

UNCLASSIFIED

INTERNAL USE ONLY

CONFIDENTIAL

SECRET

ROUTING AND RECORD SHEET

SUBJECT: (Optional) PRINTING AND PHOTOGRAPHY DIVISION BASEMENT EXCAVATION

FROM: [Redacted] EXTENSION NO. OL-2-5623 STAT
 C/P&PD/OL DATE 10 December 1982 STAT
 158 P&P Building

TO: (Officer designation, room number, and building)	DATE		OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
	RECEIVED	FORWARDED		
1. D/L [Redacted]				STAT
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

09 December 1982

MEMORANDUM FOR: Director of Logistics

FROM : Chief, Printing and Photography Division, OL

STAT

SUBJECT : Printing and Photography Division
Basement Excavation

REFERENCE : Memo to D/L, dtd. 28 May 1980, Subject:
P&PD Noise and Materials Storage
Problems

1. The purpose of this memorandum is to update the referent (Attachment 1) in view of the recently completed feasibility study conducted by a consulting engineer, under contract to HEB/RECD/OL, to examine the excavation of the Printing and Photography Division (P&PD) basement for storage purposes.

2. In essence, the study (Attachment 2) provides an array of schemes built around the excavation of the crawl space located at the south end of the P&P building. The variations on the basic theme of the excavation have to do with the construction of a new loading dock on the west side of the building, the provision of fire and explosion proof chemical storage facilities on east side of the building, and four alternative locations for a freight elevator. Along with the basic excavation, the study recommends the adoption of a plan which incorporates the new loading dock, the explosion and fireproof chemical storage rooms, and an exterior elevator located on the east side of the building.

3. The consultant estimates the cost of his recommended approach to be \$2,067,000. When this figure is adjusted by adding GSA surcharges, and subtracting the cost of the chemical storage facility (which would not receive Safety Staff approval), the resultant cost is \$2,027,000.

4. Although P&PD accepts the consultant's recommendation on the excavation, dock, and elevator as being responsive to the needs of the Division, it is also aware of certain fiscal

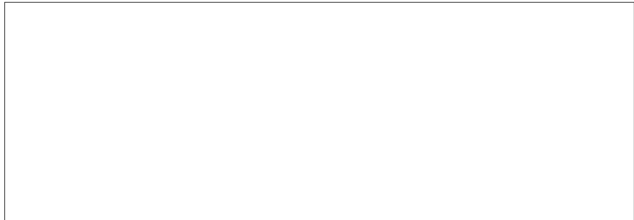
OL-2-5623

realities, i.e. even if such a large sum was available for the project, the pay back on the investment could take as long as 15 years.

5. With all of the foregoing as background, it is recommended that the project not be undertaken at this time. It may be worthwhile, however, to proceed with the development of a design based on the consultant's recommendation so that a head start on the project could be gained should funds become available at a later date. You may also wish to consider the rehabilitation of the existing P&PD loading dock which has been declared unsafe by Safety Staff/DDA. I am not aware of any current or past engineering or cost studies concerning this item.

6. Please call if you require further information on this matter.

STAT



STAT

Distribution:

- 1 - Original - Addressee
- 1 - DL Registry
- 1 - OL Chrono
- 1 - OL/P&PD Official
- 1 - OL/P&PD Chrono
- 1 - OL/P&PD/PP&SS Chrono
- 1 - OL/P&PD/PP&SS/ (Dec.9, 1982)

STAT

May 28, 1982

MEMORANDUM FOR: Director of Logistics

FROM : Chief, Printing and Photography Division, OL

STAT

SUBJECT : P&PD Noise and Materials Storage Problems

1. The purpose of this memorandum is to recommend a course of action designed to provide an optimum solution to two continuing problems that adversely impact on P&PD's ability to satisfy its mission; they are, lack of adequate space for safe and environmentally controlled storage of P&PD's supplies, and an unsafe environment in the press and bindery areas. These problems are distinct; however, they become intertwined when one analyzes the relevant facts, and iterates alternative solutions.

2. The P&PD Storage Space Staff Study (Attachment 1) presents four solutions to P&PD's environmental, safety, and convenience related supply storage problems. Included as solutions are modifying P&PD's existing 12,000 square feet of space, leasing commercial space, constructing a storage facility in the new Headquarters building, and excavating the P&PD basement. The study recommends the last option, and requests Director of Logistics (DL) approval for a Real Estate and Construction Division (RECD) feasibility study, with the ultimate goal of securing Deputy Director for Administration (DDA) approval for the project.

STAT

3. The press and bindery safety issue is dealt with in Attachment 2 (Summary of Noise Problems In Press and Bindery, P&PD). This study identifies equipment air compressor noise in the press and bindery areas as the most significant of P&PD's safety problems, discusses available options, and make a series of remedial recommendations. Of the options presented; i.e. equipment replacement, use of sound absorption materials, equipment noise insulation, enforced use of hearing protection, limitation of exposure by altered duty assignment, and isolation of the air compressors through relocation, only the last is viable. The recommendation contained in this study supports this last option by suggesting either the GSA Mechanical Room (G-5) or the P&P Building roof as locations for the compressors. The recommendation also makes note of the P&PD crawl space as the 'ideal' compressor location should the excavation of the basement be approved. A matrix (Attachment 3) is included as a concise

means of exhibiting the available options, and showing their effectiveness in providing a solution to the subject problems.

4. The costs of relocating the compressors, and constructing a storage facility in the P&PD basement are conservatively estimated to be \$350,000 and \$1,200,000 respectively. The \$350,000 figure is based on relocating the compressors either to G-5 or the roof. It would seem safe to assume that this cost would be dramatically reduced if the relocation was planned for and made as part of the construction of the storage facility. A cost/benefit matrix providing estimated costs and associated pay-back information for the various options is included as Attachment 4.

5. Based on the data contained in the attached studies, it is recommended that the Director of Logistics approve:

a. The initiation of a feasibility study for RECD to determine the design and budgetary costs for the utilization of the unexcavated space under P&P Building for the storage of P&P supplies.

b. The incorporation of the requirement for relocation of the air compressors into the Study recommendation in (a) above.

c. In the event that RECD's study concludes that the excavation of the P&P Building crawl space is the optimum solution for P&PD's storage and noise abatement requirements, OL seek approval to proceed with the project at the earliest practical date.



STAT

Approval:

Director of Logistics

Date

Disapproval:

Director of Logistics

Date

P&PD STORAGE SPACE STAFF STUDY

I. Purpose

The purpose of this study is to recommend a course of action designed to provide a solution to the Printing and Photography Division's (P&PD) supplies storage problems. These problems manifest themselves by the lack of temperature and humidity controlled warehouse space at the [redacted], inadequate and unsafe [redacted] chemical storage facilities, and the inefficiencies involved in the daily requirement to transport stock items from the [redacted] to the Printing and Photography (P&P) building.

STAT
SIAI
STAT

II. Background

A. P&PD currently occupies approximately 12,000 square feet of [redacted] space (see Attachment A). This space accomodates about 80 percent of P&PD's stock. The remaining 20 percent occupies 3,000 square feet of space in the P&P Building.

STAT

B. The space at the [redacted] is used for the storage of a wide variety of stock items including various printing papers, photographic films and papers, chemicals, press plates, etc. All of these materials require at least minimal temperature and humidity control, and many items, particularly those that are photosensitive, suffer shortened shelf life, and altered responsiveness to light as a result of being stored in an uncontrolled environment.

STAT

C. The chemicals stored at the [redacted] are comprised of photographic chemistries, alcohol, various solvents, acids, and the like. As with the photographic items, the physical properties of many of these chemicals are adversely effected by exposure to the temperature and humidity extremes present at the [redacted]. More importantly, according to Occupational Safety and Health Act (OSHA) regulations, certain of the chemicals must not be stored in close proximity to each other, and, in fact, should be kept in specially constructed storage bays which prevent incompatible agents from coming in contact with each other in the event of spillage. No such safety facilities are currently available at [redacted] nor is their construction planned.

STAT

STAT

STAT

D. During the summer months, P&PD's paper stocks absorb excess moisture due to high humidity. This moisture causes paper to curl making it difficult, and some cases, impossible to feed

through a press. Additionally, high moisture content has a detrimental effect on the papers' ability to maintain its dimensional stability during printing, thereby resulting in misregistered multi-color images. These problems are reduced to some extent by storing paper in the P&P building for several days before it is used; however, this staging is not totally effective, and a significant number of man hours and large quantities of paper are wasted dealing with moisture related problems.

E. On a daily basis, P&P must transport supplies from the depot to the P&P building via truck. In addition to requiring approximately two hours of travel time per day in all weather conditions, this activity involves the handling and transportation of some chemicals which, because of their caustic or flammable properties, are considered to be hazardous. The safety issue notwithstanding, significant inefficiencies are involved in conducting P&P's warehousing operations at the [redacted] Paramount among these inefficiencies is the double handling of stock which results from having to store materials at [redacted] then transport and re-store them at P&P. Lesser problems include having to compete with other Agency components and vendors for dock space when the P&P truck is loaded and unloaded, and having to move supplies almost the entire length of the depot to store them in the P&P [redacted] area. Occasional roof leaks and poor lighting tend to exacerbate all of the above problems.

STAT

STAT

STAT

F. Finally, there is ever increasing competition for [redacted] space among Agency operational components. If vacated, P&P's [redacted] space would make a significant contribution to resolving this problem. In view of this and the problems noted earlier, the following discussion of possible P&P storage alternatives is offered.

STAT

STAT

III. Discussion

A. Continued Use of the [redacted] Without Modification

STAT

Any discussion of alternative solutions to a situation that P&P has managed to live with for many years must consider continuing to do so as an option. Obviously, a continuation of the status quo offers no solutions to P&P's supply storage difficulties. Therefore no further discussion of this alternative will be made.

B. Continued Use of [] With Modification

STAT

All of the environmental problems associated with storing P&PD's supplies at the [] can be solved by constructing a suitable facility at [] however, the costs of constructing a Butler building or, of partitioning, and temperature and humidity controlling P&PD's 12,000 square feet of space, plus building an appropriate chemical storage facility have not been determined, but they are certain to be high. Even if it is assumed that these costs are affordable, partitioning does nothing to alleviate the shortage of [] space, and neither the Butler building, nor partitioning address the inefficient transportation of supplies from the [] to the P&P building, or the double handling of supplies.

STAT
STAT

STAT

STAT

C. Leased Space

Leasing commercial warehouse space for the storage of P&PD supplies would make 12,000 square feet of [] space available for other pressing needs. And if it is environmentally controlled, the problems associated with P&PD's paper, and the perishability of many of its other supplies, would be solved. Whether or not space which is suitable for proper chemical storage is available has not been determined. In any event, leased space does not offer solutions to P&PD's transportation or materials handling problems. Furthermore, based on recent information, it has been estimated that the same amount of space occupied by P&PD as at [] would cost \$80,000 per year if leased commercially. This cost does not include the manpower necessary to staff this space on at least an eight hour per day basis. Taken together, space and manpower, the option of leasing space for the storage of P&PD's supplies could cost more than \$100,000 per year.

STAT

STAT

D. New Headquarters Building Space

In June of 1981, P&PD responded to a request from the Assistant Executive Officer, OL for information on P&PD's space requirements relative to the construction of the new Headquarters compound building. The request for information, and P&PD's response make up Attachment B to this study. In P&PD's response, it was requested 'that consideration be given to allocating environmentally controlled space in the new building which is at least equivalent in size to that currently available to us at the depot.' If P&PD's request was honored, all of the problems associated with the current space situation would be solved

with the exception that P&PD would continue to have to transport material from the new building to P&PD. This new transportation effort would, however, be somewhat less troublesome than the current one due to the close proximity of the new building to P&PD. Although there has been no official response to P&PD's request, informal contact with the Deputy Chief, Building Planning Staff indicates that P&PD's request can not be honored.

E. Excavation of P&PD Basement

A recent study of Headquarters storage alternatives conducted by Real Estate and Construction, Logistics Services, and Supply Divisions noted that there was a 10,500 square foot area under the south end of the P&P building which could be excavated to provide additional storage space (see Attachment C). This study suggests that the excavated space be used for general Headquarters area storage until the new building is completed. The excavated basement would then be turned over to P&PD. The construction cost estimate portion of Attachment C cites \$533,900 as required to accomplish the excavation of the basement, but does not take necessary items such as bathroom facilities, a freight elevator, sprinkler system, chemical storage, or environmental control into account. The Chief, Headquarters Engineering Branch estimates that an additional \$500,000 to \$700,000 would be needed to fund these items; bringing the total cost of developing the P&PD basement area for P&PD storage purposes to from \$1,000,000 to \$1,200,000. It should be noted that this storage alternative is the only one available which fully responds to P&PD's current [] storage problems. That is to say, all of P&PD's storage space would be temperature and humidity controlled, chemicals could be stored safely, and except for those supply items requiring rail delivery, P&PD would no longer have to double handle material, or transport supplies from the [] to P&PD.

STAT

STAT

IV. Summary and Conclusions

Of the four meaningful alternatives to P&PD's space problems, only the excavation of the basement provides a total solution. Modifying the [] to conform to P&PD's needs (alternative B) solves P&PD's environmental difficulties, but does nothing to relieve the transportation and materials handling inefficiencies. Leasing space (alternative C) would have about the same impact as renovating the [] And including P&PD storage facilities in a new Headquarters compound building is, because of the close proximity of the new building to P&PD, only a marginally better solution than alternatives B and C. All of the

STAT

STAT

alternatives presented here have high costs associated with them, or in the case of acquiring space in the new building, seem to be infeasible.

V. Recommendations

This study does not purport to be a rigorous analysis of all possible alternatives, nor is it supported by detailed cost-benefit analysis information. Nevertheless, it is submitted that there is sufficient factual content upon which to base a recommendation. The infeasibility of acquiring new building space, and the high costs associated with the alternatives which offer partial solutions to P&PD's space problems leave the excavation of the P&PD basement as the only viable solution to the problem. It is recommended therefore that the Director of Logistics approve alternative solution E, and that the Real Estate and Construction Division (RECD) undertake a study that determines definitive technical feasibility and cost parameters. Assuming a positive RECD finding, it is recommended that Deputy Director for Administration approval be sought to proceed with the construction of a suitable materials storage facility in the P&PD basement designed to respond to the problems detailed in this staff study.

Page Denied

17 JUN 1981

MEMORANDUM FOR: Assistant Executive Officer, OL

FROM:

[redacted]
Acting Chief, Printing and Photography Division, OL

SUBJECT:

Building Requirements

REFERENCE:

Multiple Addressee Memorandum, dated 12 June 1981;
From: AEO/OL, Same Subject

1. This memorandum is in response to your request for information regarding this Division's space requirements in the new Headquarters compound building.

2. Paragraph 2, subparagraph A of reference:

No response.

Paragraph 2, subparagraph B of reference:

The Printing and Photography Division (P&PD) currently occupies approximately 15,000 square feet of space in [redacted]. This space is used to store the bulk of supplies utilized by P&PD. Most of the items stored at [redacted] are adversely affected by the lack of adequate temperature and humidity control. This lack of a controlled storage environment ultimately causes P&PD significant production problems. It should be noted also that consumable supply items must be trucked from [redacted] to P&PD on a daily basis. This is a costly and time-consuming procedure. In view of the above P&PD requests that consideration be given to allocating environmentally controlled space in the new building which is at least equivalent in size to that currently available to us at [redacted].

Paragraph 2, subparagraph C of reference:

No response.

OL 1 2519

SUBJECT: Building Requirements

Paragraph 2, subparagraph D and E of reference:

P&PD foresees no drastic increase in machine support requirements, or new technology support facilities for the new building as a result of any P&PD initiatives. It should be noted, however, that the current Headquarters building's communications grid is not capable of supporting growing requirements. It is suggested therefore that the communications facility selected for the new building have adequate potential for expansion.

3. If you require additional information relative to this memorandum, please call



STAT

Distribution:

- Original - Adse
- 1 - Systems Staff, P&PD
- 1 - P&PD (official)
- 1 - P&PD (chrono)

L/P&PD,



(17 June 1981)

STAT

SUBJECT: Building Requirements

12 June 1981

MEMORANDUM FOR: Chief, Logistics Services Division, OL
 a. Provide Chief, Printing and Photography Division, OL ✓
 expected Chief, Procurement Division, OL
 number Chief, Real Estate and Construction Division, OL
 centers, Chief, Supply Division, OL
 design, Chief, Personnel and Training Staff, OL
 Chief, Plans and Programs Staff, OL
 e. Are the Chief, Procurement Management Staff, OL
 quarter Chief, Security Staff, OL
 for file Chief, Budget and Fiscal Branch, OL
 that are Chief, Records and Services Branch, OL
 current Chief, Systems Analysis Branch, OL
 describe Chief, Logistics and Procurement Law Division, OGC

STAT

FROM: J. [Redacted] Assistant Executive Officer, OL
 Memorandum are questions regarding this memorandum for the

SUBJECT: the under Building Requirements

1. The purpose of this memorandum is to solicit requirements from all divisions and staffs in the Office of Logistics for a new building on the Headquarters compound. The earliest practicable occupancy date for such a building would be 1986/87.

2. To assist me in responding to the Building Planning Staff, Office of Logistics, requirements, please answer the questions listed below. In answering questions "a" and "b," you are to assume that all components presently occupying space in any of the Agency's leased buildings or in the E Street complex would move to the Headquarters compound.

a. Are there components in the buildings listed above that could not or should not move to Headquarters? If so, please identify the organizations.

b. Are there elements not covered by the planning assumption that should move to Headquarters, e.g., elements at [Redacted] etc? If so, please identify the organizations.

STAT

c. Provide estimates of Headquarters personnel ceilings for 1987 and circa 2000. To the extent possible, indicate organizational areas of expected growth/reduction.

SUBJECT: Building Requirements

d. Provide a description of Headquarters machine support expected by 1987 and circa 2000. Estimates of the number of terminals, processors, special-purpose centers, storage capacities, etc., will be helpful in designing environmental support systems.

e. Are there new technologies being considered for Headquarters application that may present unique requirements for floor loading or power and environmental control that are above and beyond those necessary to support current computer and communications technology? If so, describe the expected characteristics.

3. Responses (including negative responses) to this memorandum are required by COB 18 June 1981. If you have any questions regarding this memorandum or the requirement, please contact the undersigned on [redacted]

2. Paragraph 1, subparagraph [redacted]

No response [redacted]

STAT

STAT

ILLEGIB

3. Excavating Printing and Photography Division Basement

Excavation of the basement under the South end of the Printing and Photography Building would provide 10,500 square feet of additional storage area for Headquarters Building storage. When the proposed new addition to the Headquarters Building is completed, it is presently planned to provide 10,000 square feet of storage for both old and new structures of Headquarters Building. When permanent storage space becomes available, the excavated basement of Printing and Photography Building could be utilized for printing and photography services as required.

This excavation alternative would involve cutting a hole in the West side of the basement wall, excavating approximately 1,200 cubic yards of soil, relocating three utility lines, underpinning the existing footings, extending the walls to the new footings, pouring a concrete floor, installing a rollup door at the loading dock, installing required utilities, constructing a new loading dock or installing a freight elevator, grading the service road to the new loading dock and placing drain tile around the basement wall.

Advantages:

- *Correct steep grading problem at existing loading dock of Printing and Photography Building.
- *Would provide future additional space for printing and Photography service.
- *No zoning approval required for this type of construction.
- *No visual impact on the environment.
- *Short construction time.

Page Denied


Next 1 Page(s) In Document Denied

ATTACHMENT 2

11 May 1982

MEMORANDUM FOR: C/P&PD/OL

FROM :


P&PD Safety Coordinator

STAT

SUBJECT :

Summary of P&PD Noise Problems

1. The attached paper is presented as a summary of the noise problems in the Press and Bindery Branches, P&PD, OL. It is intended to inform you of the options discussed at the 17 March 1982 meeting on the subject, and to request your management direction and guidance as to what P&PD's commitment will be in seeking a solution to the noise problem.

2. If you have any questions or desire additional information, please contact me.


STAT

23 April 1982

SUMMARY OF NOISE PROBLEMS
IN PRESS AND BINDERY BRANCHES, P&PD

1. Background

The Printing and Photography Division (P&PD) facilities were given an extensive and comprehensive Health and Safety Survey (H&SS) from 19 January through 13 February 1981 by the Safety Group, Office of Security (currently the Safety Staff, DDA).

[redacted] conducted the survey which focused on seven major areas of interest: Noise, Air Quality, Electrical, Fire Protection, Chemical Storage, Ventilation, and Miscellaneous. The noise levels identified in the Press and Bindery branches have become the most significant problem resulting from the H&SS.

STAT

The purpose of this paper is to present a synopsis of the problem and the options discussed on 17 March. There may be other alternatives which are still unidentified. At this point, it is requested that P&PD management provide direction and guidance as to which way we will go. Obviously there are budget considerations and Division priorities influencing a commitment to future involvement on this issue. There is also the fact that P&PD has an identifiable problem, that both SS/DDA and OMS are watching with interest, that personnel compensation claims have already surfaced, and that the situation is not going to go away by itself.

2. Corrective Action Recommendations

The primary recommendation of the H&SS pertaining to the noise situation was the establishment of a program with the Office of Medical Services (OMS) to administer baseline and/or annual audiograms for all present and future employees assigned to these work areas.

In addition, it was recommended that hearing protection be furnished and its use encouraged; that warning signs be posted; and that noise reduction measures be considered, particularly the relocation of the compressors and vacuum pumps.

3. P&PD Accomplishments

All Press and Bindery personnel, including recently EOD'd employees, have been tested by OMS. Nine employees required further evaluation by an outside ENT consultant and were found to have suffered significant hearing losses. Some personnel are wearing hearing protection equipment; the majority have ignored the issue. Signs, notices, and verbal encouragement have been used to promote the use of hearing equipment.

4. Planning Meeting on Noise Reduction



STAT

Architectural Design Staff (ADS). It was anticipated that the SS and ADS representatives would be able to offer explicit guidance as to which way P&PD should go in seeking to decrease the measured noise levels. What resulted was several options that might be considered.

5. Options

A. Relocation of the Compressors - Since the compressors and vacuum pumps associated with each major equipment item in Press and Bindery have been identified as the main noise source, their removal would obviously result in a much quieter environment. The H&SS originally recommended this course of action. An initial inquiry by P&PD to HEB/OL in 1981 on the cost of such a move resulted in an estimate of at least \$350,000. Budget constraints and other factors have precluded further pursuit of this approach; however, it is the consensus of all concerned that this one option would best satisfy the noise reduction requirements. Such a move would require considerable engineering evaluation prior to actual accomplishment. There are numerous considerations to be addressed; consequently, any commitment by P&PD to pursue this option would probably involve considerable research, time, and cost.

B. Retain a Consultant - The option of retaining the services of an acoustical engineering firm was suggested. It was the opinion of the SS and ADS reps that the Agency does not possess the in-house resources to adequately address this issue in a totally qualified manner, therefore outside expertise should be considered.

C. Research other Printing Plants - The suggestion of contacting other government agencies, such as Geological Survey and Defense Mapping, was proposed as well as a couple of local commercial printers. The purpose would be to see what, if anything, they have done to suppress their noise problems. If they don't have any problem, then what have they done to eliminate it? [redacted] made reference to a commercial shop where he once worked that totally enclosed their folding machine in an acoustically-engineered room. The results were so successful that the equipment operator could even hear a radio. Something of this nature could be considered for our Bindery, but it wouldn't be applicable to the Press room.

STAT

D. Replace the Equipment - This is easier said than done. It was also the opinion of the branch chiefs that the manufacturers have not made any significant advances in reducing the noise levels of current equipment.

E. Sound Absorption Materials - There are several approaches to this option. Carpeting on the floor, draperies on the walls, sound absorption foam or panels on the ceiling and/or walls, suspended acoustical baffles, and other commercially-available methods are available. But, the practicality of some of these methods in a press and bindery environment is questionable. How do you keep carpeting clean? How do you manage forklifts and slide skids of paper on a carpeted surface? The high ceilings and the myriad of ductwork, sprinkler system, electrical lines and lighting fixtures, are all negating factors to a practical solution from above. The noise should be controlled at its source for maximum efficiency.

F. Isolate or Insulate the Equipment - Isolating the equipment appears totally unacceptable within the confines of the P&P Building, except possibly for the previously-mentioned commercial bindery reference. Insulating the equipment also presents drawbacks, such as heat dissipation, maintenance accessibility, lack of space at the equipment location, etc.

G. Enforced Use of Hearing Equipment - This option would require a stronger managerial approach to making the use of hearing protection equipment mandatory. According to the SS representative, this can legally be done and enforced through existing Agency regulations, including suspension and the loss of pay. However, there is a strong argument by the operators that noise changes serve as a valuable means of monitoring the operation of the equipment. Also, mandatory use of hearing protection equipment does not

relieve P&PD from the responsibility of lowering unacceptable noise levels. Thus, this option must be viewed as providing only a partial, temporary solution, while creating adverse personnel reactions and challenges.

H. Personnel Shifts and Limited Exposure - P&PD does not have a work force large enough to cover all shifts by limiting duty assignments and exposure times of personnel to the noisy conditions. Plus, the noise problems in P&PD are not constant in the sense that not all equipment is running on all shifts. It is only under certain conditions that the problem reaches the point of exceeding OSHA limits. But since that does not diminish the requirement to alleviate the noise problem, this option seems to offer little substance.

6. Recommendations

A. P&PD should pursue the relocation of the compressors and vacuum pumps to either the GSA Mechanical Room (G-5) or to the roof of the P&P Building. The latter location would require a roof-top structure to house the equipment.

(1) There are variations of this idea which merit consideration. One option is the relocation of the equipment as stated. A second is to leave it in place as a backup and install a single, large, central system in the proposed location(s). A third would be the installation of a main central system with a backup central system. A fourth alternative is the relocation of the compressors and pumps to a scaffold-type area on the Press Room wall, similar to the present setup with the electrical power panels. This would obviously require acoustical insulation and venting of the heat buildup to the outside.

(2) Pending consideration of the excavation of the crawl space under the south end of the P&P Building, relocation of the compressors to this area presents an interesting and viable alternative. There is over 10,000 square feet of usable space available should this project become reality. This would provide an ideal location for a centralized compressor system without infringing on the already crowded G-5 area, or requiring rooftop modifications.

B. In conjunction with the above, P&PD should seek outside consultation with companies specializing in acousitcal engineering, and with manufacturers of compressors and pumps.

C. P&PD should confer with other government printing operations, particularly USGS, GPO, and DMA as sources of comparable problems and possible solutions. In addition, contact with commercial printing plants in the Metro area might also be beneficial.

D. Should all of the above prove fruitless or beyond reasonable budgetary expectations, the option of hiring an outside consultant should be considered.



P&PD Safety Coordinātor

STAT

STAT

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

Page Denied

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

ATTACHMENT 4

Page Denied

CENTRAL INTELLIGENCE AGENCY
REAL ESTATE AND CONSTRUCTION DIVISION
WASHINGTON, D.C. 20505

FEASIBILITY STUDY
FOR
EXPANSION OF THE GROUND FLOOR
PRINTING AND PHOTOGRAPHY BUILDING
McLEAN, VIRGINIA

Prepared by
EDWARD L. VAUGHN, JR.
CONSULTING ENGINEER AND ASSOCIATES
KENSINGTON, MARYLAND 20895

October 15, 1982

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

EDWARD L. VAUGHN, JR.
CONSULTING ENGINEER & ASSOCIATES

3925 PLYERS MILL ROAD • KENSINGTON, MARYLAND 20795 • (301) 949-9850

October 15, 1982

Central Intelligence Agency
Real Estate and Construction Division
Washington, D.C. 20205

Re: Feasibility Study for the Expansion of the
Basement, Central Intelligence Agency, Printing
and Photography Building, McLean Virginia 20205
Contract No. 81 R613800 000

Attn:
Chief, Real Estate and Construction Division, O.L.

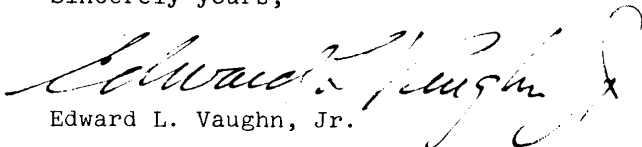
STAT

Dear Sir:

We are pleased to enclose in accordance with our agreement, five copies of our Feasibility Study for the Expansion of the Basement in the Printing and Photography Building at Headquarters, McLean, Virginia.

Manney & Lorente Associates, Consulting Engineers, located at 7805 Old Georgetown Road, Suite 203, Bethesda, Maryland 20814, were our mechanical and electrical consultants.

Sincerely yours,


Edward L. Vaughn, Jr.

Enclosures

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

C O N T E N T S

	<u>Pages</u>
THE NEED.	3-5
THE PROCEDURE	6-9
THE PROPOSALS	10-18
THE DISTURBANCE OF UTILITIES.	19-25
THE COST ESTIMATES.	26-47
THE COMPARISON.	48-49
THE SUMMARY	50-52
THE DRAWINGS	No. 1 through No. 18
No. 1 - PART GROUND FLOOR PLAN	
No. 2 - PART FIRST FLOOR PLAN	
No. 3 - PART FOUNDATION & GROUND FLOOR PLAN	
No. 4 - PART FIRST FLOOR FRAMING PLAN	
No. 5 - PART PLAN OF PLUMBING & ELECTRICAL AT GROUND FLOOR	
No. 6 - PLAN OF PROPOSED LOADING DOCK	
No. 7 - ELEVATOR AT EAST WALL - EXTERIOR, GROUND FLOOR PLAN	
No. 8 - ELEVATOR AT EAST WALL - EXTERIOR, FIRST FLOOR PLAN	
No. 9 - ELEVATOR AT EAST WALL - INTERIOR, GROUND FLOOR PLAN	

- No. 10 - ELEVATOR AT EAST WALL - INTERIOR, FIRST FLOOR PLAN
- No. 11 - ELEVATOR AT SOUTH WALL - TWO DOOR, GROUND FLOOR PLAN
- No. 12 - ELEVATOR AT SOUTH WALL - TWO DOOR, FIRST FLOOR PLAN
- No. 13 - ELEVATOR AT SOUTH WALL - ONE DOOR, GROUND FLOOR PLAN
- No. 14 - ELEVATOR AT SOUTH WALL - ONE DOOR, FIRST FLOOR PLAN
- No. 15 - EXPLOSION PROOF & FLAMMABLE ROOMS, GROUND FLOOR PLAN
- No. 16 - EXPLOSION PROOF & FLAMMABLE ROOMS, FIRST FLOOR PLAN
- No. 17 - PROPOSED AIR FLOW DIAGRAM
- No. 18 - PROPOSED NEW ELECTRICAL SERVICE

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

3

THE NEED

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

This feasibility study was undertaken to determine the feasibility of excavating under the south end of the Printing and Photography Building at the Agency's Headquarters in McLean, Virginia. This excavation would be required to expand the ground floor for storage purposes.

At the present time the proposed storage area is adjacent to the Mechanical Equipment Room. An entrance from the Mechanical Equipment Room to the proposed storage is not feasible at this time due to the location of the equipment.

In the course of this investigation a variety of items were studied in this area. These included, but were not limited to, the following:

1. Underpinning of the existing structure.
2. An additional loading dock.
3. A freight elevator and a interior stair between the ground and first floors.
4. Toilet facilities and fire protection for the expansion.
5. Investigation of the existing mechanical and electrical systems to support the new expansion.
6. Relocation of the existing primary and secondary utilities in the expansion.
7. A new 480 volt power vault with two 750 KV transformers.
8. Estimated construction costs for budgetary purposes.

The new area, as shown on Drawing No. 1, at the ground floor will be primarily used for the storage of paper, either in rolls or flat sheets. The rolls weight approximately 1,400 pounds, are 3'-0" high and have a diameter of 36". The flat sheets are approximately 4'-0" wide by 4'-0" high by 5'-3" long, weighting approximately 2,000 pounds. These sheets are supported by 10" high wood skids.

At the present time, the rolls are consumed at the rate of five rolls per day or approximately thirth rolls per week; while the skids are consumed at the rate of approximately ten skids per week.

There is sufficient storage on the first floor at this time for two to three weeks of operation. The users would appreciate storage space for between thirteen and twenty six weeks of operations. If the rolls were stacked four high and the skids were stacked three high; storage for thirteen weeks would require a minimum of 3,900 square feet, while storage for twenty six weeks would require a minimum of 7,800 square feet.

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

6

THE PROCEDURE

The present structure consists of two floors with provision for two future floors. The south end of the building, which is unexcavated and is to be investigated, contains the potential storage space.

The main road at the present time is on the east side of the building. According to the master plan this road will be abandon in the future, and the present secondary road on the west side of the building will become the primary road. The existing loading dock is on the southeast corner of the building.

The existing building is a reinforced concrete structure supported on caissons. The walls below the first floor are concrete while the walls above are precast concrete and masonry. The ground floor is a slab on grade, 17'-0" below the top of the first floor. At the unexcavated area the interior grade is approximately 8'-6" below the top of the first floor slab. The first floor is a flat slab with drop panels designed for a live load of 400 pounds per square feet (psf) above the unexcavated area. The present roof, a future second floor, is a flat slab with drop panels designed for a live load of 100 psf. The top of the roof slab is 15'-0" above the first floor.

The above information was in general obtained from the original contract drawings, copies of which were supplied by the Agency. Drawings No. 1 through 5 were made from site visits

and the information on the contract drawings.

In conferences with the user's personnel responsible for the operation of the printing and photography sections, the reasons for the study were discussed from the standpoint of the user.

It was thus learned that the main function of this study would be to eliminate the area presently required for the storage of paper and chemicals. At this time, the bulk of the paper is stored in a non airconditioned warehouse several miles away. The chemicals which are either potential explosive or possibility flammable are stored in fifty gallon drums in a prefabricated non airconditioned metal building in the same area.

The chemical storage would require approximately 2,000 square feet of space, divided equally between the potential explosive and flammable chemicals. This storage area could not be placed inside of the existing building because of the various building codes, but could be built adjacent to the existing structure.

The new storage areas would have to be air conditioned and with proper temperature controls in order that neither the paper or the chemicals would deteriorate during storage. The paper storage area should have a minimum distance of 17'-6" from the top of the ground floor

to the underside of the fire protection system. This distance will enable the skids for the flat sheets to be stacked 15'-0" high.

At the present time there is usually a two week supply of paper, which is augmented weekly, stored on the first floor. This storage area requires approximately 690 square feet of space. The users would like to store the materials required for thirteen weeks of operation with the potential for storing for twenty six weeks.

A new loading dock would be require to unload the materials for storage. The existing loading dock is in use approximately sixteen hours per day. A delivery truck uses this dock at approximately two hour intervals for loading or unloading.

A freight elevator would be required to efficiently move the paper from the storage area on the ground floor to the first floor. Provisions for moving the paper should also be made in case of a malfunction of the elevator.

A material handling study of the logistics involved in moving the paper on the ground floor as well as the first floor should be made by the user.

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

10

THE PROPOSALS

Our investigation indicated that there were a variety of solutions to the basic problem, an increase in storage capacity. It was decided, for ease of cost comparison, to separate the different areas in the following manner for our presentation:

PLAN 1 - THE NEW GROUND FLOOR

Drawings No. 1 through 5, 17 & 18.

PLAN 2 - THE LOADING DOCK

Drawing No. 6.

PLAN 3 - ELEVATOR AT EAST WALL - EXTERIOR

Drawings No. 7 & 8.

PLAN 4 - ELEVATOR AT EAST WALL - INTERIOR

Drawings No. 9 & 10.

PLAN 5 - ELEVATOR AT SOUTH WALL - TWO DOOR

Drawings No. 11 & 12.

PLAN 6 - ELEVATOR AT SOUTH WALL - ONE DOOR

Drawings No. 13 & 14.

PLAN 7 - EXPLOSION PROOF & FLAMMABLE ROOMS

Drawings No. 15 & 16.

PLAN 1

The location of this plan is noted on Drawing No. 1, with additional information shown on Drawings No. 3, 4 & 5. This area includes all of the unexcavated space at the ground floor and contains approximately 11,000 square feet.

Initially, the new ground floor was to be at the same elevation as the present floor, which was 17'-0" from the top of the first floor. After conferences with the users, it was decided that a minimum clear height of 16'-0" plus 18" to the bottom of the fire protection system would be required. The ultimate floor height became 21'-0" from the ground floor to the first floor, which will allow 2'-4" clear for the mechanical and electrical systems.

21'-0"
- 2'-0"
18'-0"
+ 1'-6"
17'-6"

Plan 1 will include the new electric and switchboard rooms with the remainder of the space being used for storage. The exact location of the storage^a isles are beyond the scope of this report, but should be determined by the user.

To utilize the maximum storage area it would be necessary to underpin the existing structure. A preliminary cost estimate indicated that this underpinning would cost approximately \$408,000.00 or about \$37.00 per square foot. This money would provide an additional 115 square feet of storage space. It was obvious that this method was not practical and therefore was abandoned.

If the high voltage lines were not relocated and allowing this area to remain unexcavated, a saving could be accomplished. An investigation of this idea indicated that 2,100 square feet of storage space would be lost. Also, the possibility of placing a loading dock on the west side of the building would be eliminated. Since new high voltage lines may be required, it was felt that the savings would be insignificant. Therefore the investigation was discontinued.

The obvious solution to the excavation of this area would be to horizontal brace the caissons while the excavation was taking place. Next, clean the caissons and columns by sand blasting and then construct the new columns as indicated on Drawing No. 3. At the exterior walls, the bottom of the walls should be cut and the new lower wall constructed. The existing wall should then be wedged and dry packed with non-shrinking grout and the upper wall constructed.

PLAN 2

14

The assumed location of this plan is shown on Drawing No. 6. The final location may vary, depending upon the usage of the storage space. This plan assumes that a main road will be built on the west side of the present building in the future.

It was decided that a enclosed dock would be preferable to an open dock in this area. This could be accomplish by the construction of a masonry bearing wall at the north side of the loading dock. A closed dock would provide cover during inclement weather. It would also provide a transition between the exterior and interior of the building, thus providing a saving in energy expenses.

The construction of this loading dock would eliminate the problem of moving articles between the floors. Thus, in case of a malfunction of the elevator or material handling equipment; items could be transferred between the storage area on the ground floor and the first floor with minor difficulties.

Security could be increased by the addition of a rolling steel door adjacent to the auto-sliding door.

The construction of this loading dock would be similar to the open loading docks noted on Drawings No. 5 & 6.

PLAN 3

The proposed location of this plan is shown on Drawings No. 7 & 8. This structure is a proposed two story wall bearing addition to the main building with provisions for two additional floors.

The elevator is assumed to be a 10,000 pound hydraulic freight elevator with a speed of 100 feet per minute serving the first floor. There would be an additional cost at this time for providing service for the future floors. The elevator pit is 5'-0" deep.

The exterior walls would be concrete below the first floor and wall bearing masonry with precast concrete cladding, similar to the existing cladding, above the first floor. All interior walls shall be wall bearing masonry.

The roof, a future second floor, and the first floor will be reinforced concrete supported by wall bearing walls. The ground floor will be supported by exterior concrete walls which in turn are supported by four caissons with an allowable soil pressure of 20 tons per square foot.

PLAN 4

This proposed plan is located in the interior of the existing building and is shown on

Drawings No. 9 & 10.

The elevator is assumed to be a 6,000 pound hydraulic freight elevator with a speed of 100 feet per minute serving the first floor. The allowable elevator size was limited to the space available which was less than the others. There would be an additional cost at this time for providing service for the future floors. The elevator pit is 5'-0" deep.

Construction of this plan would cause major inconveniences to the users of the building.

The solvent storage room would have to be moved from its present location to the area near column K3 between the Press Office and the Vault.

A dust partition would be required prior to the start of construction. This partition would interfere with the loading and unloading of the delivery trucks, as well as causing a security problem. Storage space would be lost on the ground floor as well as production space lost on the first floor.

PLANS 5 & 6

The proposed location of plan 5 is shown on Drawings No. 11 & 12. The proposed location

of plan 6 is shown on Drawings No. 13 & 14. Each structure has a proposed open loading dock with a two story wall bearing addition to the main building and with provisions for two additional future floors.

The elevator is assumed to be a 10,000 pound hydraulic freight elevator with a speed of 100 feet per minute serving the first floor. There would be an additional cost at this time for providing service for the future floors. The elevator pit is 5'-0" deep.

The exterior wall shall be concrete below the first floor and wall bearing masonry with precast concrete cladding similar to the existing cladding above the first floor. All interior walls shall be wall bearing masonry.

The roof, a future second floor, and the first floor shall be reinforced concrete supported by the wall bearing walls. The ground floor shall be supported by the exterior concrete walls which in turn are supported by four caissons.

The loading dock is supported by spread footings. The floor of the loading dock is 48" above the driveway and is a reinforced concrete slab spanning between concrete walls. A dock leveler should be provided. The roof has a 5 ply built-up roof over 1" insulation over 1½" high metal deck over steel joists which are supported by steel beams and/or bearing

walls. The steel beams are supported by steel tube columns or bearing walls.

PLAN 7

The proposed location of this plan is shown on Drawings No. 15 & 16. At the ground floor there is approximately 1,077 square feet of usable storage. There is approximately 1,003 square feet of usable storage at the first floor.

Storage for explosive material shall be on the ground floor which will allow earth berms to be constructed near the exterior walls. Flammable material shall be stored on the first floor.

The exterior construction of this structure is similar to that noted on plan 3. The roof, first and ground floors shall be constructed of concrete slabs and beams, three per floor. The structure shall be supported by six caissons.

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

19

THE DISTURBANCE OF UTILITIES

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

MECHANICAL & ELECTRICAL SYSTEMS

1. Purpose of the study: This study investigates (a) the existing mechanical and electrical systems and determines the ability of these systems to support the expansion (b) the methods to relocate/remove the existing pipes and feeders in unexcavated space (c) the options available if the capacity of the existing equipment is not adequate.

2. Description of existing mechanical and electrical systems
 - a. The building is served by two central air handling units. The units are located in mechanical equipment room on ground floor. Each air handler is equipped with Roll-o-pak filter, preheat coil, chilled water coil and double-width and double inlet centrifugal fan. The rated capacity of the fan is 52,115 CFM at 7"H20. The two handling units discharge into a common accoustically lined plenum. Branch supply ducts are taken from the plenum to serve different areas of the building. Constant volume dual duct system which varies the temperature of the air supply by mixing hot and cold air is used to satisfy the space conditions. Chilled water and high pressure steam supply are provided by the main power plant to meet building cooling and heating needs.
 - b. The building is served by two-1000KVA transformer (13,200v/120-2084-30-4W) located

in an electrical room in the ground level. These two transformers are fed from existing electrical manhole approximately 13'-0 feet from the face of the exterior wall of the building. Existing electrical feeders serving existing transformer are crossing crawl space.

3. System capacities & analysis

The following table gives a comparison of existing mechanical system operation with the modified system operation after the new load is added to the existing load.

Description	Existing Condition	New Condition	Remarks
Air Handling Unit Flow-CFM	52,115	54,615	
Fan BHP	68.89	79.28	BHP is greater than MHP- Not acceptable
Fan MHP	75	100	Proposed to use 100 HP motor
Velocity Thru Filter (106.6 Ft ²)	488 FPM	512 FPM	Acceptable
Velocity Thru Preheater (76.2 Ft ²)	684 FPM	717 FPM	Acceptable
Velocity Thru Cooling Coil (106.6 Ft ²)	488 FPM	512 FPM	Acceptable
Cooling Capacity/Unit	286 Tons	291 Tons	Acceptable
Chilled Water Flow/Unit	572 GPM	582 GPM	Acceptable

??

The small difference between the existing fan flow and the new fan flow would not seem to be very significant, but the existing motor horsepower is less than the BHP needed under the new conditions. In actual operation, the air handling units' capacity is reduced by dirty coils, dirty filters, improperly adjusted controls, and normal mechanical wear. We would expect that without exceptional inspection and maintenance, that these air handling units are operating at less than 95 percent of their rated capacity. As indicated in the following section, the existing 75 HP motor should be removed and replaced with a new 100 HP motor to deal with the new load.

The existing chilled water, hot water, cold water, and steam pipes are adequate to support the expansion. The cold water pipe size is adequate for sprinkler system in the new space.

4. Recommendations

- a. Replace the existing 75 HP motor with new 100 HP motor to meet the additional load.
- b. Use constant volume dual duct system for the new space. See Drawing No. 17 for the proposed air flow diagram for this space.
- c. Remove the existing soil and cold water pipes in crawl space and reinstall in the ceiling space to provide proper head room.
- c. Existing electrical feeders shall be removed to provide additional space for storage.

See Drawing No. 5 for new location of existing electrical feeders.

Installation of new feeders below ground in unexcavated space is not considered because of the cost involved. New electrical feeders to serve existing transformers shall be provided as shown on Drawing No. 18.

- e. Two new 750 KVA transformers (13,200/480V-277V-30-4W) shall be provided to serve new 480 volts load. Total capacity of new electrical service is 2400 amps (2-1200 amps switchboard).

New elevator to be served from one of 1200 amps switchboards. Lighting system for new storage area will use 175 watts metal halide for 30 foot candle approx.

5. Plant down-time for new mechanical & electrical services.

- a. It is estimated that the plant has to be shut down a minimum of two (2) days to make the new mechanical and electrical connections.

STAT

Page Denied

Next 1 Page(s) In Document Denied

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

26

THE COST ESTIMATES :

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

Page Denied

Next 20 Page(s) In Document Denied

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

48

THE COMPARISON

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

Page Denied

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

50

THE SUMMARY

As we have stated in our forwarding letter we have investigated various possibilities for the expansion of the ground floor of the Printing and Photography Building. It is our hope that this study will assist you in the final selection and decision to be made by the Agency.

The estimated construction costs are based upon the construction of the new addition being similar to the existing construction and as indicated on the enclosed drawings.

In my opinion I would select Scheme 8, provided that Scheme 7 is approved, otherwise I would select Scheme 1. These schemes provide the user with the greatest flexibility for the efficient operation of his organization. They also provide the smallest interruption to his operation during construction.

Schemes 2 & 4 require an interior elevator, the construction of which will disrupt the present operations intensely.

Schemes 3, 5 & 6 would require the elevator being the only method of moving materials between the floors.

Scheme 3 would require all of the loading and unloading from the present loading dock which would cause logistics problems.

Schemes 5 & 6 would remove space from the distribution area.

In summary, the enclosed documents indicate several proposed solutions to increase the storage space. These solutions were based upon the requirements of the users and the type of construction of the present structure.

Other factors that could be considered would be to decrease the floor height, use reinforced concrete in lieu of masonry or precast concrete. Eliminate the necessity for future floors and the continuation of the elevator at the elevator shaft. Support the proposed shaft, but without the future floors on spread footings in lieu of caissons. All of the above items would effect the total construction cost.

Declassified in Part - Sanitized Copy Approved for Release 2013/08/26 : CIA-RDP12-00036R000100130001-6

53

THE DRAWINGS

Page Denied

Next 17 Page(s) In Document Denied