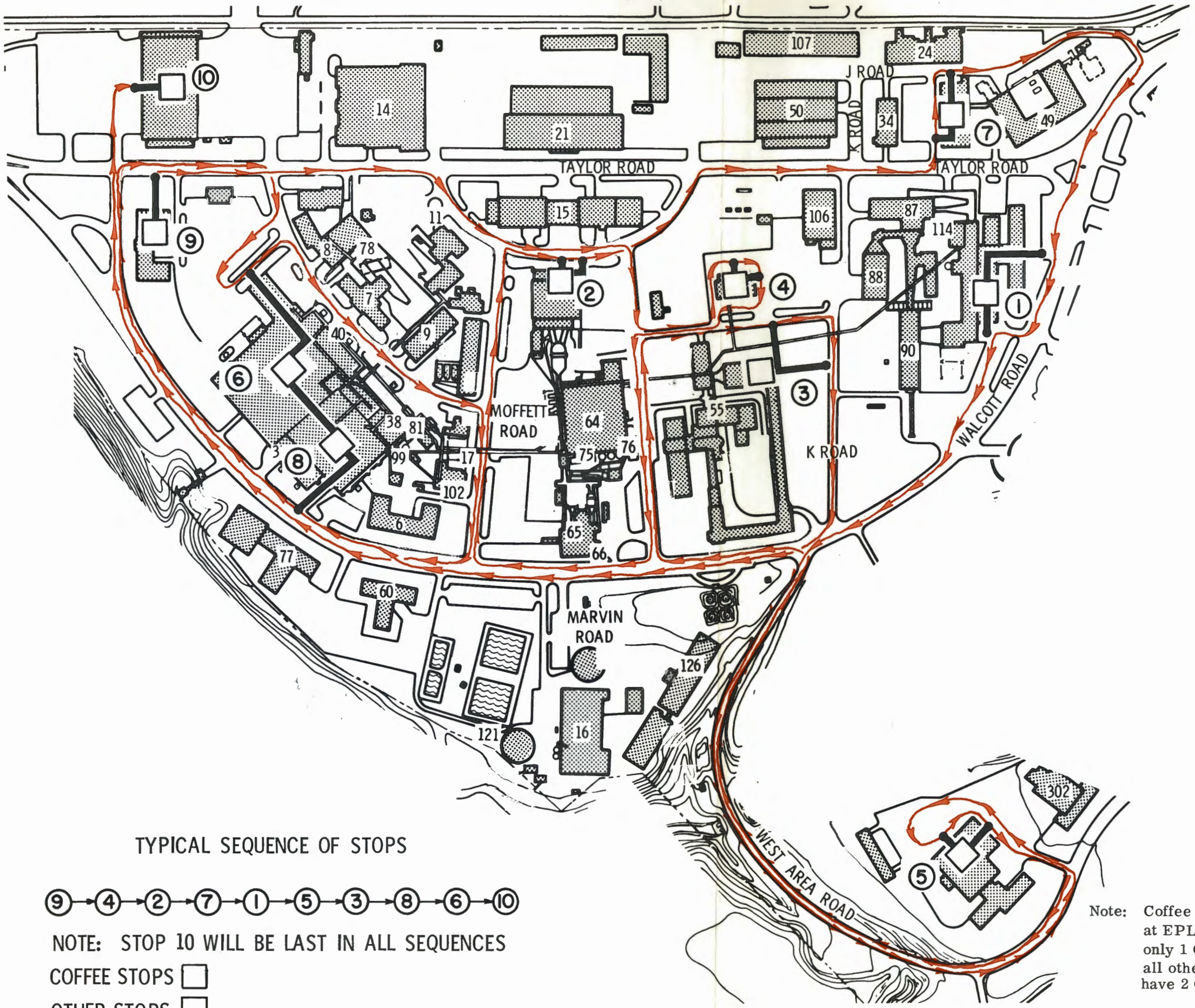
Notes:

1. A group will contain a maximum of 50 persons.
2. Luncheon will be served in the DEB Cafeteria.
3. Coffee stops will accommodate two groups at:
   a) 10x10 Shop Area
   b) Ad. Bldg. Aud.
   c) ERB West Wing
   d) PSL 3 & 4
4. A coffee stop will accommodate only one group at EPL.
5. Times at each stop indicate beginning and end of presentation.
6. Each presentation is 25 minutes.
7. Moving time between presentations is 10 minutes.

PROGRAM

INSPECTION GROUPS

COLOR	STOP SEQUENCE
SILVER	1 - 5 - 3 - 8 - 6 - 9 - 4 - 2 - 7
GOLD	5 - 3 - 8 - 6 - 9 - 4 - 2 - 7 - 1
GREEN	3 - 8 - 6 - 9 - 4 - 2 - 7 - 1 - 5
BLUE	8 - 6 - 9 - 4 - 2 - 7 - 1 - 5 - 3
YELLOW	6 - 9 - 4 - 2 - 7 - 1 - 5 - 3 - 8
PINK	9 - 4 - 2 - 7 - 1 - 5 - 3 - 8 - 6
WHITE	4 - 2 - 7 - 1 - 5 - 3 - 8 - 6 - 9
BUFF	2 - 7 - 1 - 5 - 3 - 8 - 6 - 9 - 4
SALMON	7 - 1 - 5 - 3 - 8 - 6 - 9 - 4 - 2



TYPICAL SEQUENCE OF STOPS

9 → 4 → 2 → 7 → 1 → 5 → 3 → 8 → 6 → 10

NOTE: STOP 10 WILL BE LAST IN ALL SEQUENCES

COFFEE STOPS ☐

OTHER STOPS ☐

Note: Coffee stop at EPL has only 1 Group all others have 2 Groups.

Bus Guide Talk

SILVER GROUP

Alternates -

DEB - Stop 1 (Quieting the Fleet)

Here is the PIO material you did not get at Thursdays meeting. Note that it is in the Silver Group Sequence. It would have to be changed if you get a different group.

Good morning, I'm _____. In the back of the bus are _____ and _____. We will be with you throughout your tour of the various program stops today. During the day we will be traveling on this bus to various points of interest around our 350 acre laboratory site. You will be seeing portions of nine of our research facilities and I will try to tell you a little about the others as we pass them. If you have any questions during the day please don't hesitate to ask and if I don't know the answer, I'll try to find someone who does.

On your left you can see the Flight Research Building, or Hangar, where we will be concluding our tour. In it we have assembled a number of exhibits representing almost all of the NASA centers. The exhibits range from historical ones showing some of the accomplishments which are impacting everyone's life today to those concerning the future.

(More)

SILVER GROUP

DEB - Stop 1 (Quieting the Fleet)

We are now on our way to the shop area of the 10 by 10 supersonic wind tunnel to hear about programs and the progress in quieting the jet aircraft of today and the future. This wind tunnel, which you will see a portion of, was the first large supersonic wind tunnel designed specifically for testing engines while they were operating. The 10 by 10 designation refers to the fact that the test section is 10 foot wide and 10 foot high. Airflow through the test section ranges from 2 to 3.5 times the speed of sound with altitude simulation of 50,000 to 150,000 feet. The tunnel has been used to test a variety of scale model aircraft, rocket boosters, upper stage launch vehicles, nose cones, and engine inlets.

Stop 1 to 5 (Quieting the Fleet to Spacecraft Electronics Technology)

Our bus is now on its way to the West area of our Center. The area has two major facilities, the Electric Propulsion Laboratory and the Energy Conversion Laboratory. Both play key roles in the Center's research projects on advanced propulsion and electric power generation. The Electric Propulsion Laboratory is the building we will be visiting to hear about spacecraft electronics technology. This laboratory houses two large tanks that can be evacuated to very low pressures to simulate the environment of space. The vacuum is necessary for testing electric rockets since they cannot operate in the atmosphere.

A new facility to study jet engine noise can be seen on your left. It contains a TF-34 engine which is similar to the kind needed for short take-off and landing planes. In the present tests, both noise and performance characteristics of the engine are being measured.

One of the space tanks in the Electric Propulsion lab is being used for testing a Lewis spacecraft called SPHINX which will be launched in January. The acronym stands for space plasma high

voltage interaction experiment. This spacecraft is not only undergoing vacuum testing but there is also an array of lamps in the chamber to simulate the solar heating that one side of the spacecraft will experience in actual earth orbit.

The other facility, which will appear on your right as we pull in the parking lot, is a laboratory devoted to advanced direct energy conversion devices such as solar cells. Another laboratory nearby houses researchers who are working primarily on fuel cells and batteries.

Stop 5 to 3 (Spacecraft Electronic Technology to Powered Lift)

This part of our trip will take us back to the main part of the Center past the 8 by 6 wind tunnel. The 8 by 6 is a transonic wind tunnel that operates from approximately 200 miles per hour up to twice the speed of sound. It has been designed to have good simulation of the conditions under which the air goes from subsonic (less than the speed of sound) to supersonic. This is a particularly hard operating regime to duplicate in a wind tunnel.

The program stop we are going to, Powered Lift, is located in the air return leg of the 8 by 6 tunnel. Another test section called the 9 by 15 tunnel, was created in the air return portion of the 8 by 6. The air drive system thus does double duty. The airflow through the 9 by 15 foot test section ranges in velocity from about 30 miles per hour to about 175 miles per hour; we use it for developing propulsion technology for aircraft which will take off vertically or in very short runway distances. The tunnel speeds are right for tests of propulsion system components such as lift fans at take-off and landing speeds and before the normal cruise speed has been attained.

Stop 3 to 8 (Powered Lift to the Impact of Wear)

The structure that you see on your left sticking out from the end of the 10 by 10 supersonic wind tunnel is another example of dual use of an existing facility. The electric motors from the wind tunnel drive an experimental fan for a turbofan engine so that the effects of such things as new fan blades on noise can be studied independently of other engine noise sounds. Note the microphones on the masts. Other equipment in the area is used for noise testing of blown flap configuration such as you just heard about.

As we head down this street you may notice on your left large white domes. These are used to retrieve and to store gaseous helium. We use liquid helium for chilling down superconducting magnets in the building over there. Such magnets can produce very high strength fields which someday may be used to contain thermonuclear plasmas with temperatures measured in millions of degrees. Superconducting materials being explored at Lewis have wide potential in power transmission and electrical control down here on Earth.

Also on your left is our instrumentation research building.

Up the road on our right is the Engine Research Building which comprises about a hundred engineering test cells. They are used for process and components studies, for example, how to improve efficiencies of turbines, compressors and other aircraft components. A few researchers are even working on new kinds of automobile engines such as the gas turbine which you'll hear about later.

Next, we'll be seeing a sample of the Center's research on lubrication and wear.

Stops 6 to 9 (Clean Energy to Servants in Space)

Let's continue our tour. The building on your left houses space chambers which test spacecraft shrouds, space vehicles like Centaur, and other items.

Extensive testing also is required in order to improve performance of aircraft engines. On your right is the Engine Components Research Building. One of its facilities is a special research turbojet engine which can test turbine blades and vanes at inlet temperatures up to 2,500 degrees Fahrenheit.

The building on your right as we round the corner is the Chemistry Laboratory. As you might suspect, it contains small laboratories used for a variety of kinds of basic research. Investigations are made largely at the molecular level in such areas as heat transfer, fluid flow, thermodynamics and chemical kinetics.

On your left we're passing the Instrument Research Laboratory. In large part, research relies on a capability to make very precise measurements. Here instruments are specially designed, built and tested to do the jobs.

Our next stop will be in the auditorium of the Administration Building. We'll be getting a look at how NASA spacecraft are used in practical, everyday ways.

Stops 9 to 4 (Servants in Space to Big Boost from Rockets)

Our next stop will be at Lewis' Zero-Gravity Research Facility, a 500-foot drop tower used to study fluid behavior under weightless condition. The subject which will be discussed is the role the Lewis Center plays in launching space payloads and the impact advances in rocketry have had for the man on the street.

The building to your right contains a special type of wind tunnel...one used to determine how ice patterns build up on aircraft in flight. From these studies, devices have been built to heat airfoils and reduce or eliminate ice. At the present time this facility is being used by industry.

The Propulsion Systems Laboratory is on our right, which you will be visiting (or have visited). The boiler plate you can see from the outside is part of two large chambers which test full scale jet engines at altitude conditions.

The Zero-Gravity Facility up ahead with the big green stripe around it was built in 1966. It is a unique facility in this country,

providing an economical way to achieve up to ten seconds of weightlessness. Experiment packages which free-fall in the facility make possible basic research in such areas as heat transfer and slosh dynamics of fluids. These studies have led to designing propellant management and transfer systems for space vehicles of the future.

STOP 4 to 2 (Big Boost from Rockets to Cleaner Skies)

We are now on our way to the newest portion of our Propulsion Sciences Laboratory, or PSL 3 & 4, to hear about the development of technology to reduce exhaust emissions from aircraft. PSL is designed for the testing of large turbojet engines under altitude conditions up to 70,000 feet. On your right we are passing the PSL equipment building housing large compressors and exhausters for altitude simulation in many facilities. This building is tied into other buildings on the laboratory through the large overhead pipes you see so that the equipment providing air and low pressure exhaust can be utilized as efficiently as possible.

As we make the turn here we are passing the original test section of the Propulsion Sciences Laboratory. Started in 1948 not only has the facility been used in developing many advances in jet engines over the years but it played a key role in the development of the RL-10 liquid hydrogen rocket engine used on the Centaur second stage launch vehicle. Facilities that can simulate our flight regimes well in advance of the years we expect in those regimes are absolutely crucial to advances in propulsion. We are now in front of PSL 3 & 4. Please follow your guide straight through the doors and directly ahead to the program area.

Stop 2 to 7 (Cleaner Skies to Materials for Man)

We are now on our way to the Materials Processing Laboratory. Advances in the materials field means advances in the technology of many other fields. Very often the strength of a material, its ductility or its ability to withstand extreme environments, is the pacing element in the development of more advanced aircraft engines and space hardware. As we travel we will be passing the Basic Materials Laboratory (on our right) where a portion of the work involves the study of materials on an atomic level. This week, for the second time, several of the scientists working in this building are being honored by Industrial Research Magazine for having developed one of the 100 most significant products during the past year. This is the ninth IR-100 award won by Lewis since it began entering the competition in 1966. The development that lead to the award was of a new x-ray photographic system that has potential application in industry as well as in basic research. The emulsion of the x-ray film uses nickel rather than silver. The film has unlimited shelf life, is insensitive to visible light which eliminates the need for darkrooms and film holders and development is relatively simple. The new film process grew out of a project to prepare ultra pure metals by irradiation.

Everywhere to 10

We are now on our way to the last ~~major~~ stop on your tour today, the Flight Research Building or Hangar. At the Lewis Hangar, you will find ~~refreshments and~~ displays from each of NASA's field centers.

~~At the Lewis Hangar, each of NASA's field centers is displaying its programs and areas of research~~. The George C. Marshall Space Flight Center in Huntsville, Alabama, will show a Skylab movie and full-scale Orbiter engine. The Lyndon B. Johnson Space Center in Houston will feature the command module from the Apollo 17 mission, medical and life sciences displays. Models from Cape Kennedy will depict the Vehicle Assembly Building and the Space Shuttle, shown graphically as a space transportation system. The Goddard Space Flight Center in Greenbelt, Maryland, will present a panorama of Earth Resources Technology Satellite results, and the Ames Research Center at Moffett Field, California, will display a Pioneer Jupiter model and a space medical applications exhibit. The Langley Research Center in Hampton, Virginia will feature a display on aeronautical progress and a program on the Viking mission. The Jet Propulsion Laboratory in Pasadena, California, is featuring

a photomosaicked globe of the planet Mars. NASA's Flight Research Center in Edwards, California, will display some models of flight research. NASA aircraft will be on display in the apron area of the Hangar. Lewis will have a "Benefits from Space" exhibit. And -- it's attitude adjustment time!

Following your stay there, buses will start to take you back to the Development Engineering Building at 5 p. m. and leave at short intervals afterwards, to find your car or pick up your luggage. Other buses, as marked, will deliver you to the airport and the motels. We've enjoyed being with you today and hope that we have covered the areas of our work of most interest to you.

1973 LEWIS INSPECTION ESCORT TEAMS

Legend: 1) Group Leader
2) Assistant Group Leader
3) Bus Guide

	PAX	MAIL STOP
Tour Guide Coordinator - Harold D. Wharton	8070	77-3
SILVER GROUP		
1) Dave Poferl Airbreathing Engines Division	5274	77-2
2) Les Nichols Physical Science Division	5229	301-2
3) Al Wisniewski Equipment & Supply Division	8323	21-9
GOLD GROUP		
1) Bud Meilander Test Installations Division	4128	110-1
2) Dale Cooper Physical Science Division	5230	77-1
3) Gordon Steiner Facilities Operations Division	3198	23-1
GREEN GROUP		
1) Glen Zellars Materials & Structures Division	7230	49-3
2) Bob Meyer Facilities Engineering Division	5141	21-6
3) Jim Youngman Equipment & Supply Division	8323	21-9
BLUE GROUP		
1) George Tunder Test Installations Division	4140	24-1
2) Genevieve Esgar Fluid System Components Division	8177	5-9
3) Reginald Grey Safety & Project Planning Office	2271	6-1

	PAX	MAIL STOP
YELLOW GROUP		
1) Bill Nieberding Instrument Applications Office	8520	77-1
2) Ted Guzik Fabrication Division	3283	14-1
3) Marilyn Weaver Management Services Division	5264	5-5
PINK GROUP		
1) Norm Wenger Physical Science Division	4289	77-1
2) Tom Ockuly Facilities Operations Division	5159	87-1
3) Dick Brown Management Services Division	8162	5-6
WHITE GROUP		
1) Bob Englund Instrument Applications Office	7146	77-1
2) Dick Raabe Facilities Operations Division	8448	107-1
3) Wilbur Pincombe Test Installations Division	4250	7-1
BUFF GROUP		
1) John Cornish Personnel Division	8157	500-314
2) Dan Keliher Construction Division	2192	21-10
3) Paul Laisure Safety & Project Planning Office	3159	15-5
SALMON GROUP		
1) Bob Clarke Test Installations Division	6173	23-1
2) Ron Kiessling Test Installations Division	2224	54-7
3) Bob Behrendt Test Installations Division	5225	23-1

3.

	PAX	MAIL STOP
Alternates		
Clarence Forbes Personnel Division	8427	500-314
Jack Colegrove Safety & Project Planning Office	3168	15-5
John Sikora Equipment & Supply Division	2195	77-3
Dan Prok Safety & Project Planning Office	3168	15-5
Pam Caswell Management Services Division	5264	5-5

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LEWIS RESEARCH CENTER
CLEVELAND, OHIO 44135

REPLY TO
ATTN OF:

August 31, 1973

Distributed at the initial meeting and subsequently superceded by individual instruction sheets.

MEMORANDUM

TO: Those Concerned

FROM: Tour Guide Coordinator

SUBJECT: Operating Instructions for Inspection Group Escort Plans

A. The Group Leader will:

1. Act as NASA Host to his group, treat them as favored guests.
2. Introduce himself and his assistants to his group in the bus.
3. Carry the color sign so guests will know who to follow.
4. Assert positive leadership over his group.
5. Be responsible for adhering to the published schedule.
6. Make appropriate introductions at each stop.
7. Make appropriate announcements enroute.
8. Attend to personal needs of guests: messages, transportation, telephones, illness, etc.
9. Politely interrupt speakers when time is up to keep on schedule.
10. Refrain from holding question periods with speakers at a stop.
11. Be informed about Lewis so as to answer satisfactory questions.
12. Know how to refer policy or other such questions to proper spokesmen.
13. Direct the support activities of his Assistant Leader and bus guide.
14. Assist in loading buses at Hangar for final destination. (after Social)

B. The Assistant Leader will:

1. Take directions from the Group Leader.
2. Observe schedule and inform Group Leader when time to move on.
3. Bring up the rear of the group, round up stragglers.
4. Be last off the bus at stop area, last to reboard the bus.
5. Keep track of guests making phone calls or using rest rooms at stops.
6. Help separate groups after Coffee Stops and after Luncheon.
7. Assist in transmitting messages and office announcements to the Group Leader.

8. Check on the Bus Guide's navigation.
9. Be prepared to substitute for the Group Leader.
10. Collect and turn in the color group Guide Sign at Hangar.

C. The Bus Guide will:

1. Meet bus at designated point (for example: motels, airport) using NASA cars to rendezvous there.
2. See that color signs are in bus windows.
3. Direct bus to DEB entrance for unloading, then spot bus in proper waiting zone.
4. Attach proper color signs for his group on front, side, and back windows where they can be seen from outside but don't obstruct vision of Lewis facilities. All buses should be posted uniformly.
5. Help round up guests in his color group when leaving DEB in the morning and after lunch.
6. Stay with the bus to instruct the driver throughout the tour.
7. Inspect bus for forgotten personal belongings and turn them in to Security.
8. Carefully remove color signs after Inspection at Hangar and turn them in.
9. Help load and dispatch buses at Hangar. (after Social)
10. Accompany a bus to DEB for guests to retrieve personal belongings and dispatch bus to proper destinations.

Harold D. Wharton

General Rules and Guidelines

For Inspection Escort Teams

1) Treat the Inspection visitors as favored guests.

2) Anticipate their needs and express your willingness to help. If you need assistance in handling a problem call the appropriate people. (Refer to Critical Phone List)

3) Never abandon your group. If a guest must leave the group make sure he is in the custody of another NASA employee who will take care of him (Driver, Bldg. Mgr.,etc.)

4) Answer all questions if you can. If you do not know the answer say so, but offer to get an answer if the guest is really interested.

5) Smoking is permitted except at designated areas at the Hangar.

6) Cameras are permitted but ask that guests not take flash pictures during the presentations as a courtesy to the speakers.

7) Pass messages to guests on tour as soon as possible. If the call is identified as an emergency call get it to the guest immediately.

8) Be polite, positive, cheerful, considerate and firm.

1973 Inspection

Instructions for Bus Guides

1) Assemble at Room 108 Hangar at 7:00 a.m. Report to Bill Waite. You will be transported to a bus at a local motel.

2) Familiarize yourself with the sound system on the bus (specifically the volume control) and TURN THE SYSTEM OFF when it is not in use. System is battery operated.

3) Roundup the guests (check the Coffee Shop) and get them on the bus.

4) Leave the Motel no later than 8:15 a.m. (Mariott - 8:00 a.m.) Leave a phone number (433-4000, Ext. 381) at the desk that latecomers can contact for car pickup, if necessary.

5) On the way:

   (a) Good Morning.

   (b) Discuss Flow - thru lobby to Cafeteria downstairs for registration NASA personnel will meet guests in lobby to offer assistance.

   (c) Review Personal Services.

      (1) Coats & Baggage may be stored at DEB. (Room 1109)

      (2) Message Center will be in operation (Phone (216)433-4000, Ext. 6869, Rm.(1204-06)

      (3) Medical Services will be available if needed.

      (4) Transportation to the Airport or Motel will be provided in the evening. Early departures may be arranged thru Group Leaders once tour is underway.

6) Upon arrival move them into the DEB Lobby.

7) Check the Bus for forgotten items and turn in to Lost & Found in Room 1109 DEB.

8) Attach proper color signs on front, side and back windows so as not to obstruct view. (Refer to Color Sequence Chart - MORNING Version - and make sure you have the right bus).

9) Station yourself outside DEB Lobby to assist guests in finding the right bus. (Morning & Afternoon)

10) Depart only when released by the dispatcher! (Morning & Afternoon)

11) Ride shotgun on the bus, staying at the driver's shoulder. Remember he doesn't know where to go. You are supposed to.

887o

12) Spot the bus at the pickup point immediately after the guests have disembarked.

13) Assist guests in disembarking and boarding thru the front door of the bus at each tour stop.

14) Upon arrival at the Hangar:

    (a) Turn in speaker system.

    (b) Turn in color signs and Lollipops for reuse.

    (c) Check for forgotten items and turn them over to Security.

15) Beginning at 5:00 p.m. report back to buses to help load guests on bus for trip to DEB - Airport - Motel. (No color groups anymore)

16) Ride bus back to DEB, see that guests get luggage and then direct bus driver to Airport. You should disembark at Airport, indicating to Bus Driver what motels he should stop at. Transportation will be provided for you from the Airport.

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1973 Inspection

Instruction for Group Leaders

1) Assemble in front of DEB no later than 8:30 a.m.

2) Find your bus (Refer to Color Sequence Chart - MORNING Version), check to see that the Bus Guide has attached the color signs to the bus, and locate your lollipop.

3) Familiarize yourself with the sound system (specifically the volume control) and TURN THE SYSTEM OFF when it is not in use. System is battery operated.

4) Position yourself (with lollipop) near but away from your bus so that you can be seen from the front entrance of DEB (Morning & Afternoon)

5) Board your bus and announce the color, check to see that everyone on the bus has the right color badge and COUNT HEADS (Morning & Afternoon)

6) Depart only when released by the dispatcher! (Morning & Afternoon)

7) When rolling towards first stop:

   (a) Welcome.

   (b) Introduce your team.

   (c) Offer your services - any problems see us!

8) At each tour stop be first off the bus with your lollipop.

9) Take a position away from the bus and let the group assemble before moving out. AVOID LONG STRUNG OUT LINES.

10) Lead the group in along the established route to the Tour Stop and get them seated.

11) POLITELY CUT OFF THE TOUR SPEAKER IF HE RUNS OVERTIME!!

12) Reassemble the group and move out to bus or next tour stop by the established route. COUNT HEADS!

13) At Coffee Breaks:

   (a) If your group is at the Coffee Stop get them started on time and move them out after 15 minutes. Use the Tour Stop Sound System to help segregate your group. (Assistant Group Leader should handle mike. Leader should move off to side with lollipop.)

   (b) If your group has to move to the Coffee Stop get them there on time and hold to the 15 minute period so they are in their seats on time.

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14) Conduct a drive through tour between stops (Draw from PIO material), but remember a few minutes of silence now and then might be a welcome relief.

15) After your last stop and on your way to the Hangar:

(a) Thank them for their interest and attention.

(b) Tell them that the Color Groups will be disbanded at the Hangar.

(c) Remind them that transportation to the Airport & Motels via DEB will be provided starting at 5:00 p.m.

(d) Ask them to check for personal items before disembarking.

16) Assist in loading buses at Hangar starting at 5:00 p.m. for trip to Motel or Airport via DEB.

8490

1973 Inspection

Instructions for Ass't Group Leader

1) Assemble in front of DEB no later than 8:30 a.m.

2) Find your bus (Refer to Color Sequence Chart - MORNING Version), check to see that the Bus Guide has attached the color signs to the bus and the Group Leader has his lollipop.

3) Assist the Group Leader in balancing the sound system on the bus. SEE THAT HE TURNS THE SYSTEM OFF when it is not in use. System is battery operated.

4) Stand next to the front door of your bus and check the badge color of those boarding the bus at DEB. LOAD THRU THE FRONT DOOR ONLY (Morning & Afternoon)

5) Board your bus and assist the Group Leader in checking to see that everyone has the right color badge. COUNT HEADS (Morning & Afternoon)

6) Depart only when released by the dispatcher! (Morning & Afternoon)

7) Monitor the sound level at the back of the bus.

8) At the tour stops:

   (a) Assist guests in disembarking and boarding thru back door of bus. Make sure that everyone is off the bus.

   (b) Help the Group Leader consolidate the group before moving out.

   (c) Bring up the rear of the group watching for stragglers. AVOID LONG STRUNG-OUT LINES.

   (d) Keep track of guests making phone calls or using restrooms.

   (e) Make sure that everyone gets seated on time at the tour stop.

9) REMIND THE GROUP LEADER TO POLITELY CUTOFF THE TOUR STOP SPEAKER IF HE RUNS OVERTIME!!

10) Reassemble the group and move out to bus or next tour stop by the established route. COUNT HEADS!

11) At Coffee Breaks:

   (a) If your group is at the Coffee Stop get them started on time and move them out after 15 minutes. Use the Tour Stop Sound System to help segregate your group. (Assistant Group Leader should handle the microphone. Group Leader should move off to side with lollipop.

(b) If your group has to move to the Coffee Stop get them there on time and hold to the 15 minute period so they are in their seats on time.

12) Upon arrival at the Hangar help the Bus Guide check for personal items left on the bus and see that the color signs and lollipop are turned in for reuse.

13) Assist in loading buses at Hangar at 5:00 p.m. for trip to Motel & Airport via DEB.

9070

1973 Inspection Instructions

For Building Managers

Walk the routes that the tour groups will take to make sure everything is in order (ERB-Center, first group in morning and afternoon will take alternate route.)

Check to see that the restrooms around the tour stop are marked and clean.

Make sure that the bus stop areas around your building are kept free of parked vehicles.

Provide door guards (or prop open doors) so the Group Leader doesn't lose his spot at the head of the group.

Identify yourself to the Group Leader after he has the guests seated and be ready to assist the escort team with any problems they may have.

If a guest is left at the tour stop for some reason (phone call, transportation pickup, etc.) assume custody of him and see to his needs. If you require assistance call for help. (Refer to Critical Phone List.) Stay with him until someone else assumes responsibility for him.

9670

"TECHNOLOGY IN THE SERVICE OF MAN"
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LEWIS RESEARCH CENTER

September 19, 20, 21, 1973

INSTRUCTIONS FOR TRANSIENT CREWS AT LEWIS RESEARCH CENTER

ARRIVAL AND DEPARTURE

1. The NASA Lewis ramp is available to civil and government aircraft to discharge passengers. Prior notice is requested in all cases as listed in Airmen's Information Manual and USAF/USN Enroute Supplement.

2. Government-owned aircraft flight crews must check-in with LeRC Flight Operations Office, Room 203, Flight Research Building (Hangar) during normal duty hours. After hours, the NASA Security Patrol at the Plant Protection Building will handle aircraft arrivals. Flight Maintenance Section will direct parking of all visiting government-owned aircraft.

3. Flight planning facilities are available in the Flight Operations Office (2nd floor, Hangar). Manifests and copies of flight plans may be deposited in this office.

REFUELING

1. Only NASA aircraft can be refueled at this Center by NASA personnel. All other aircraft can be refueled only by fixed base operators at Cleveland Hopkins International Airport.

2. Aircraft Services, Inc., Beckett Aviation or Sundorph Aeronautical on the field, will accept the red and white U.S. National Credit Card or AF Form 15 for all government aircraft for petroleum products only at retail prices.

3. Civilian purchases may be made from the three above mentioned fixed base operators.

SECURITY

This Center is a controlled security area and all visitors must secure badges. Transient aircrew badges are issued by Flight Operations. These badges are valid only for the Hangar, the Cafeteria, and while in transit to and from the Cafeteria. These badges are also honored for admission at the Main Gate. No security escort is required. Please return the badges before departure. After duty hours these badges may be obtained and returned at the Plant Protection Building (across from the Hangar).

TELEPHONES

This Center has two telephone systems, an automatic system for inside NASA only (PAX) and an Ohio Bell Telephone Company exchange (PBX) for both inside and outside calls.

Center Calls	PAX	PBX
Cafeteria	2289	
Escort Service	7113	
	8025	
Flight Maintenance	2155	448
Flight Operations	4278	449
Medical Services	4123	459
Pilots Office	8148	6139
Plant Protection	2149	257
(Fire Station)	4149	
USAF Liaison	2150	452

Outside Calls (Dial 9 for outside line)	
Aircraft Services, Inc.	267-3550
Beckett Aviation	267-3711
FAA Flight Plans & Weather	267-3700
FAA Tower	267-2190
Hopkins Airport Operations	267-1125
NASA (Area Code: 216)	433-4000
Sundorph Aeronautical	267-3450
Taxi Service:	
Westlake Cab	331-5000
Yellow Cab	623-1500
USAF	267-2911
U.S. Weather Bureau	267-3900

9670

1973 Lewis Inspection
Technology in the Service of Man

CRITICAL PHONE LIST

CATEGORY	NAME	BLDG.	ROOM NO.	PAX	PBX
EMERGENCY (FIRE, ACCIDENT, ETC.)				17	17
Baggage	Guard on Duty	DEB	1109	8444	6967
Cafeterias	Jim Moran or	Main		2289	492
	G. F. Hein	DEB		8101	6972
Communications	H. R. Roe	Admin.	1	6242	757
Custodial Services	R. W. Fenderbosch	IRT	105B	2112	6843
DEB Lobby	Receptionist	DEB		8118	6930
Flight Operations	W. Swann	Hangar	201	4278	449
				4271	451
Furniture	A. Pindor	ERB	202	8075	789
Inspection Office	E. Quayle	Admin.	122	8673	6873
Logistics	J. N. Sheehan	ERB	251	8480	434
Lost and Found	Guard on Duty	DEB	1109	8444	6967
Maintenance	G. L. Mahnke	IRT	204	8137	340
Medical Services	Nurse on Duty	ERB	108	4123	459
				2143	528
Message Center	Receptionist	DEB	1204	8684	6869
			1206	8697	409
News Room	H. W. Harris	DEB	1204	7298	6982
			1206		762
Parking	R. W. Gaines	IRL	103	4152	406
				4268	414
Photo Lab	R. Texler	ERB		3145	454
				5145	
Registration	A. R. Wycoff	DEB	Cafeteria	8657	6143
				8658	6141
Security	R. W. Gaines	IRL	103	4152	406
				4268	414
Sound Systems	D. Meges	IRL	124	6209	235
	J. L. Storer	IRL	149	7138	533
Switchboard		Admin.		6144	
Teletype		Admin.		4113	707
Tour Guide Coordinator	H. D. Wharton	IRL	243	8070	6918
Transportation	W. V. Waite	Admin.	13	2220	381
	H. Dombrowski	Admin.	13	2220	381
Travel Reservations: 7:45 - 9:30 am, 12:45 - 1:45 pm	M. A. Heintz	DEB	1204	8428	562
All other times until 6:00 pm	M. A. Heintz	Admin.	16	8068	413
				6248	417

TOUR STOPS

Stop No.	Title	Location	PAX	PBX
1	Quieting the Fleet	10x10	4127	362
2	Cleaner Skies	PSL 3 & 4	5269	6980
3	Powered Lift	9x15	8305	
4	Boost from Rockets	Zero-G	8528	6928
5	Space Electronics Technology	EPL	8188	206
6	Energy for a Better Life	ERB Ctr. Section	3202	251
			5225	
7	Materials for Man	MPL	2298	391
8	The Impact of Wear	ERB West Wing	3172	251
			6218	
9	Servants in Space	Ad Bldg. Aud.	2228	430
10	NASA Exhibits Area	Hangar	4171	448
			6232	

MOTELS

Holiday Inn	267-1700
Marriott Inn	252-5333
Port O'Call	267-5100
Ramada Inn	267-5700
Sheraton-Brookpark	267-9800
Sheraton-Hopkins	267-1500
Travelodge	267-0100

AIRCRAFT SERVICES

Aircraft Services, Inc.	267-3550
Beckett Aviation	267-3711
FAA Flight Plans & Weather	267-3700
FAA Tower	267-2190
Hopkins Airport Operations	267-1125
Sundorph Aeronautical	267-3450
U.S.Weather Bureau	267-3900

84%

DAILY SCHEDULE - 1973 INSPECTION OF LEWIS RESEARCH CENTER - SEPTEMBER 19, 20 & 21

7:30 Start Guest pickup at Motels and Airport
8:00 REGISTRATION. Baggage Checking: . . . . . Development Engineering Bldg. Cafeteria
9:00 WELCOMING REMARKS by Director . . . . . DEB Auditorium
9:10 OPENING ADDRESS by NASA Administrator
9:25 START TOUR. Board bus marked with same color as your badge.

STOP NO.	SUBJECT (Location)	SILVER	GOLD	GREEN	BLUE	YELLOW	PINK	WHITE	BUFF	SALMON
1	QUIETING THE FLEET (10x10 Shop)	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40
2	CLEANER SKIES (PSL 3 & 4)	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20
3	POWERED LIFT (9x15)	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05
4	BIG BOOST FROM ROCKETS (Zero-G)	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45
5	SPACE ELECTRONICS TECHNOLOGY (EPL)	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30
6	CLEAN ENERGY FOR A BETTER LIFE (ERB - Center)	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20
7	MATERIALS FOR MAN (MPL)	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05
8	THE IMPACT OF WEAR (ERB - West Wing)	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55	1:55 2:20	12:15 12:40
9	SERVANTS IN SPACE (Ad. Bldg. Aud.)	1:55 2:20	12:15 12:40	11:40 12:05	11:05 11:30	10:15 10:40	9:40 10:05	3:55 4:20	3:20 3:45	2:30 2:55
	MORNING COFFEE BREAK (15 Minutes)	10:40 - 10:55 (EPL)	10:50 - 11:05 (ERB - West)	10:40 - 10:55 (ERB - West)	10:50 - 11:05 (Ad. Bldg.)	10:40 - 10:55 (Ad. Bldg.)	10:50 - 11:05 (PSL)	10:40 - 10:55 (PSL)	10:50 - 11:05 (10x10)	10:40 - 10:55 (10x10)
	AFTERNOON COFFEE BREAK (15 Minutes)	3:05 - 3:20 (PSL)	2:55 - 3:10 (PSL)	3:05 - 3:20 (10x10)	2:55 - 3:10 (10x10)	2:55 - 3:10 (EPL)	3:05 - 3:20 (ERB - West)	2:55 - 3:10 (ERB - West)	3:05 - 3:20 (Ad. Bldg.)	2:55 - 3:10 (Ad. Bldg.)
	LUNCHEON (50 Minutes) (DEB Cafeteria)	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40	12:50 1:40

4:30 SOCIAL - Hangar (Stop 10) - Special Exhibits
5:00 Buses begin to leave for visitor parking, airport, and motels via DEB for baggage pickup.
5:15 Last bus and NASA cars depart Hangar.

Notes:

1. A group will contain a maximum of 50 persons.
2. Luncheon will be served in the DEB Cafeteria.
3. Coffee stops will accommodate two groups at:
   a) 10x10 Shop Area
   b) Ad. Bldg. Aud.
   c) ERB West Wing
   d) PSL 3 & 4
4. A coffee stop will accommodate only one group at EPL.
5. Times at each stop indicate beginning and end of presentation.
6. Each presentation is 25 minutes.
7. Moving time between presentations is 10 minutes.

SCHEDULE for GODDARD VISITORS*

THURSDAY

AUGUST 14, 1975

9:00 - 10:00 am	Walter T. Olson (PAX 2269)
10:00 - 11:30 am	Ed Richley (PAX 3254)
11:30 - 12:30 pm	LUNCH
12:30 - 2:00 pm	Art Wycoff (PAX 8289)
2:00 - 3:30 pm	Jim Modarelli (PAX 2117)
3:30 -	Jack Powell (8480)

*Charles Boyle
Tom Davis
~~Stan Manuel~~ Don Conrad
Dick Johnson

PRESENTATION SCHEDULE

Presentation	Starting Time		Ending Time
1	9:40	-	10:05
2	10:15	-	10:40
3	11:05	-	11:30
4	11:40	-	12:05
5	12:15	-	12:40
6	1:55	-	2:20
7	2:30	-	2:55
8	3:20	-	3:45
9	3:55	-	4:20

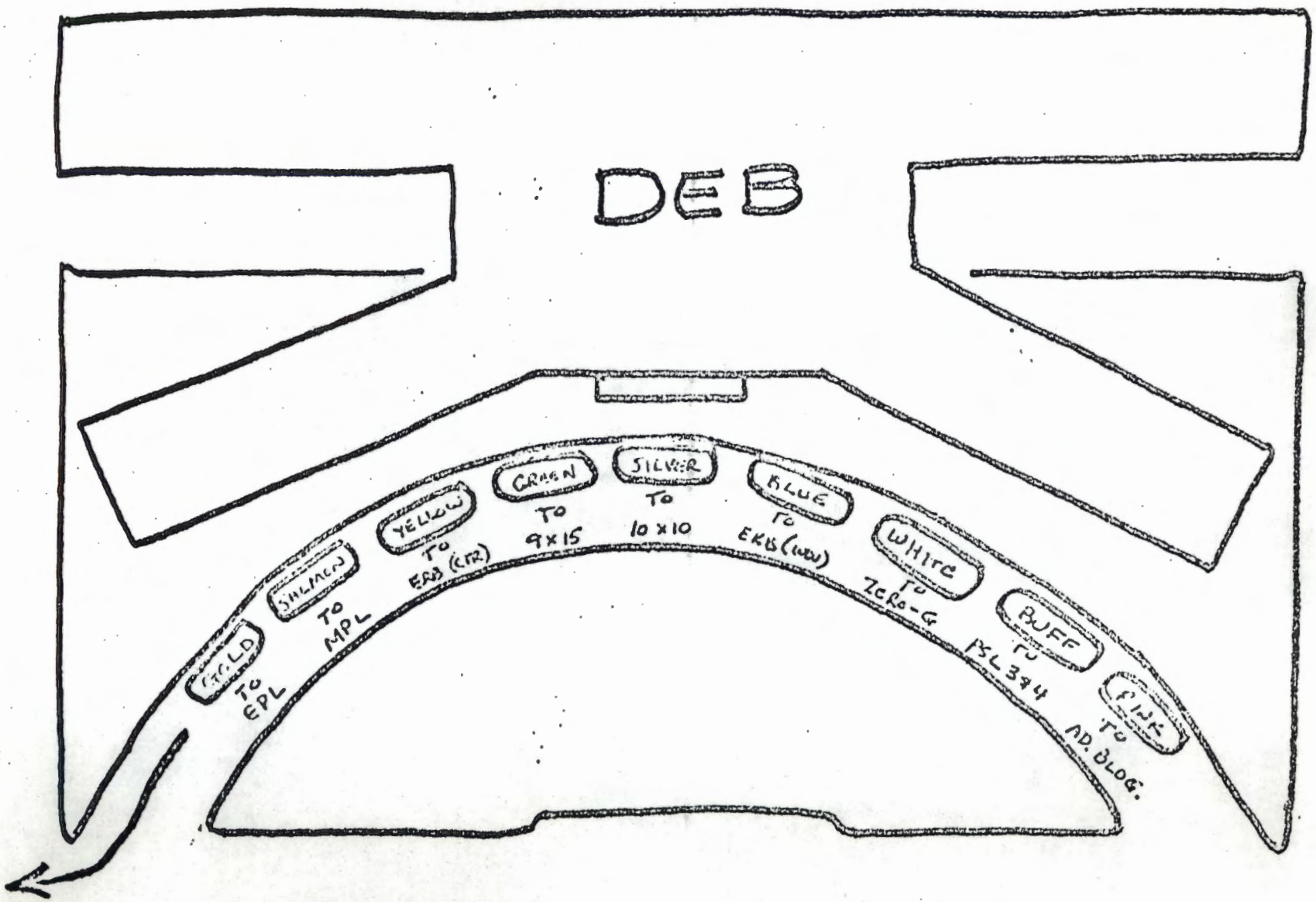
NOTE: Presentations may begin earlier than times shown if group arrives early. However, regardless of starting time, presentations must not go past ending time.

INSPECTION GROUPS

COLOR	STOP SEQUENCE
SILVER	1 - 5 - 3 - 8 - 6 - 9 - 4 - 2 - 7
GOLD	5 - 3 - 8 - 6 - 9 - 4 - 2 - 7 - 1
GREEN	3 - 8 - 6 - 9 - 4 - 2 - 7 - 1 - 5
BLUE	8 - 6 - 9 - 4 - 2 - 7 - 1 - 5 - 3
YELLOW	6 - 9 - 4 - 2 - 7 - 1 - 5 - 3 - 8
PINK	9 - 4 - 2 - 7 - 1 - 5 - 3 - 8 - 6
WHITE	4 - 2 - 7 - 1 - 5 - 3 - 8 - 6 - 9
BUFF	2 - 7 - 1 - 5 - 3 - 8 - 6 - 9 - 4
SALMON	7 - 1 - 5 - 3 - 8 - 6 - 9 - 4 - 2

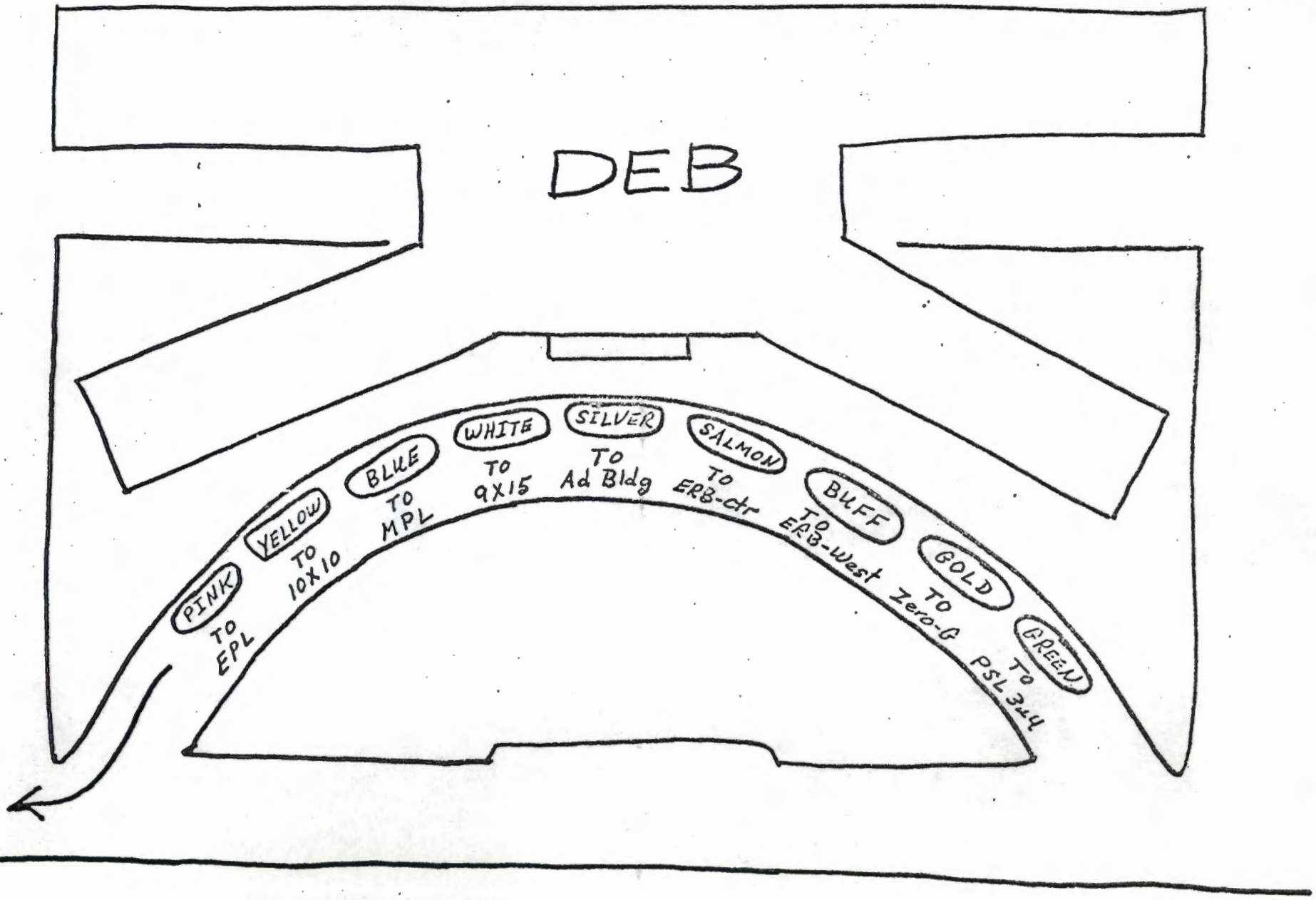
COLOR SEQUENCE CHART FOR BUS LOADING AT DEB

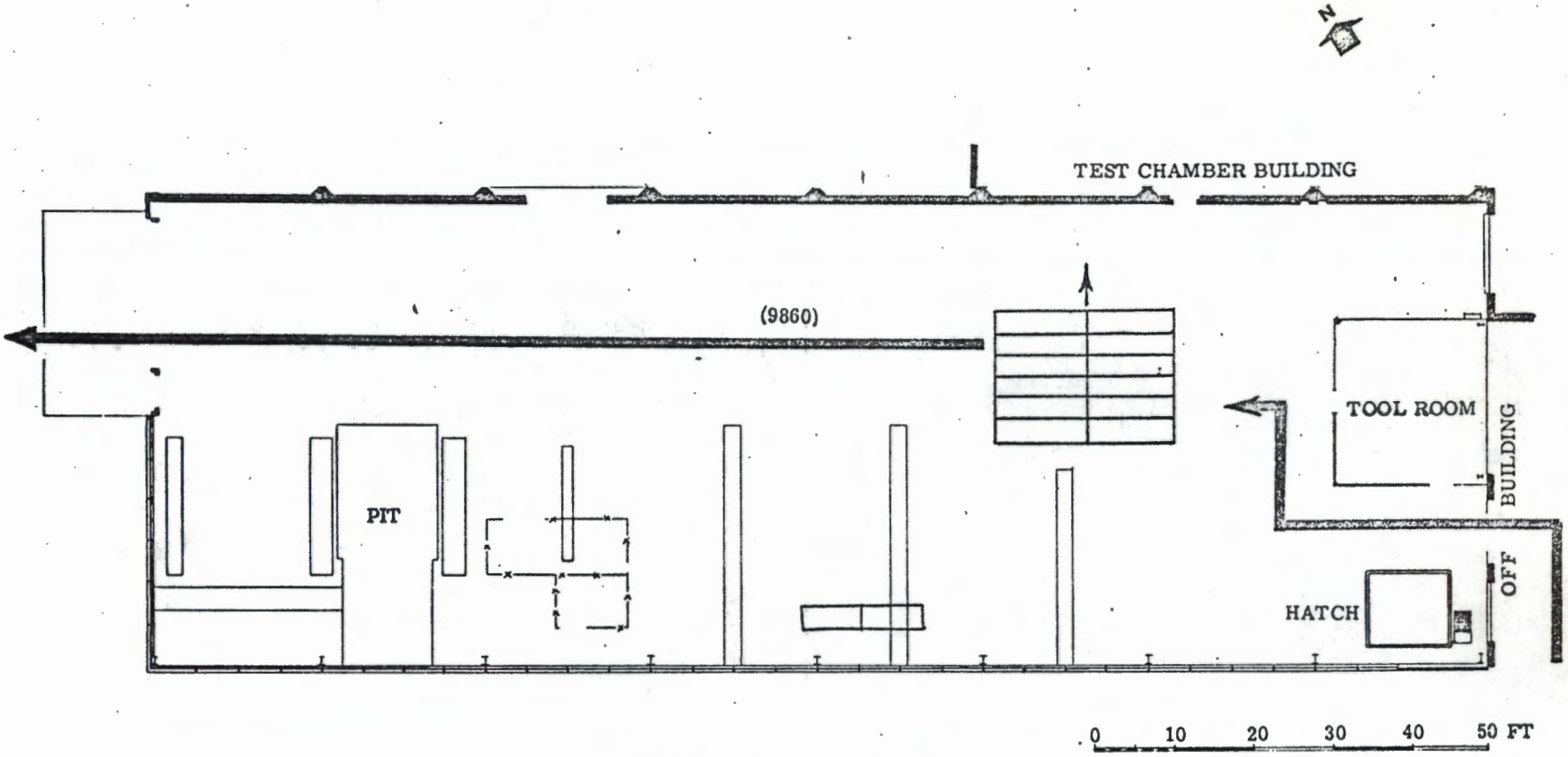
MORNING



COLOR SEQUENCE CHART FOR BUS LOADING AT DEB

AFTERNOON



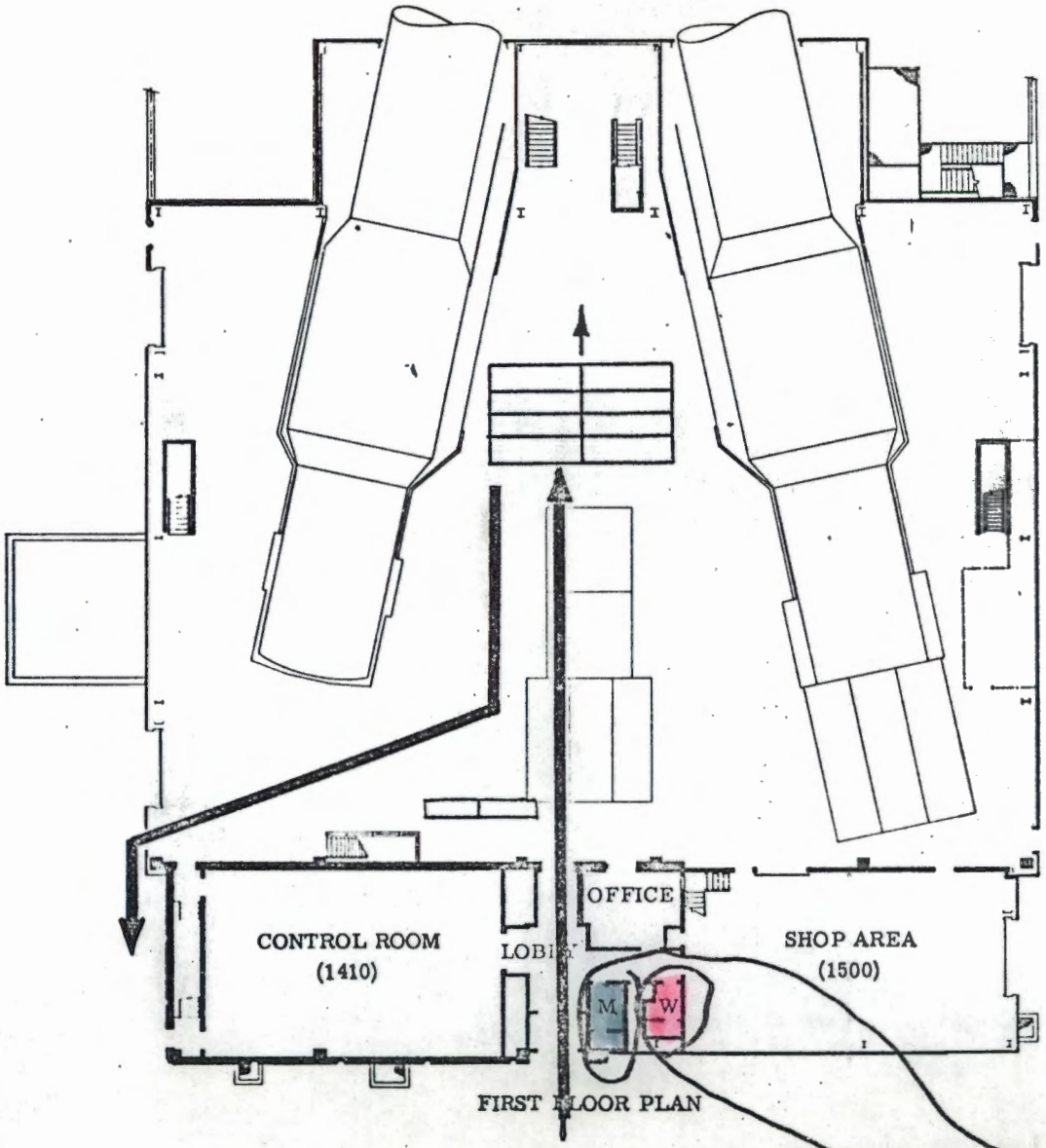


REF. DRWG. NO. CF-109310

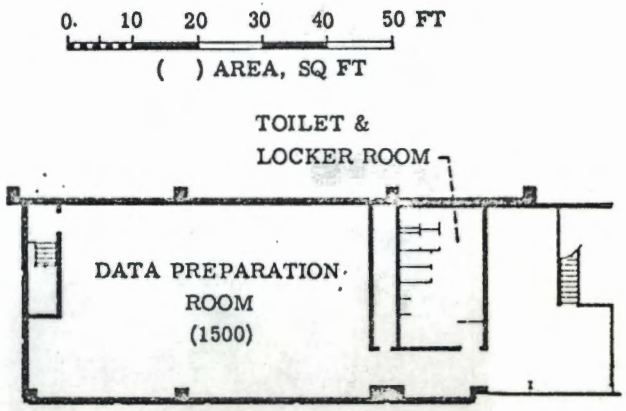
STOP 1
DOUBLE COFFEE STOP

Restrooms
Men & Women
See previous sheet

SHOP FLOOR PLAN
10x10 FOOT SWT SHOP BUILDING
STRUCTURE NO.
113



FIRST FLOOR PLAN



MEZZANINE FLOOR PLAN

REF. DRWG. NO. CF-153051

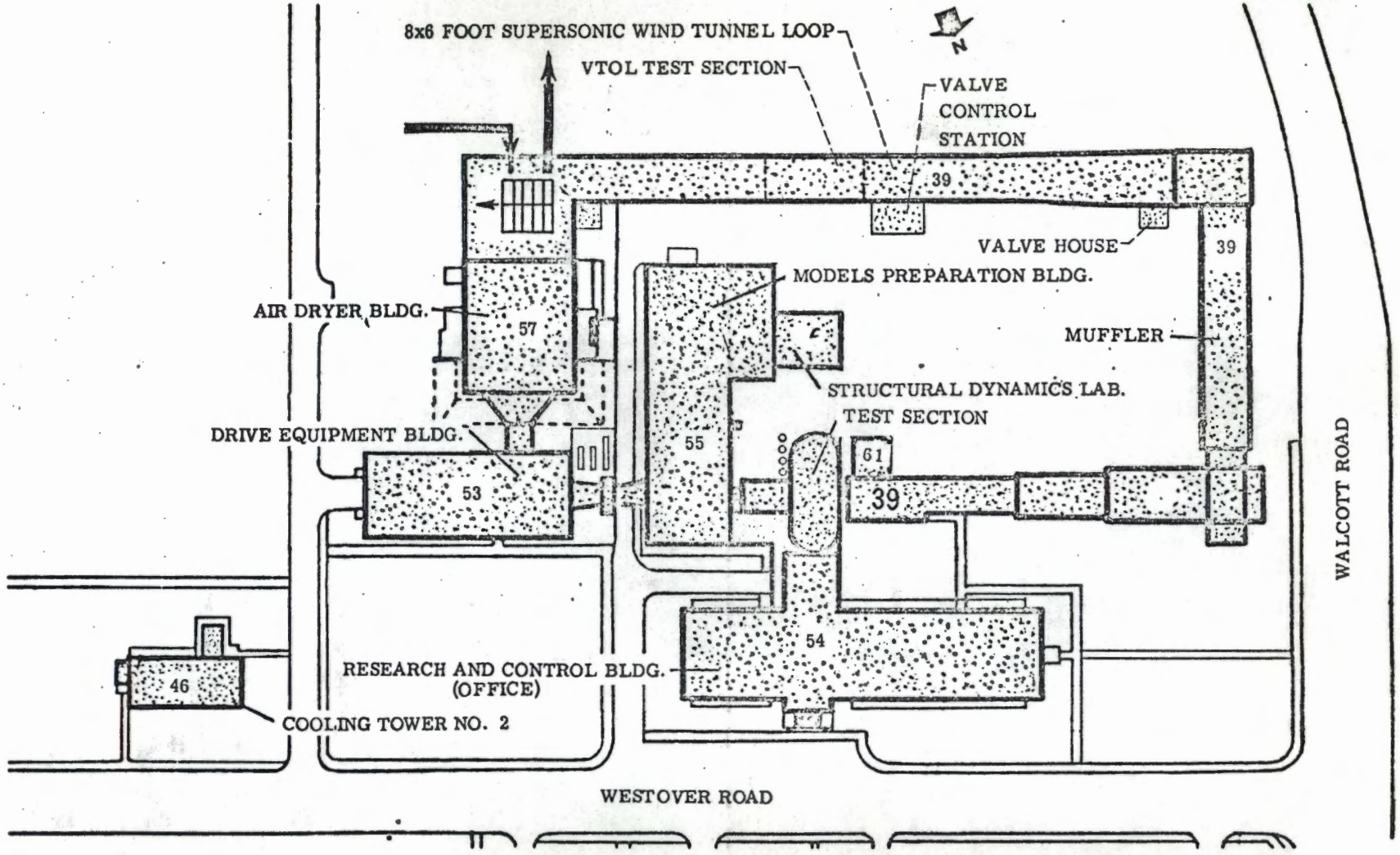
P.S.L. ENGINE TEST BUILDING

STRUCTURE NO.

125

STOP 2
DOUBLE COFFEE STOP

Restrooms
Men
Women



SEE INDEX FOR STRUCTURAL PLANS

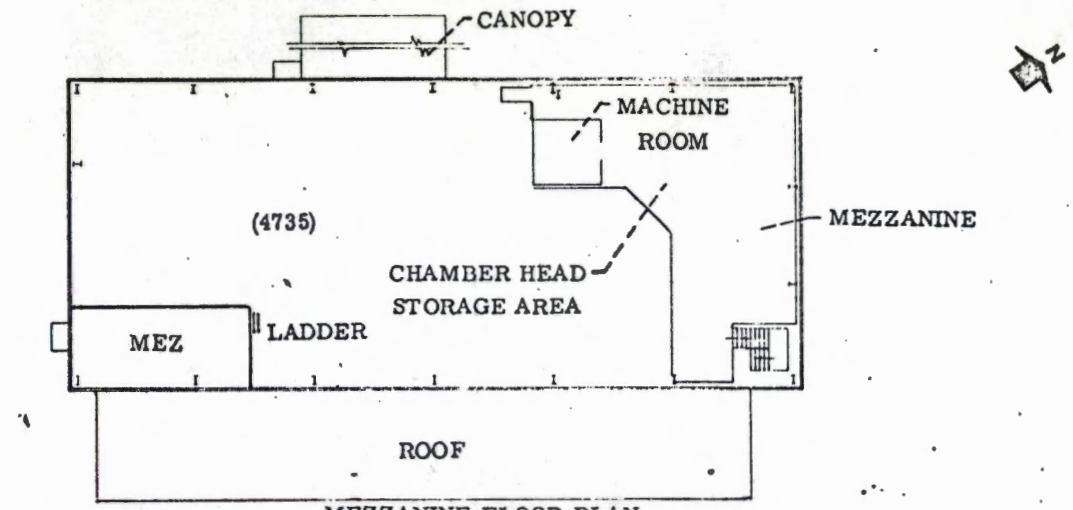
Restrooms

NONE!

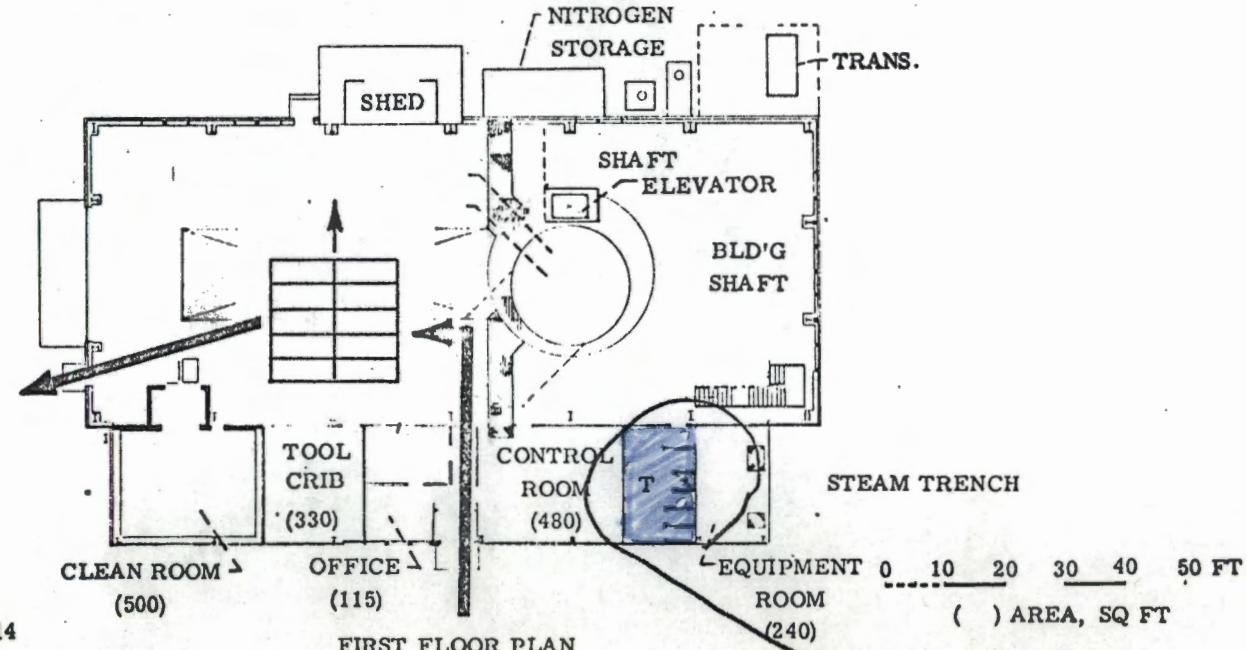
PLAN

STOP 3

9'x15' Supersonic Wind Tunnel



MEZZANINE FLOOR PLAN



FIRST FLOOR PLAN

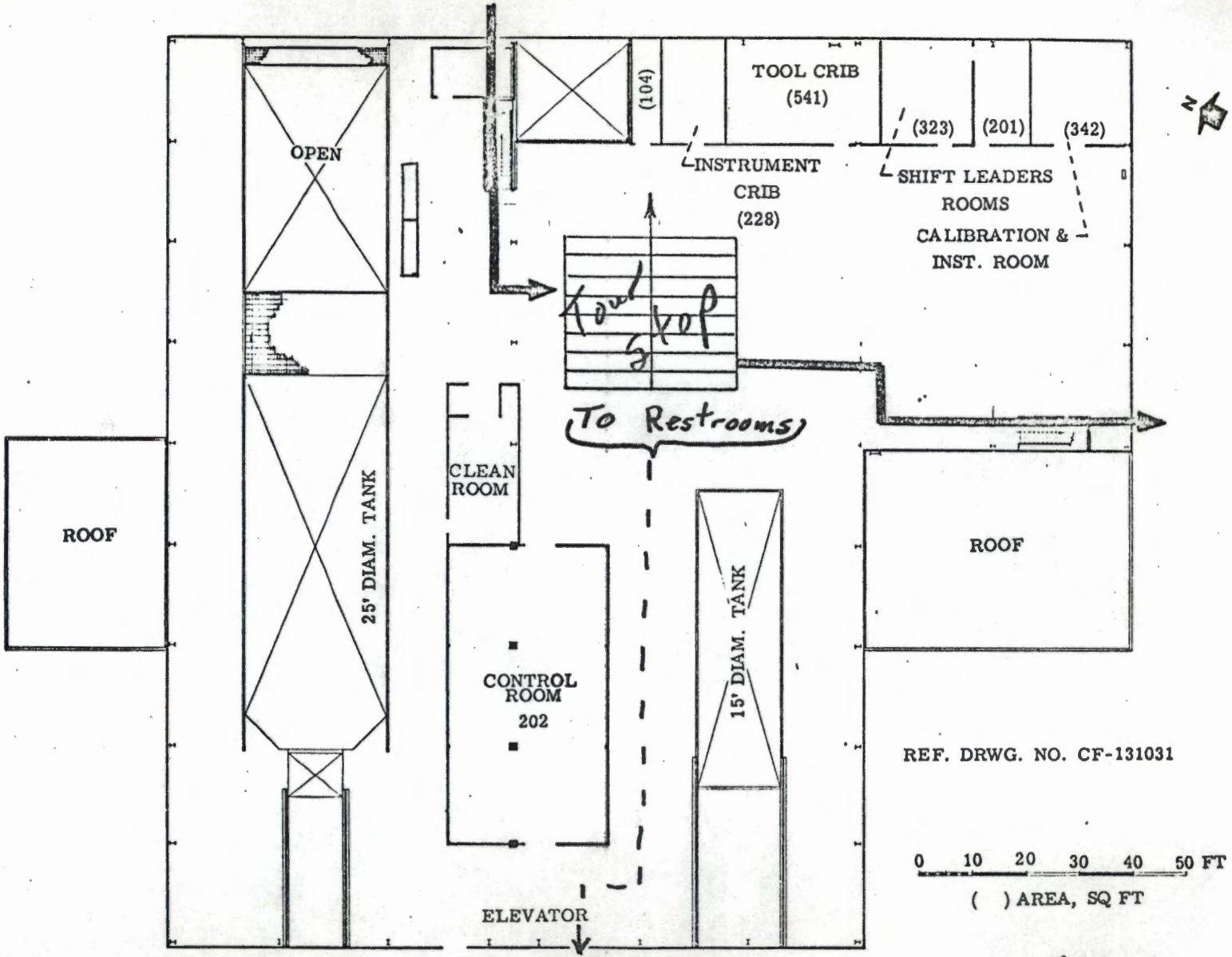
REF. DRWG. NO. CD-147614

Restroom

Men only
No Women's

FLOOR PLANS
ZERO GRAVITY FACILITY
STRUCTURE NO.
110

STOP 4



REF. DRWG. NO. CF-131031

0 10 20 30 40 50 FT

( ) AREA, SQ FT

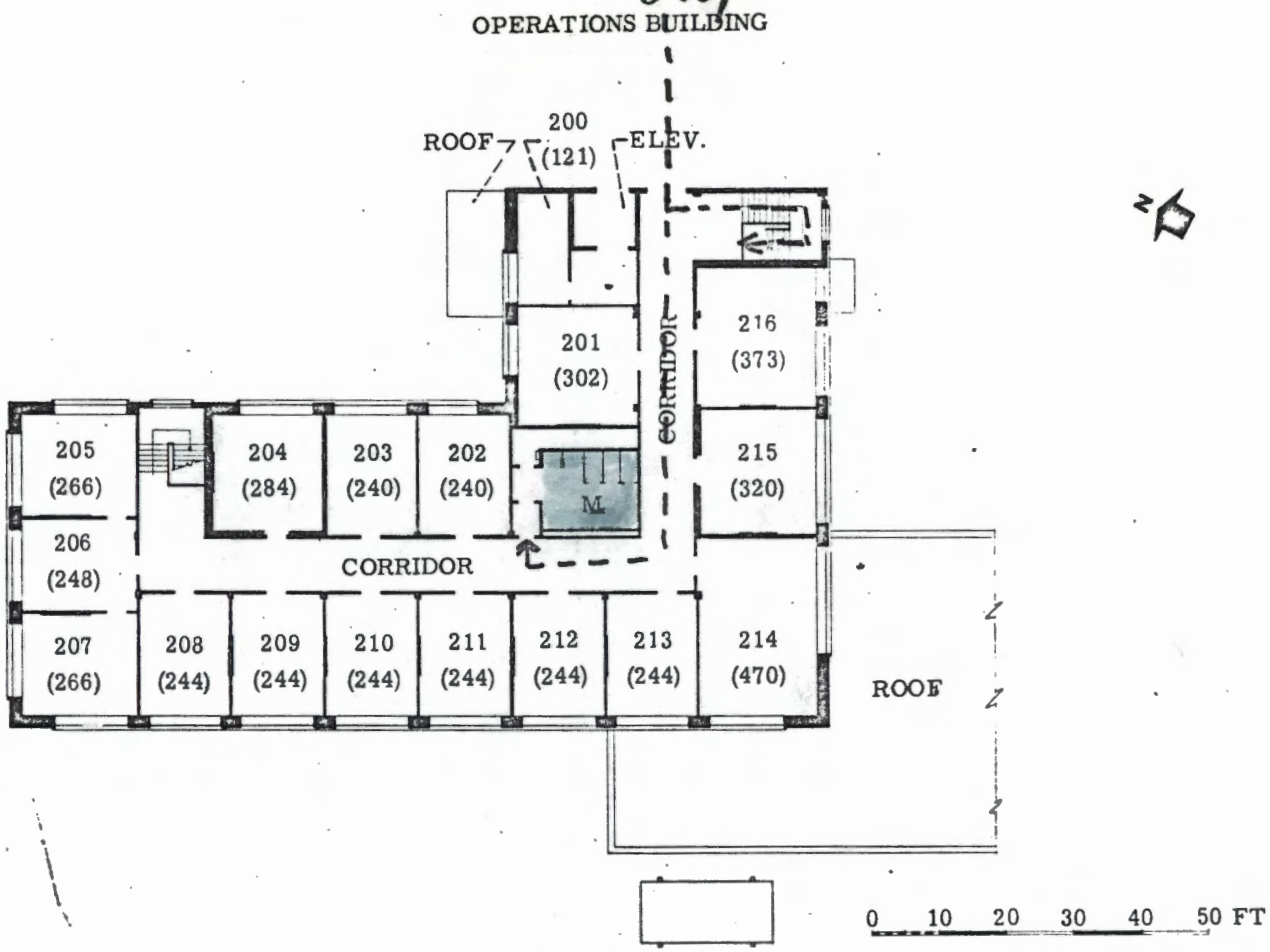
OFFICE BUILDING
SECOND FLOOR - OPERATIONS

ELECTRIC PROPULSION LABORATORY
STRUCTURE NO.
301

Restrooms
See Next Sheet

STOP 5
SINGLE COFFEE STOP

From Tour Stop



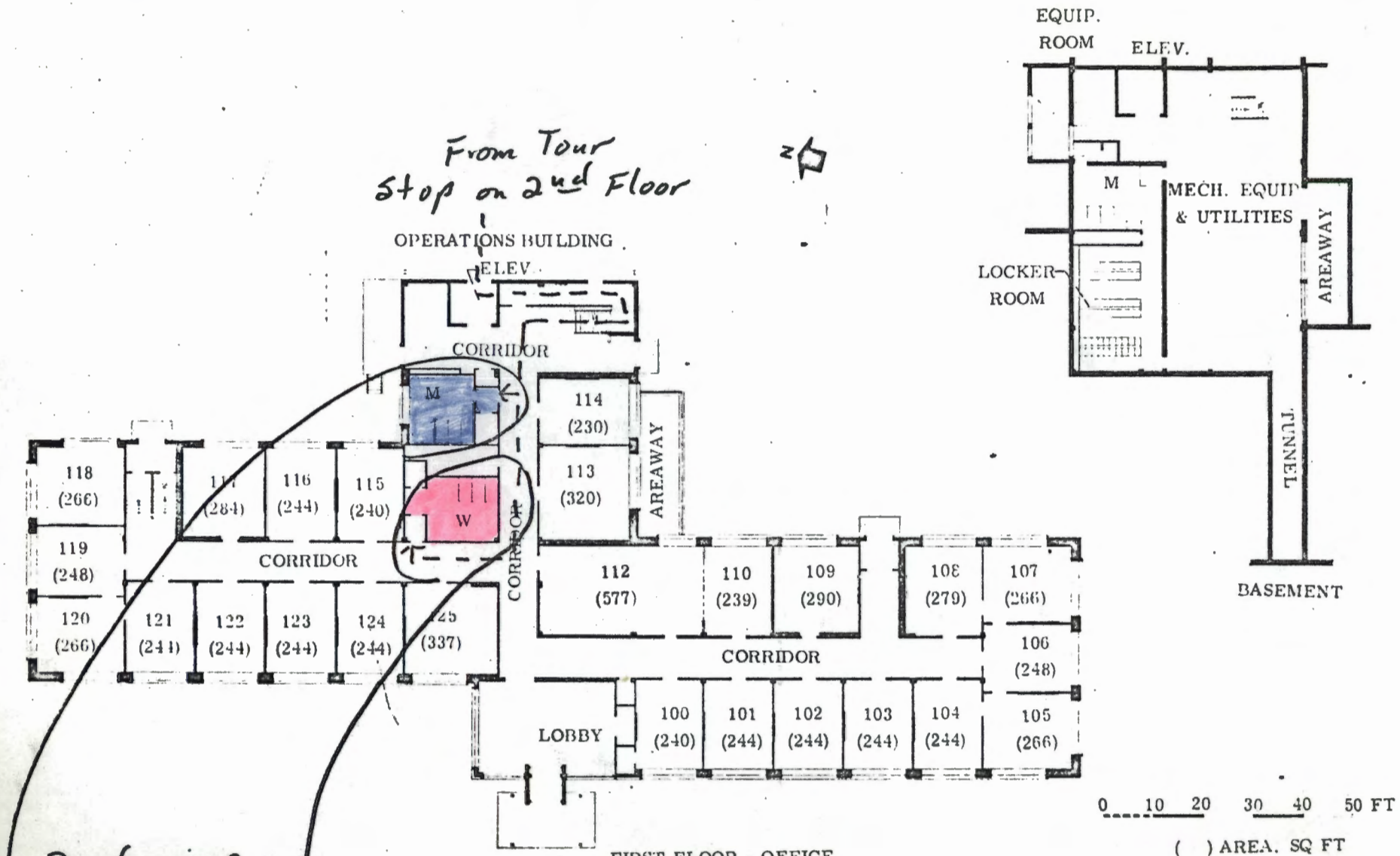
REF. DRWG. NO. CF-130941

Restrooms
Men only on this floor
Men & Women on 1st Floor - See next sheet

SECOND FLOOR PLAN - OFFICE

ELECTRIC PROPULSION LABORATORY

STRUCTURE NO.
301



FIRST FLOOR - OFFICE

REF. DRWG. NO. CF-130940

Restrooms

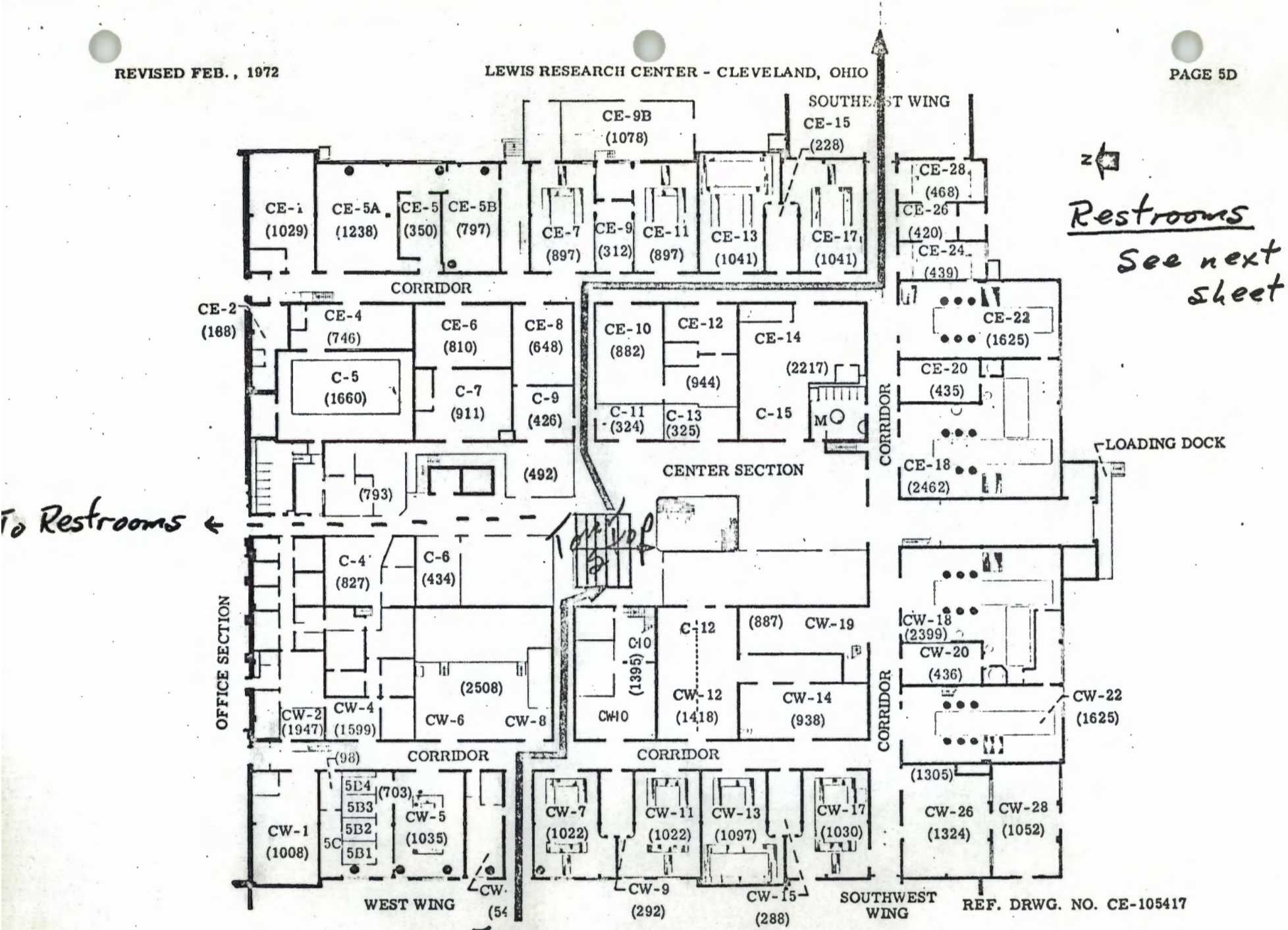
Men

Women

ELECTRIC PROPULSION LABORATORY

STRUCTURE NO.

301



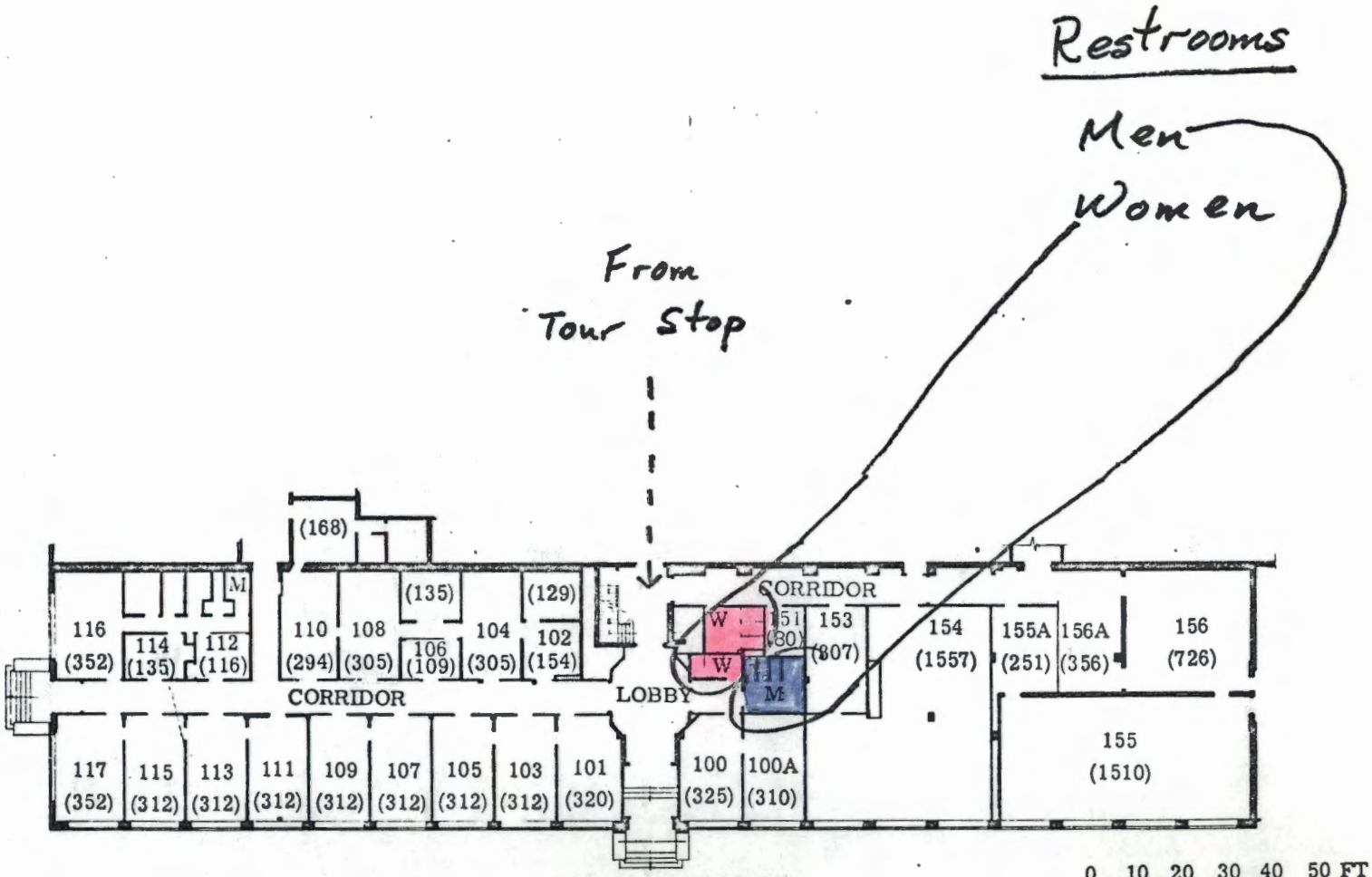
Restrooms
See next sheet

From

FIRST FLOOR PLAN
ENGINE RESEARCH BUILDING (CENTRAL SECTION)
STRUCTURE NO. 5

STOP 6

Stop 8



( ) AREA, SQ FT

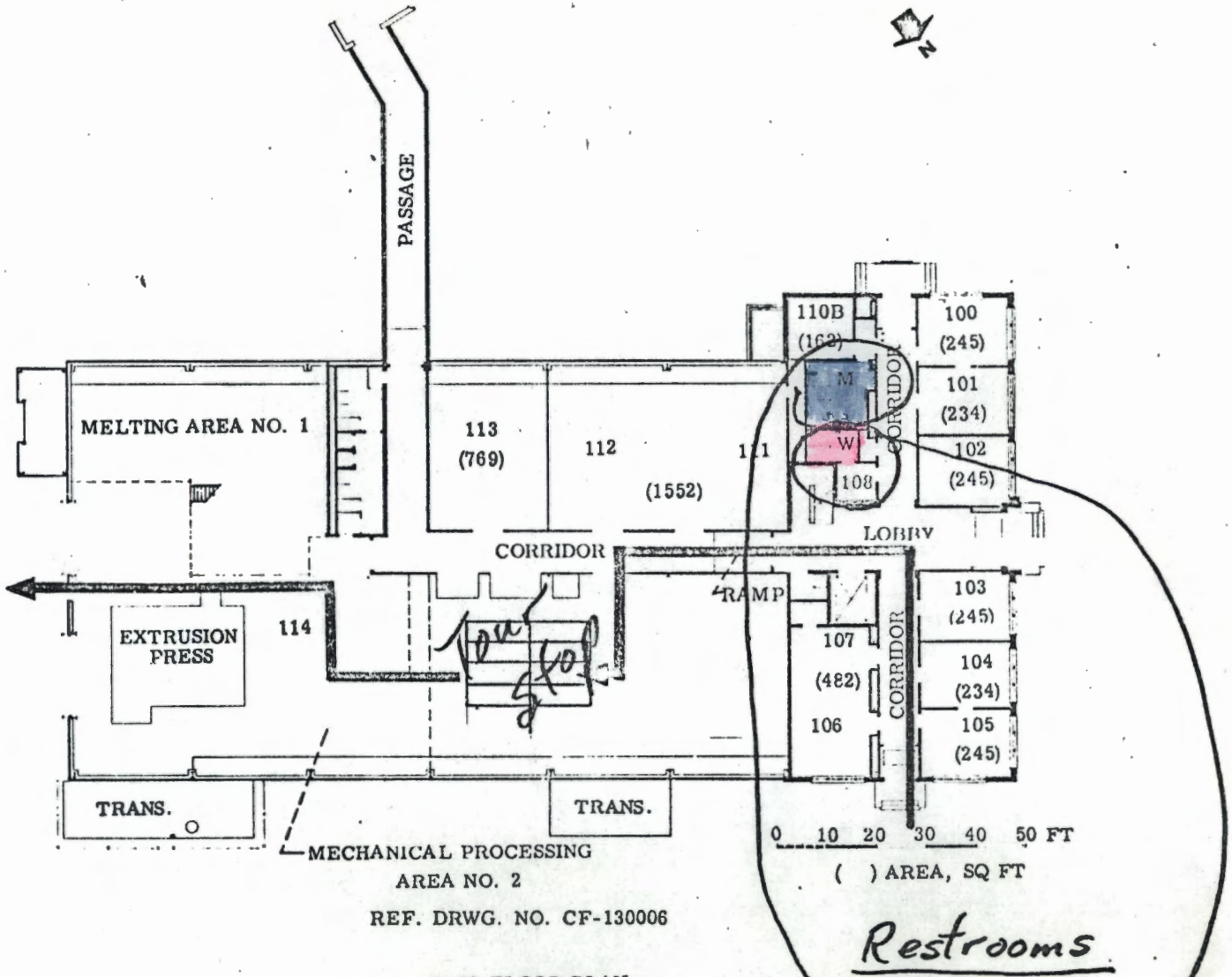
FIRST FLOOR PLAN

REF. DRWG. NO. CE-105419

ENGINE RESEARCH BUILDING (OFFICE SECTION)

STRUCTURE NO.

5



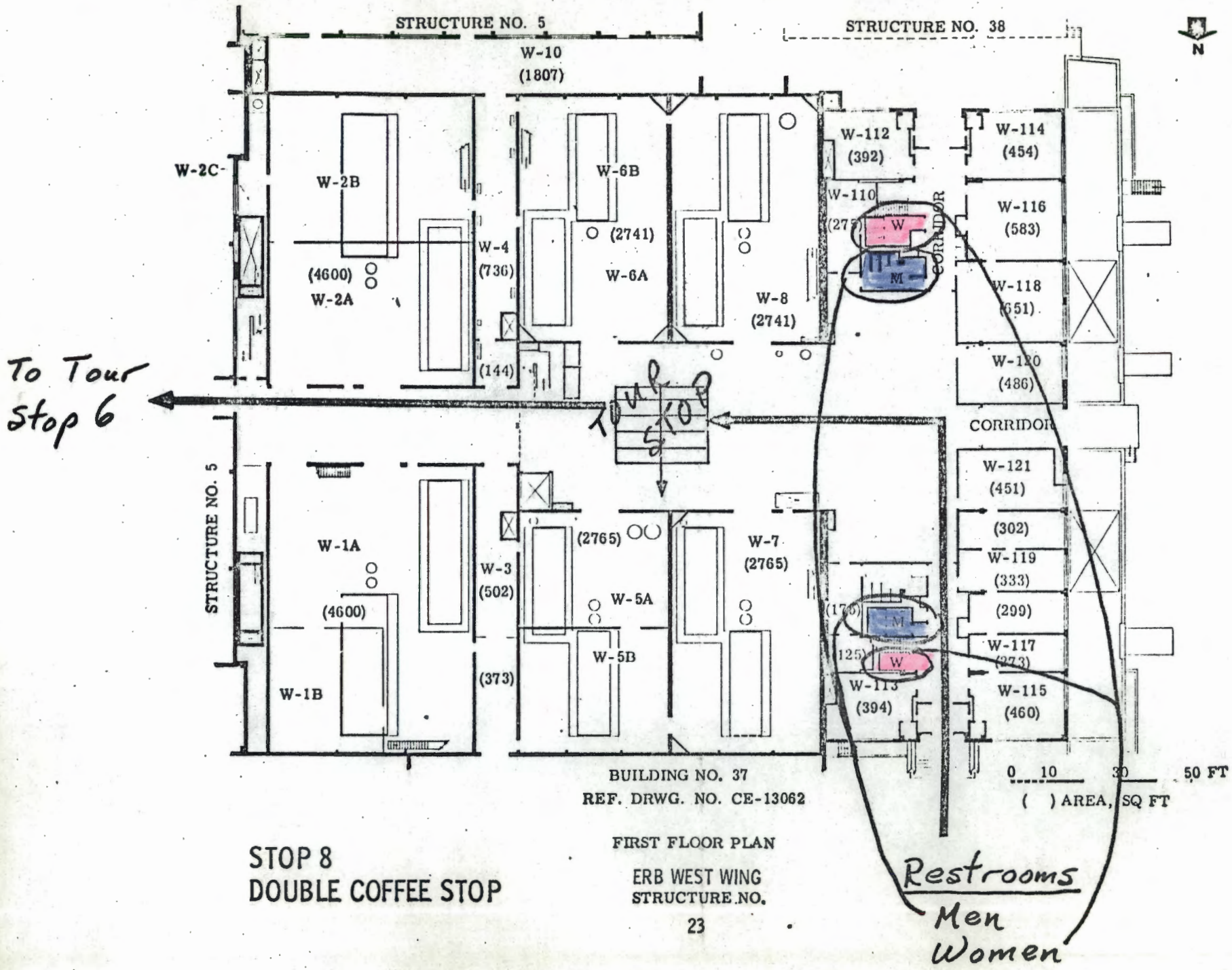
MECHANICAL PROCESSING AREA NO. 2

REF. DRWG. NO. CF-130006

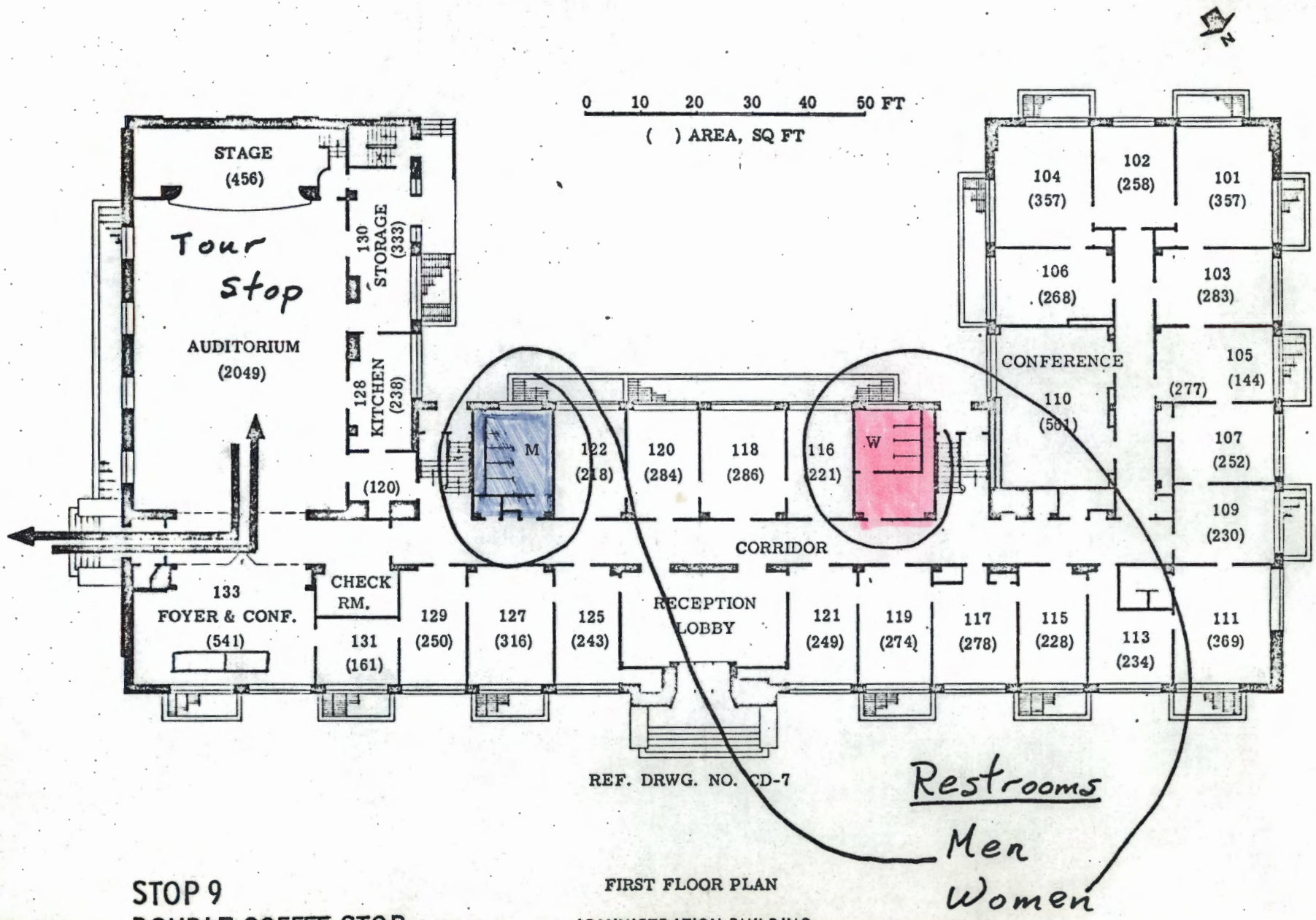
FIRST FLOOR PLAN

MATERIALS PROCESSING LABORATORY
STRUCTURE NO.
105

STOP 7



STOP 8
DOUBLE COFFEE STOP



REF. DRWG. NO. CD-7

STOP 9
DOUBLE COFFEE STOP

FIRST FLOOR PLAN

ADMINISTRATION BUILDING
STRUCTURE NO.
3

COFFEE GROUPS

1ST GROUP	2ND GROUP	STOP
9	6	9
2	4	2
1	7	1
5		5
8	3	8

COFFEE SERVERS

TALKS RUN 25 MIN

20 MIN AFTER START OF TALK

START POURING

LUNCHEON - GO BUFFET

SET UP 1 SIDE OF CAFETERIA

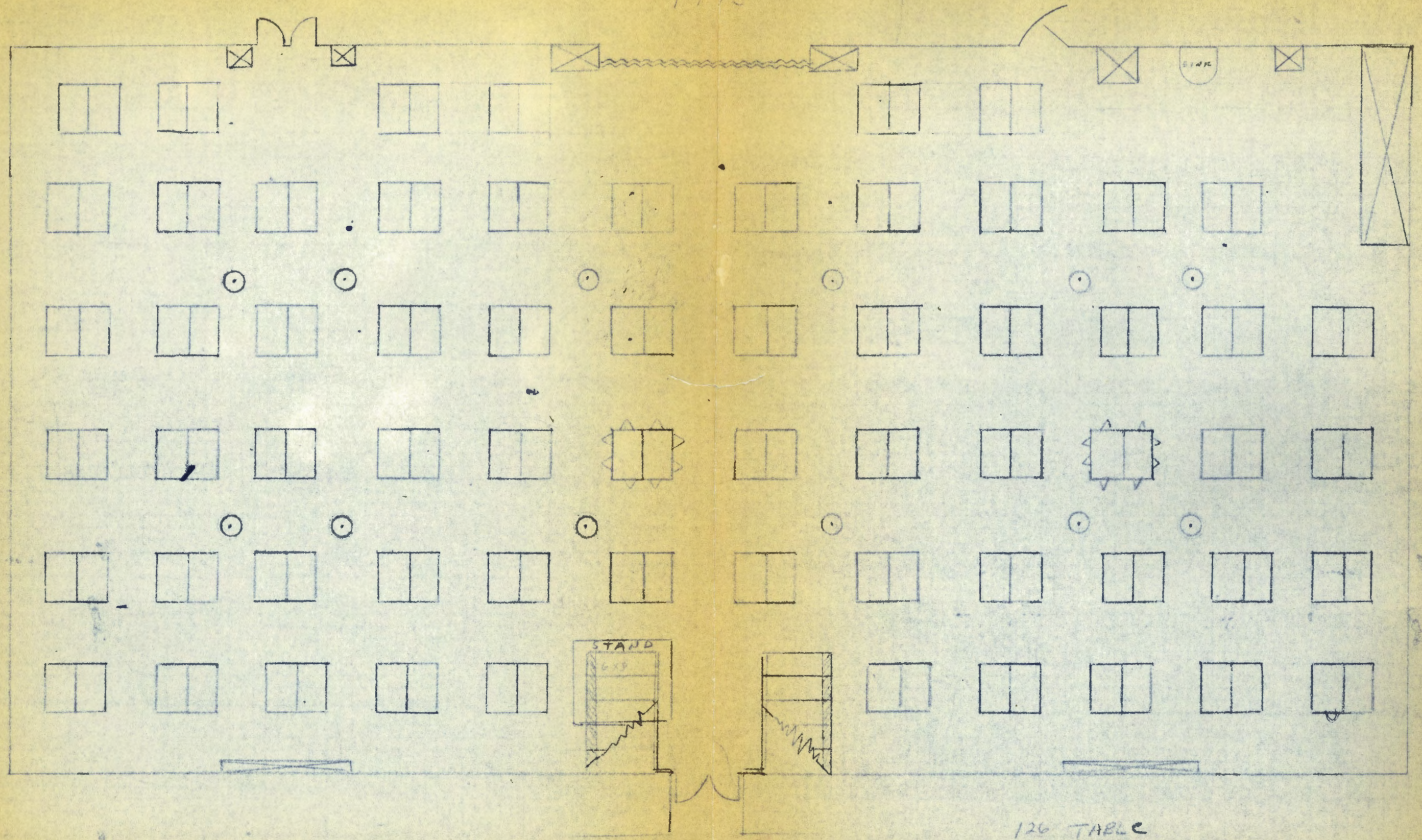
AT 10AM - PLACE SETTING, DESSERT

SET UP OTHER SIDE ~ 1 HR BEFORE LUNCH

HAVE COFFEE, TEA, MILK

MILK & TEA ON REQUEST ONLY

INSPECTION
1973



126 TABLE
504 - SEATINGS