



Ames Procedural Requirements

APR 8829.1

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COMPLIANCE IS MANDATORY

Subject: Construction Permit Process

Responsible Office: JCE/Facilities Engineering Branch, Ext. 4-4108, M/S 213-8

DOCUMENT CHANGE LOG

Status (Baseline/Revision/Cancelled)	Document Revision	Date of Change	Description
Baseline		08/16/04	New Document
Revision	1	09/17/10	This revision clarifies the relationship between and responsibilities of the Chief Building Official and the Authority Having Jurisdiction
Revision	2	9/24/2014	Updates to latest revision of CCR establish a single path to be followed. Change APR1700.1 to APR 8715.1 Update responsible office extension and M/S
Revision	3	9/25/2017	Updated organizations and references

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PREFACE

P.1 PURPOSE

This document establishes the Construction Permit Process and the requirements imposed on all construction activities at Ames Research Center (ARC). The permit process assures the provision of:

- a. A safe, environmentally responsible working and living environment
- b. Communication among involved organizations/individuals
- c. Proper and timely inspection of work
- d. Configuration Management -- This is for the process from planning clearance, permitting, inspection, and finally filing as-built drawings with Engineering Document Control (EDC).

P.2 APPLICABILITY

a. This procedural requirement applies to all real property under the jurisdiction of Ames Research Center including, but not limited to: the area commonly known as the Ames Campus; the planning areas known as Bay View, Wetlands, Eastside Airfield, the Shenandoah Plaza Historic District, the NASA Research Park South Campus, the Storm Water Retention Pond, the Eastern Diked Marsh, and the Western Diked Marsh; and the Air National Guard's (ANG) Temporary Use Areas.

ANG shall comply with NPR 8820.2 per agreement between ANG and NASA in September 2010. All required reporting and documentation shall be provided to NASA for review on compliance and managed by the Construction Permit Office.

The areas known as the Shenandoah Plaza Historic District and the NASA Research Park South Campus are collectively referred to under the designation of NASA Research Park (NRP). Throughout the rest of this document, all of these areas will be encompassed under the designation Ames Research Center (ARC), and they are displayed in Appendix C. In this map, the red line shows the boundary of the NASA Ames area of authority.

Lands at Crows Landing Flight Facility in Patterson, California, are excluded from this procedural requirement. Additionally, Ames may exclude property or properties from this directive through mutually written agreements.

This procedural requirement applies to all civil service and contractor employees, to all tenant personnel and to all special event/special outdoor event organizers and their personnel, while they are on-site in any of the included areas.

P.3 AUTHORITY

NPD 8820.2, Design and Construction of Facilities

APD 8829.1, Construction Permits

P.4 APPLICABLE DOCUMENTS

- a. NPR 8715.3, NASA General Safety Program Requirements
- b. NPR 8820.2, Facility Project Requirements

- c. NASA STD 8719.11, Safety Standards for Fire Protection
- d. NASA STD 8719.7, Facility Systems Safety Guidebook
- e. NPR 8500.1C, NASA Environmental Management
- f. NPR 8580.1A, NASA National Environmental Policy Act Requirements
- g. APR 8715.1, Ames Health & Safety Manual

P.5 MEASUREMENT/VERIFICATION

The Chief of the Facilities Engineering Branch shall maintain a log of the active Permits, Waivers, and Certificates of Occupancy, as well as an archive of closed Permits, Certifications of Construction Completion, and Certificates of Occupancy for permanent occupancy.

P.6 CANCELLATION

APR 8829.1, Construction Permit Process, dated September 29, 2014

/S/

Eugene Tu
Director

CHAPTER 1. Construction Work Covered

1.1 This document covers the Construction Permit process from initiation of a Planning Clearance application for covered construction work, through the Construction Permit submission and review, the approval of the data package, the identification and posting of the Inspection Record, the close-out of the construction work, and the issuing of the Certificate of Construction Completion, form ARC842, and Certificate of Occupancy, form ARC843, if required. The following Construction Permit process is to be used for all construction work encompassed within the scope of APD 8829.1.

a. Construction work is defined as tasks that involve the demolition, repair, alteration, upgrade, renovation, or construction of buildings, structures, utilities, or building subsystems. Prior to submittal of a Construction Permit application, ensure that the design of all aspects of the improvement for which a Construction Permit application is being made are in full conformance with all applicable codes, standards and requirements defined or by reference in this APR. A Construction Permit is required for all facility and construction work that occurs at Ames Research Center falling under the authority of this Policy, this includes but is not limited to the following:

(1) Utility systems including electrical, communications, water, sewer, storm drains, natural gas, specialty gas or liquid, and compressed air systems.

(2) Fire protection systems including fire suppression systems, hazardous gas detection and relief systems and mass notification systems.

(3) Security Access Systems & Intrusion Detection Systems (IDS), Closed Circuit Television (CCTV) systems, and physical security systems including security fences, physical security barriers, all doors, and other systems that impact the physical security of Ames assets. Also, modification(s) that effect security systems listed as follows: Security Access Systems and Intrusion Detection Systems (IDS), Closed Circuit Television (CCTV) systems, and physical security systems such as security fences, physical security barriers, all doors, and other systems that impact the physical security of Ames assets. Additionally, all new equipment, material and installation shall comply with all current codes, standards and requirements, and a Construction Permit shall be required in order to confirm compliance with all current codes, standards and requirements.

(4) Urgent Repair is unplanned construction required to restore essential services or to avoid serious consequences due to an unexpected occurrence. Determination of Urgent Repair will be made by the chief Building Official (CBO). A Permit is required for Urgent Repairs; however, construction can start after notification to the CBO. The Permit application shall be submitted to the Construction Permit Office within 15 calendar days; the worksite shall be maintained in a condition that does not inhibit the inspection process.

(5) Ground based pressure systems whose design and operational certification is under the authority of the Ames Pressure Systems Manager per NPD 8710.5, NASA STD

8719.17A and APR 8715.1 Chapter 10.

(6) A Construction Permit is required for all facility and construction work that occurs at Ames Research Center falling under the authority of this Policy, this includes but is not limited to the following: All building renovations including reroofing and “like kind” equipment replacement is required to conform to the requirements outlined in this document.

CHAPTER 2. Responsibilities

2.1 Permit Applicant:

- a. Understand and be familiar with the Ames Construction Permit policy defined in Ames Policy Directive 8829.1 (APD 8829.1) and the procedural requirements defined in this Ames Procedural Requirement 8829.1 (APR 8829.1).
- b. Prepare project description and design documentation with sufficient details to demonstrate compliance with all applicable codes, standards and requirements identified in this APR.
- c. Submit a Planning Clearance Application and preliminary project description and design documentation to the Real Property Accountability Officer (RPAO), Facilities Engineering & Real Property Division in order to obtain Planning Clearance approval prior to submitting a Construction Permit Application to the Construction Permit Office. The application for Planning Clearance shall be on a form determined by the RPAO. The Applicant may be required to provide additional submittals for the RPAO to determine the planned project conforms to all NASA standards and requirements.
- d. Assure all design documents for which a Construction Permit is required shall be designed by a California licensed architect, engineer, or contractor. All designs must be stamped and wet signed by an architect, engineer or contractor licensed by the State of California in the discipline to which the documents refer, prior to the submission of an application for a Construction Permit.
- e. Submit complete Construction Permit Form ARC 57 with applicable supporting documentation.
- f. An applicant shall complete an Environmental Checklist, per NPR8580.1A and APD/APR 8500.1, and complete checklist in coordination with the Environmental Management Division (EMD) (Code JQ). A draft checklist is required as part of the Construction Permit application and must be finalized before Permit is approved. Concurring signature from EMD is required to complete the checklist.
- g. If Permit Board review comments are issued for the Construction Permit application, revise the design documents as necessary to respond to all review comments. Incorporate changes to construction documents as required by reviewing officials. Respond clearly in writing to all review comments and submit revised design documents and written plan review responses to the Construction Permit Office for further review.
- h. Do not proceed with construction work until a Construction Permit is issued by the Chief Building Official.
- i. Thirty (30) days prior to the start of construction; A) notify the organizations and

individuals involved and affected by the construction by email and posted notices. Organizations include: Code H (Human Capital), Code QH (Safety), building Facility Service Managers. Affected areas include utility systems, electrical, communications, water, sewer, storm drains, natural gas, specialty gas or liquid, and compressed air systems; B) Schedule a pre-construction conference/meeting with Construction Permit Office.

j. Comply with all conditions and requirements set forth in the Construction Permit during the construction work.

k. Maintain a set of the approved, stamped drawings at the work site; mark changes on these drawings as work progresses.

l. Perform work in accordance with applicable Federal, State and NASA Ames safety and construction standards and the approved Construction Permit.

m. Develop and submit a project specific safety plan 5 working days prior to the start of site work and additional documents as required by the Ames Health and Safety Manual (AHSM), APR 8715.1. All work must comply with the Ames Health and Safety Manual, APR 8715.1, viewable at:
<https://cdms.nasa.gov/assets/docs/centers/ARC/Dirs/APR/APR8715.1.html>

n. Require contractor's valid safety qualifications and certificates prior to commencing improvement work as required. Submit hazardous materials information for review by the Safety, Health & Medical Services Division.

o. Include the NASA Ames construction safety specialist as part of the bid walk and pre-construction site visit meeting (if applicable).

p. Notify the Construction Permit Office of all proposed design changes that affect conformance with codes, standards and requirements identified in this APR. Do not proceed with construction of proposed design changes until such proposed design changes have been submitted to, reviewed and approved by the Construction Permit Office.

q. Notify the Construction Permit Office 24 hours prior per form ARC 57 when required inspection points are reached to arrange for site inspection(s).

r. Once as-built drawings have been reviewed and accepted by the project construction manager, the permit applicant shall submit them in industry standard format (i.e., the latest AutoCAD, Solid works, etc. format) to the Engineering Document Center (EDC) and/or all other applicable document control most drawings for archiving.

s. Ensure installed building equipment and systems conform to the acceptance requirements of APD 8830.1, Reliability Centered Maintenance Program for Institutional Equipment.

t. Permit applicant must pay a fee for the issuance of the Construction Permit, unless the fee is waived by other approved agreements/contracts/leases/easements.

2.2 Construction Permit Office

- a. Receive and record Construction Permit applications.
- b. Distribute new and updated/resubmitted Construction Permit applications to Construction Permit Review Board members for review.
- c. Archive and maintain records of Construction Permit applications.
- d. Maintain an updated database of issued Construction Permits, Construction Permit applications, and the current status of Construction Permit applications. Coordinate and facilitate weekly Permit Review Board meetings.
- e. Return results of the reviewed Construction Permit applications (approved/disapproved) to permit applicant along with site inspection card if permit is approved.
- f. Reproduce Construction Permit application documents including any drawings and make those documents available to the Construction Permit Review Board members as necessary and as requested.
- g. Receive, submit to Review Board for approval, and archive results for any design changes to an approved construction work.
- h. Receive notification of pending inspection points and arrange for site inspections.
- i. Receive, submit to Review Board for approval, and archive any requests for deviations/waivers.

2.3 Chief Building Official (CBO):

- a. The CBO shall be the Chief of the Facilities Engineering Branch or designee.
- b. The CBO is the approval authority for all Construction Permit applications.
- c. The CBO approves/disapproves requests for Construction Permit waivers.
- d. The CBO certifies the Completion of Construction.
- e. The CBO is not responsible for design errors made by the applicant.

- f. The CBO shall enforce the requirements of this APR 8829.1.
- g. The CBO (or designee) shall have sole authority to assess and shut down non-permitted construction work or construction work that fails to meet any part of this process.

2.4 Permit Reviewers:

- a. Permit reviewers for ARC shall represent the following organizations:

Facilities Engineering Branch (JCE), Occupational Safety, Health & Medical Services Division (QH), System Safety & Mission Assurance Division (QS), Environmental Management Division (JQ); Plant Engineering Branch (JCM), Protective Services Office (JP), Fire Marshal/Fire Prevention Office (JP), Aviation Management Office (JO), Planning Group Leader, Facilities Engineering & Real Property Division (JC), Pressure Systems (QS), and IT Operations Division (IO)

- b. Permit reviewers for NRP shall include the following members or designated representatives:

- (1) Planning Director – NRP Office
- (2) Planner – Consultant (as required)
- (3) Architect – Facilities Engineering Branch
- (4) Architect – Consultant
- (5) Engineer – Facilities Engineering Branch
- (6) Engineer – Consultant (as required)
- (7) Chief – Environmental Management Division
- (8) Historic Preservation Officer – NASA representative for State Historic Preservation Office

- c. Facilities Engineering & Real Property Division (JC): Oversee all facility related activities including design and construction, and assure real property agreements include adherence to this Requirement.

Facilities Engineering (JCE): Perform duties as the Chief Building Official and Construction Permit Office, perform Building Code Compliance review, Accessibility, Structural, Mechanical, Plumbing, Electrical and Fire Protection reviews. Perform construction inspection. The CBO shall issue the Certificate of Construction Completion, form ARC842.

Plant Engineering (JCM): Perform Maintainability review and compatibility with existing materials and methods.

- d. System Safety & Mission Assurance Division (QS), Pressure Systems Manager:

Perform reviews for Pressure System compliance, policies, procedures and regulations.

e. Protective Services (JP): Perform reviews for NASA Security policies, procedures and regulations.

f. IT Operations Division (IO): Perform reviews for NASA IT policies, procedures and regulations.

g. Environmental Management Division (JQ): Perform reviews for NEPA and all NASA environmental policies, procedures and regulations.

h. Aviation Management Office (JO): Perform reviews for Aviation and Flight Safety policies, procedures and regulations.

i. Occupational Safety, Health & Medical Services Division (QH): Perform reviews for Occupational Safety policies, procedures and regulations.

j. Permit reviewers shall review Construction Permit applications and application documentation in a timely and accurate manner within their area of technical purview for conformance with the codes, standards and requirements identified in this APR.

k. Permit reviewers shall communicate with Construction Permit applicants and other Construction Permit Review Board members as necessary to provide adequate, clear and specific plan review comments.

l. If submitted Construction Permit application documentation does not comply with codes, standards and requirements of this APR, Permit Reviewers prepare plan review comments to be issued to the permit applicant that identify the condition(s) of non-conformance.

m. Identify and maintain up-to-date the criteria, codes, standards and regulations that allow Permit Reviewers to judge applications.

n. Permit reviewers shall possess and maintain regulatory and/or technical knowledge, skills and abilities that directly relate to the construction industry.

o. Permit reviewers shall maintain competency in the contemporary criteria which permit objective evaluation of applications.

p. Permit applicant is to attend a pre-construction meeting with NASA representative at least five (5) business days prior to beginning construction. Permit applicant is to notify NASA representative at least five (5) business days in advance regarding construction staging area requirements, potential construction site ingress and egress routes, possible interruptions of utilities, schedule of construction, schedule of inspections, and review of safety plans.

2.5 Authority Having Jurisdiction (AHJ)

- a. The Center Director has designated the ARC Fire Marshal to be the Authority Having Jurisdiction (AHJ) per NPR 8715.3 paragraph 5.2.2.i.
- b. The AHJ has the responsibility for assuring that all activities within the scope of this APR meet the requirements of NASA-STD-8719.11.
- c. The AHJ shall appoint a representative to participate in the review of all Construction Permit and Waiver requests.
- d. The AHJ has the approval authority for the Certificate of Occupancy, form ARC843, as specified in NASA-STD 8719.11, paragraph 6.6.

CHAPTER 3. Facility Design and Construction Codes, Standards and Regulations

Facility Design and Construction Codes, Standards and Regulations Federal, state, and local government agencies, in cooperation with the development and construction industry, have adopted consensus development and construction codes, standards and regulations to assure the development and construction of facilities, buildings and structures that are both safe and functional. These codes, standards and regulations provide a minimum requirement for the design, development and construction for most facilities, buildings, and structures, while leaving the design practicality and functionality to the engineers, architects and related professional or technical design professionals. It is NASA and Ames Research Center policy to comply with these codes, standards and regulations in the design and construction of all facilities, buildings and structures in any applicable on-site or off-site Ames Research Center community. The following NASA mandated codes, standards and regulations define NASA and Ames Research Center requirements with regards to the development and construction of facilities, buildings and structures.

3.1 Applicability:

All construction and facility modification work that occurs at any on-site or off-site Ames Research Center community must conform to applicable Federal, state, and local codes, standards, and regulations including those identified in this APR. In cases of overlap between such requirements, the more stringent one shall prevail and be used as the basis for design, subject to the established requirements deviation process. Applicable requirements include all amendments thereto adopted prior to the effective date each permit application is submitted.

As required by NASA policy, all pre-construction and final facility designs shall conform to the latest code edition of the requirement adopted by this APR for the year in which the design work was started. This version of the requirement must be identified in the submitted construction documents because the construction work will be inspected to the requirements listed in the approved documents or, if not otherwise specified, to the current edition of the requirements. This scenario may result in a one-year lag in the requirements used by the construction management and inspection organizations. All

construction and improvement work shall be planned from the design state to eliminate or control potential safety hazards as reasonably as possible.

A process for deviation/waiver via form ARC 762 processed in accordance with APR 8715.1 section 1.5 from requirements has been established to address situations in which a design cannot conform to the codes and standards specified requirements. Such deviation/waiver from requirements is granted in the exceptional instances when strict adherence to a particular requirement or group of requirements is determined, through a formal set of written findings, to be impractical or unsafe for circumstances relating to the specific project (see Section 8). Economic hardship alone is never an acceptable reason for deviation from or waiver of code requirements.

3.2 Federal Codes, Standards and Regulations:

The following federal codes, standards, and regulations apply with the latest revisions used where applicable:

- a. Architectural Barriers Act
- b. Code of Federal Regulations (CFR) in its entirety, including:
 - (1) 29 CFR Part 1910, Occupational Safety and Health Standards
 - (2) 29 CFR Part 1926, Safety and Health Regulations for Construction
 - (3) 29 CFR Part 1960, Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters
 - (4) 14 CFR Part 1216, National Aeronautics and Space Administration, Environmental Quality
 - (5) 40 CFR, Protection of the Environment especially:
 - (a) Part 82, Protection of Stratospheric Ozone
 - (b) Part 112, Oil Pollution Prevention
 - (c) Part 1500, National Environmental Policy Act
 - (d) Part 260 et seq, Proper Management of Hazardous Waste
 - (e) Part 370, Hazardous Chemical Reporting: Community Right-to-Know
 - (f) Part 761, Polychlorinated biphenyls

- (g) Part 763, Asbestos Hazard Emergency Response Act (AHERA)
- (h) Part 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAPS)
- (6) Toxic Substances Control Act (TSCA), Title 4
- (7) Resource Conservation and Recovery Act (RCRA)
- (8) 50 CFR Part 402, Endangered Species Act Regulations
 - c. United States statutes (codified in the United States Code (USC))
 - (1) The Pollution Prevention Act (42 USC §13101 et seq.)
 - (2) The Clean Air Act (42 USC §7401 et seq.)
 - (3) Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 USC §9601 et seq.)
 - (4) The Safe Drinking Water Act (42 USC §300f et seq.)
 - (5) The Emergency Planning & Community Right-To-Know Act (42 U.S.C. §11011 et seq.)
 - (6) Endangered Species Act (16 USC §1531 et seq)
 - (7) National Environmental Policy Act of 1969 (42 USC §4321 et seq.)

3.3 NASA-Mandated Codes, Standards and Regulations:

The following documents define NASA facility design and construction policies and requirements with latest revisions where applicable:

- a. NPR 8553.1B - NASA Environmental Management System
- b. NPR 8570.1A - Energy Efficiency and Water Conservation
- c. NPR 8590.1A - Environmental Compliance and Restoration Program
- d. NPR 8715.1A - NASA Occupational Safety and Health Programs
- e. NPR 8715.3C - NASA General Safety Program Requirements

- f. NASA-STD-8719.7 - Facility System Safety Guidebook
- g. NPR 8820.2 – Facility Project Requirements (FPR)
- h. APD 8822.1 - NASA Research Park Design Review Program
- i. APR 8715.1 - Ames Health and Safety Procedural
- j. APR 8500.1 – Ames Environmental Procedurals Requirements
- k. APD 8830.1 - Reliability Centered Maintenance Program for Institutional Equipment
- l. STD 8719.11A, Safety for Fire Protection

3.4 California Codes, Standards and Regulations

3.4.1 California Code of Regulations, Title 24 (California Building Standard Code)

The triennial edition of the California Code of Regulations (CCR), Title 24 (California Building Standards Code) applies to all occupancies that applied for a building permit on or after January 1 of the year after the year of publication (for instance, the 2013 revision goes into effect on January 1, 2014). This remains in effect until the effective date of the next revision of the triennial edition.

3.4.2 Cal/OSHA CCR/DOSH Title 8

3.5 Other Adopted Codes, Standards and Regulations

3.5.1 Seismic Evaluation of Existing Building

- a. American Society of Civil Engineers (ASCE) 41-13 Seismic evaluation is performed in accordance with Standards for Seismic Safety for Existing Federally Owned or Leased Buildings (RP6). This document requires that a building evaluation be performed in accordance with ASCE Standard ASCE 41-13 for the Seismic Evaluation and Retrofit of Existing Buildings, and strengthening be performed in accordance with the same document.
- b. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- c. Sheet Metal & Air Conditioning Contractors National Association, Inc. – Seismic Restraint Manual “Guidelines for Mechanical Systems”

3.5.2 Fire Protection and Life Safety

- a. National Fire Protection Association, National Fire Codes
- b. National Fire Protection Assoc. Standard for the Installation of Sprinkler Systems, NFPA 13
- c. National Fire Protection Assoc. National Fire Alarm Code, NFPA 72
- d. National Fire Protection Assoc. Life Safety Code, NFPA 101
- e. NASA Standard 8719.11A Safety Standard for Fire Protection especially: Section 7.3
- f. By reference, adoption of: National Fire Protection Standards and Recommended Practices and Guides, current editions
- g. (See also CCR, Title 24, Part 9, above.)

3.5.3 Safety and Health Codes and Standards

- a. ANSI/ASSE A10.32– Fall Protection Systems for Construction and Demolitions.
- b. ANSI/ASSE A10.34 – Protection of the Public on or Adjacent to Construction Sites.
- c. ANSI/ASSE Z359.1: Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components.
- d. NFPA 70E 2009: Standard for the Electrical Safety in the Workplace.
- e. CAL OSHA, Title 8, Construction and Electrical Safety Orders.
- f. CAL OSHA, Title 8, Section 1529 asbestos protection regulations and requirements.
- g. CAL OSHA, Title 8, Section 1532.1 Lead in Construction

3.5.4 Pressure Systems and Piping

- a. ASME B31.1 – Power Piping
- b. ASME B31.3 – Process Piping
- c. ASME B31.5 – Refrigeration Piping

- d. ASME B31.8 – Gas Transportation & Distribution
- e. ASME B31.9 – Building Services
- f. ASME Boiler & Pressure Vessel Code

3.5.5 Accessibility Codes

- a. Architectural Barriers Act
- b. American National Standards Association (ANSI) 117.1
- c. California Accessibility Standards, California Building Code, Chapters 10 and 11B.

3.5.6 Elevator Codes

- a. American Society of Mechanical Engineers (ASME) A17.1 Safety Code for New Elevators
- b. American Society of Mechanical Engineers (ASME) A17.3 Safety Code for Existing Elevators and Escalators

3.5.7 Additional California Codes, Standards and Regulations

- a. California Code of Regulations, Title 8, Division of Industrial Safety
- b. California Code of Regulations, Title 17 Public Health, Division 3 Air Resources, Chapter 1 Air Resources Board
- c. California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal.
- d. California Code of Regulations, Title 19, Public Safety, Division 2, Office of Emergency Services.
- e. California Code of Regulations, Title 19, Public Safety, Division 3 Seismic Safety Commission.
- f. California Code of Regulations, Title 19, Chapter 2, Subchapter 3, Article
- g. California Code of Regulations, Title 22, Hazardous Waste Management
- h. California Health and Safety Code, Chapter 6.95

3.5.8 Local Administrative Agency Codes and Standards

- a. Santa Clara County Hazardous Materials Storage Ordinance, Division B11, Chapter 13.
- b. City of Sunnyvale Sewer Use Ordinance, Chapter 12
- c. Santa Clara County Toxic Gas Ordinance, Division B11, Chapter 14.
- d. City of Palo Alto Sewer Use Ordinance, Chapter 16.09
- e. CAS000001 General Industrial Storm Water Discharge Permit
- f. CAS000002 General Construction Storm Water Discharge Permit
- g. City of Mountain View Sewer Specifications, City of Mountain View Public Works Department (David Serge, Utility Services Manager 650-903-6329)
- h. Bay Area Air Quality Management District Regulations 1-13.

CHAPTER 4. Planning Clearance and Construction Permit Procedure

4.1 Applicant Preparation for Submitting a Planning Clearance and Construction Permit Application

4.2 Applicant Applies for Planning Clearance

Applicant submits Planning Clearance application and project description documentation for Planning Clearance to the Construction Permit Office. The applicant shall submit at a conceptual design stage (no more than 15% complete of design documentation).

- a. The RPAO Facilities reviews the application. If the proposed improvements are located in the NASA Research Park, the RPAO forwards the application and documentation to the NASA Research Park Design Review Board for review of the Planning Clearance application and the same review process is followed (see APD 8822.1). An applicant shall complete an Environmental Checklist early in the Planning Clearance process. Concurring signature from EMD is required to complete the checklist.

4.3 Applicant prepares construction work project description documentation conforming to the requirements of APD 8829.1 and this APR 8829.1. Typical documents of the project description include a project purpose description, a description of the scope of proposed improvements, preliminary location plan, site plan, overall building floor plan, improvement area floor plan, elevations, details, etc. as are applicable to communicate

the proposed construction work. Submit complete Construction Permit Form ARC 57 with applicable supporting documentation to the Construction Permit Office. The form can be obtained at: <http://jc.arc.nasa.gov/ARCFORMS/ARC57.pdf>.

The proposed construction work may be approved with no restrictions or conditions of approval and if so approved, an unconditional Planning Clearance document is issued.

The proposed construction work may be approved with restrictions or conditions of approval and if so a conditional Planning Clearance document is issued with specific written conditions that must be met in order to proceed with the proposed construction work.

The proposed construction work may be disapproved and if so, a statement as to the reasons for disapproval of the proposed construction work is issued. The applicant may revise the proposed construction work permit request to correct the deficiencies and resubmit or may abandon the proposed construction work.

Applicant Preparation of an Ames Construction Permit Application Package.

Two (2) full sets of documents will be prepared for the Construction Permit Office. Construction documents must be prepared and submitted as an entire and complete package in sufficient details to assure the determination of all related code compliance. All documents for which a Construction Permit is required shall be designed by a California licensed architect, engineer, or contractor as required by the current California Architects Practice Act, the current California Professional Engineers Act, and/or the Contractors State License Board. All design drawings and design calculations submitted as part of a Construction Permit application shall be stamped and wet signed by the responsible California licensed architect, engineer, or contractor as required by the current California law prior to the issuance of the Construction Permit.

Information about the proposed construction work must describe and detail any and all modifications, additions or removal of building or facility systems including structural, electrical, plumbing, fire protection, fire alarm, security, heating, ventilating and air conditioning, etc.

Information about the proposed construction work must address all building code requirements including construction type, occupancy, means of egress, disabled persons accessibility, etc.

a. Project Description and Statement of Work

b. Plans, drawings, sketches, or other graphical renderings of the project in order to confirm conformance of all applicable codes, standards and requirements identified in this APR.

- c. Structural, electrical, mechanical, fire protection or other engineering calculations necessary to confirm conformance with all applicable codes, standards and requirements identified in this APR.
- d. Reference compliance with safety and health regulations and requirements.
- e. Specifications as necessary to clearly communicate the proposed construction work.
- f. Approved Request for Waiver Form, Form 762 processed in accordance with APR 8715.1 section 1.5, if applicable. The form can be obtained at <http://jc.arc.nasa.gov/ARCFORMS/ARC815.pdf>.

4.4 Applicant Submits Ames Construction Permit Application package to Ames Construction Permit Office

The applicant submits a Planning Clearance document, Environmental Checklist, Ames Construction Permit application documents, detailed project description and engineered design documentation for Construction Permit to the NASA Ames Construction Permit Office. The permit application and documentation package shall be hand carried to Building 213, Room 28. The applicant must call the permit office prior to bringing a new permit application before the Permit Board. The telephone number for the Construction Permit Office is (650) 604-1517. The mailing address is: Construction Permit Office, NASA Ames Research Center, Mail Stop 213-8, Moffett Field, CA 94035-0001. Permit Office will return applications deemed to be incomplete or difficult to review.

4.5 The Ames Construction Permit Board Reviews Construction Permit applications and approves or disapproves Construction Permit applications

The Construction Permit Office screens all Construction Permit applications for completeness. If, after screening by the Construction Permit Office, a Construction Permit application is determined suitable for review by the Construction Permit Review Board, the Construction Permit Office distributes the Construction Permit application to the appropriate Construction Permit Board reviewers.

The Construction Permit Board reviewers meet regularly to discuss the Construction Permit applications and may request project clarification from the permit applicant. The Construction Permit(s) may be signed at the meetings (Enclosure 2, Permit Process Flow Chart).

At the discretion of the CBO, the Construction Permit application can be submitted, reviewed, and signed at a Permit Board meeting. Larger and more complex Construction Permit applications require advanced submission, and may require multiple consultations during the design process (if necessary).

The time required for the review process depends on the magnitude and complexity of the proposed work. The goal for most projects is a two-week review schedule. A well-prepared Construction Permit application package for proposed improvements that conform to all applicable codes, standards and requirements helps avoid unnecessary delays. Additionally, the appropriate reviewers should be involved in the design review process for significant projects. In many instances, these code and regulatory specialists can aid the project manager in making key design decisions and providing invaluable insight. The Construction Permit Office has a list of current permit reviewers.

NASA Permit Board technical reviewers review all of the Construction Permit application documents in order to confirm that the applied for proposed improvements conform to all of the applicable codes, standards and requirements required by this APR.

Each NASA Ames Permit Board technical reviewer, after completing a document review, makes a determination on whether the submitted Construction Permit application and documentation conforms to the requirements defined in this APR and whether the submitted documentation is suitable for issuance of an Ames Construction Permit. Each Permit Board technical reviewer may make one of the following three determinations:

- a. "Approved" - Approves the Construction Permit application documents as submitted without restrictions or conditions of approval for issuance of an Ames Construction Permit. The Ames Construction Permit approval includes requirements for inspections by Ames Construction Permit Inspectors at specific stages of completion of the construction work.
- b. "Approved as Noted" - Approves the Construction Permit application documents as submitted with restrictions or conditions of approval without requiring re-submittal of the Construction Permit application documents. "Approved as Noted" means that the documents submitted do not meet all of the codes, standards and requirements of this APR but that the project may proceed with construction conditioned upon incorporation into the plans and construction of all of the requirements contained in a written "Conditions of Approval" document or as noted on the plans by the Permit Board Technical Reviewers.

It is the intention of the Permit Board Technical Reviewers that their noted requirements are clearly defined, that the incorporation of the requirements is relatively straight-forward and that the noted requirements can readily be incorporated into the project construction in a predictable implementation and without significant impact on other elements of the project design.

Further it is the intention of the Permit Board Technical Reviewers that incorporation of their noted requirements will not require redesign of elements of the project that would require subsequent compliance review by the Permit Board Technical Reviewers.

- c. "Revise and Resubmit" - Disapproves the submitted Construction Permit application and documents as submitted. The Permit Board Technical Reviewers shall issue to the applicant a document describing the items in the Construction Permit application documents that do not conform with the requirements defined in this APR. The applicant then has three

options: (a) revise and resubmit the Construction Permit application documents with modifications to conform to the requirements defined in this APR; (b) resubmit the application with a Request for Deviation/Waiver – ARC 815 (<http://jc.arc.nasa.gov/ARCFORMS/ARC815.pdf>); or (c) abandon the previously proposed construction work.

“Revise and Resubmit” means that the documents submitted do not meet all of the codes, standards and requirements of this APR and/or there may be insufficient information provided in the submittal for the Permit Board Technical Reviewers to confirm conformance with the requirements of this APR.

4.6 Ames Chief Building Official issues Ames Construction Permits to applications approved by the Ames Permit Review Board

An Ames Construction Permit shall be issued by the Ames Chief Building Official to the applicant only after submitted documentation has been determined, by all Permit Board Technical Reviewers, to conform to the requirements defined in this APR or for which an approved Request for Deviation/Waiver has been approved.

When a permit application is approved, the applicant is given the following:

- a. Original permit application package with approval signature
- b. One set of drawings stamped "Approved – Job Copy"
- c. Comments from reviewers, if applicable
- d. Conditions of Approval, if applicable
- e. Copy of the job inspection card, noting inspections required

A copy of the approved Construction Permit is to be posted by the applicant along with other postings required by labor laws, OSHA and NASA Ames in a conspicuous location at all times at the site of the construction work. This copy shall provide contact points for the project in the event of a fire, emergency, or other issue.

A set of the Chief Building Official Approved Construction Permit documentation (including all plans and conditions of approval) shall be marked boldly as “Job Copy”; this “Job Copy” shall be maintained on the site of the construction work at all times and shall be made available for all inspections by the Ames Construction Permit Inspector.

The approved permit is valid for the duration of the project, provided construction begins within 180 calendar days of permit issuance and, upon commencement, is diligently and continuously prosecuted in a safe and code-compliant manner to completion. If the construction does not commence within those 180 days, then the permit shall

automatically terminate. Before the construction can be restarted, the project must submit a new Construction Permit request, be reviewed again and a new permit issued. NASA projects are exempted from this requirement.

4.7 Construction work is inspected by an Ames Construction Permit Inspector to confirm that the construction work is in conformance with plans, documentation, and conditions of approval or restrictions approved for issuance of an Ames Construction Permit and in conformance with the requirements of the codes, standards and requirements identified in this APR.

Construction Permit application and documentation package shall include a Job Inspection Card which identifies all required inspections. This card is a summary of the Inspection Records (page 4 of ARC 57) filled out by the Technical Reviewers and indicates when inspections are required during construction, and at what point. A heavy-duty copy of this card is to be posted at the work-site. The Construction Permit Office should be notified at least three (3) business days before an inspection should occur. An inspector shall be dispatched to review the work. On large projects, this effort must be coordinated well in advance with the Ames Construction Permit Office.

- a. The Inspector marks off the original Job Inspection Card, which is kept by the Permit Office.
- b. A partial inspection is noted on the Construction Permit “Approved – Job Copy” drawings. When the work is complete and fully inspected, it is signed off on the inspection card.
- c. If the Inspector finds that the work was not properly completed, a discrepancy form is completed and forwarded to the construction manager listed on the permit. Discrepancies must be corrected by the organization performing the work.

At the completion of construction work under an Ames Construction Permit, the work is inspected by an Ames Construction Permit Inspector to confirm that the construction work was completed in conformance with plans, documentation, and conditions of approval or restrictions approved for issuance of an Ames Construction Permit and in conformance with the requirements of the codes and standards identified in this APR. If the Ames Construction Permit Inspector confirms that the work is completed in conformance with plans and documentation approved for issuance of an Ames Construction Permit and in conformance with the requirements of the codes and standards identified in this APR, the Ames Construction Permit Inspector approves the Final Inspection documentation and forwards the documentation to the Ames Chief Building Official.

4.8 Changes During Construction

Substantive changes during construction and deviations from the approved Construction Permit application documentation must be submitted to the Construction Permit Office for Permit Board review and approval prior to incorporation into the construction work. Any

substantive changes or deviations that are constructed without approval of the Permit Board may be ordered to be removed by the Chief Building Official at the Construction Permit holder's expense.

4.9 Job Completion, Construction Permit Closeout

After the final inspection is performed and discrepancies are corrected, and final acceptance has been granted, permit closure is possible. The signed job inspector card is returned to the Construction Permit Office. If noted on the Planning Clearance, the Applicant/Permit Holder shall complete and submit a NASA Form 1046 to the Ames Real Property Accountability Officer.

The Applicant is responsible for preparing and submitting the as-built drawings to the Engineering Documentation Center and a copy of the submittal form to the Construction Permit Office. The EDC is located in the basement of Building N-213, Room 28, and can be reached at (650) 604-1517.

New equipment/systems that are to be maintained by Plant Engineering, Code JCM, shall require the preparation and submittal of documentation in accordance with APD 8830.1 (Manufacturer's Product Data, Design Data, Operation and Maintenance Manuals, Acceptance Testing Results, Warranty, Equipment Transmittal Sheets, etc.) in accordance with the RCM Guide Reliability-Centered Maintenance Guide for Facilities and Collateral Equipment. Documentation of equipment/systems to be demolished/replaced shall also be provided to the Plant Engineering Branch to update their equipment inventory. The permit is closed after the final inspection sign-off the submission of the approved as-built drawings to EDC and the submission of the required new equipment/system documentation to the Plant Engineering Branch, Code JCM.

4.10 Certificate of Construction Completion, form ARC842, and Certificate of Occupancy, if required is issued by Authority Having Jurisdiction

Upon receipt of the approved Final Inspection documentation from the Ames Construction Permit Inspector and satisfaction of job completion and Construction Permit close-out requirements, the Authority Having Jurisdiction issues to the Construction Permit holder a "Certificate of Occupancy" to occupy or use the area of construction work designated in the Ames Construction Permit. The area of construction work designated in the Ames Construction Permit shall not be occupied or used until a "Certificate of Occupancy" has been obtained.

A temporary "Certificate of Occupancy" may be issued by the AHJ for sections of a building prior to completion of construction. This TCO has a time limit. Normally it expires after 90 days of issuance, or shorter depending on the nature of the work that requires this TCO to accomplish. Areas covered under this TCO have to be completed and code compliant, and safe for the activities to be performed.

However, this does not absolve the contractor from the requirements to complete the facility nor of the requirement for a final "Certificate of Occupancy."

4.11 Other Reviews/Permits

The Construction Permit process does not preclude other reviews/permits that may or may not be required on a proposed project. These may include:

- a. Environmental review including completion of NEPA checklist.
- b. Architectural design reviews
- c. For projects that may affect structures or areas of historical significance, approval by the Historic Preservation Officer.
- d. Hazardous waste sampling and risk evaluation.
- e. Local governmental agency reviews
- f. Other operational permits required by other NASA organizations (including Safety and Environmental, Ames Chief Engineer)
- g. Safety Clearance Permit (Form ARC 135), which includes:
 - (1) Electrical Power
 - (2) Excavation
 - (3) High Noise Level
 - (4) Open Flame
 - (5) Welding/Flame Cutting
 - (6) Confined Space
 - (7) Radiation
 - (8) Explosives
 - (9) Facility Closure

The Construction Permit Office will provide assistance in obtaining information regarding these permits and reviews.

CHAPTER 5. Request for Deviation/Waiver

Except as specifically allowed a request for a deviation/waiver is required in exceptional instances when a specific project cannot conform to specified requirements and the strict adherence to a particular requirement or requirements is determined, through a formal set of written findings, to be impractical or unsafe for circumstances relating to the specific project. A request for a deviation/waiver must be submitted to the Ames Construction Permit Office on an ARC 815, Construction Permit Request for Deviation/Wavier. Contact the Safety and Mission Assurance Directorate for information on completing the form. A submitted ARC Form 815 shall not be accepted by the Ames Construction Permit Office unless it contains approval signatures from the Ames Authority Having Jurisdiction, the Ames Occupational Health and Safety Division, and the Ames Chief Building Official (or their appointed representatives).

In order to avoid unnecessary time delays during the Construction Permit review process, any project deviation/waiver must be formally processed prior to the submission of any project's Construction Permit application.

APPENDIX A. DEFINITIONS

Authority Having Jurisdiction (AHJ): Responsible individual who approves/disapproves certificate of occupancy

Chief Building Official (CBO): Chief of the Facilities Engineering Branch or designated individual.

Code of Federal Regulations (CFR): An annual edition that is the codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government.

Facilities Engineering Branch (Code JCE): This Branch provides engineering analysis, design, construction, and other facility related services to the NASA Ames community.

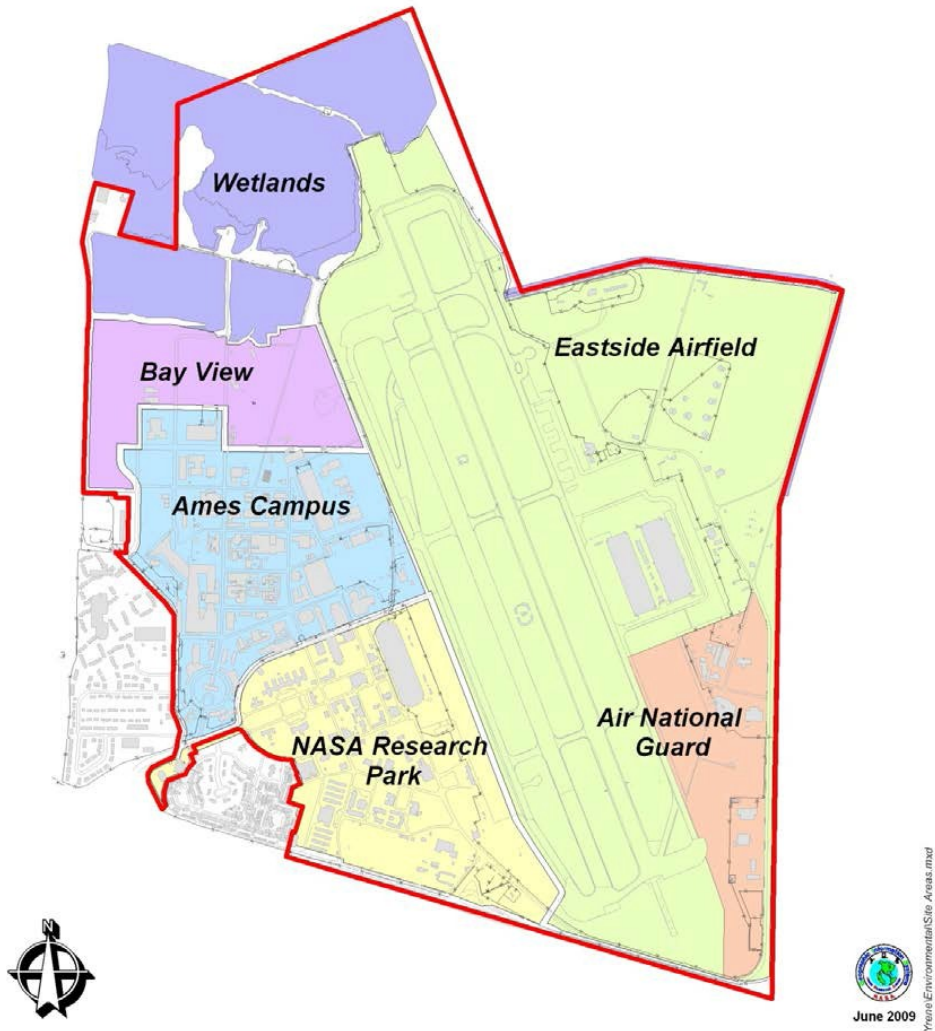
Security Access Systems & Intrusion Detection Systems (IDS), Closed Circuit Television (CCTV) systems: Provide physical security systems including security fences, physical security barriers, all doors, and other systems that impact the physical security of Ames asset.

APPENDIX B. Acronyms

AFPG	Ames Facilities Planning Group
AHERA	Asbestos Hazard Emergency Response Act
AHJ	Authority Having Jurisdiction
AHSM	Ames Health and Safety Manual
ANG	Air National Guard
APD	Ames Policy Directive
APR	Ames Procedural Requirement
ARC	Ames Research Center
CBC	California Building Code
CBO	Chief Building Official
CCR	California Code of Regulations
CCTV	Closed Circuit Television System
CFR	Code of Federal Regulations
CP	Construction Permit
DOSH	Division of Occupational Safety and Health
EDC	Engineering Document Control
IDS	Intrusion Detection System
NEPA	National Environmental Protection Act
NESHAPS	National Emissions Standards for Hazard Air Pollutants
NRP	NASA Research Park
RCRA	Resource Conservation and Recovery Act
RCM	Reliability Centered Maintenance
RPAO	Real Property Accountability Officer
TCO	Temporary Certificate of Occupancy
TSCA	Toxic Substance Control

APPENDIX C. MAP OF AMES RESEARCH CENTER AND INCLUDED AREAS

(Red line defines boundary)



Appendix D – Construction Permit Process Flow Diagram

