Fire Protection / Life Safety / Accessibility Code Review

Form version 27 dated 8 October 2020

Applicability: A Fire Protection/Life Safety/Accessibility Code Review shall be developed and included in ALL project submittals for government review and comment, including unoccupied facilities. Fire Protection/Life Safety/Accessibility Floor Plan(s) drawings shall be developed and included in ALL project submittals for government review and comment.

Instructions: The Designer of Record (DOR) shall use this form to record Fire Protection, Life Safety and Accessibility features for all building projects, including unoccupied facilities. The form shall be edited. This includes the addition of criteria/standards followed on the left with actual method to meet criteria on the right. The information on the right are the minimum requirements and DOR is required to provide all the information as indicated below. The DOR must also sign the form where indicated. The signed form shall be provided in the Design Analysis and same review text shall be included on a Code Review drawing.

Fire Protection/Life Safety/Accessibility drawings shall be developed, graphically showing all features of fire protection/life safety/accessibility in plan. These drawings shall include note, "This drawing is for reference only. It is not part of the construction contract and all information contained here is located on construction documents".

Drawings shall illustrate features from all disciplines including longest travel distance, longest dead-end distance, longest common path, accessible means of egress, wall ratings, emergency lights, exit signs, manual alarm pulls, detectors, strobes, speakers, horns, FACP, and fire extinguishers, .

This Fire Protection/Life Safety/Accessibility Code Review Worksheet is only a portion of the required Life Safety documentation.

Projects that meets the Fire Protection UFC definition of "Major Project" shall comply with UFC 3-600-01, 1-7. Provide submittals i.a.w. referenced UFC including:

- a) QFPE signed and stamped Code Compliance Site Plan. Refer to UFC 3-600-01, 1-7.2.4.2.
- b) QFPE signed and sealed final design analysis and life safety plans. Refer to UFC 3-600-01, 1-7.2.1.
- c) Compliance letter signed and stamped by the QFPE at final or corrected final. Refer to UFC 3-600-01, 1-7.3. This Fire Protection/Life Safety/Accessibility Code Review Worksheet when stamped and signed by the QFPE may be used meet this requirement.

UFC 1-200-01 DOD BUILDING CODE (GENERAL REQUIREMENTS) provides requirements for incorporating fire protection and life safety codes into military construction, particularly in paragraphs 1-4.1 and Chapter 3 which dictates use of UFC 3-600-01 and IBC. UFC 3-600-01, FIRE PROTECTION ENGINEERING FOR FACILITIES, paragraph 1-4.2.6 indicates application of NFPA.

Insert Project Name and Location

1. PROJECT'S APPLIED CODES & STANDARDS (Edit to indicate actual dates, codes, & standards used for this project.)

- a. UFC 1-200-01: DoD Building Code, 8 Oct 2019
- b. UFC 3-490-06: ${\it Elevators}$, 8 June 2018
- c. UFC 3-600-01: Design: Fire Protection Engineering for Facilities, with Change 5, 12 August 2020.
- d. UFC 4-021-01: Design and O&M: Mass Notification Systems, with Change 1, January 2010
- e. IBC 2018: International Building Code for fire resistance requirements, allowable floor area, building height limits, and building separation distance, except as modified by UFC 3-600-01
- f. NFPA 1, 2018: Fire Code, for determining vehicle access requirements
- g. NFPA 101, 2018: Life Safety Code, for building egress and life safety except as modified in UFC 3-600-01
- h. NFPA 10, 2018: Standard for Portable Fire Extinguishers
- i. NFPA 13, 2019: Standard for Installation of Sprinkler Systems, minimum requirements for design and installation of automatic fire sprinkler systems and exposure
- j. NFPA 20, 2019: Standard for the Installation of Stationary Pumps for Fire Protection, for construction & installation requirements for fire pumps
- k. NFPA 22, 2019: Standard for Water Tanks for Private Fire Protection
- 1. NFPA 30, 2018: Flammable and Combustible Liquids Code, for construction requirements and fire resistance ratings for liquid storage areas
- m. NFPA 30A, 2018: Code for Motor Fuel Dispensing Facilities and Repair Garages, for occupancy classification, construction requirements and means of egress for repair garages and organizational maintenance shops
- n. NFPA 70, 2020: National Electrical Code (NEC) Article 500 Hazardous Locations & Article 511 Commercial Garages, Repair & Storage
- o. NFPA 80, 2019: Standard for Fire Doors and Other Opening Protectives
- p. NFPA 72, 2019: National Fire Alarm and Signaling Code
- q. NFPA 90A, 2018: Standard Installation of Air Conditioning & Ventilation Systems , for protection of openings, shafts, fire dampers, smoke dampers, penetrations and fan
- r. NFPA 96, 2017: Standard for Ventilation Control and Fire Protection of Commercial Cooking
- s. NFPA 291, 2019: Recommended Practice for Fire Flow Testing and Marking of Hydrants
- t. ASME A17.1, 2019: Safety Code for Elevators and Escalators
- u. ABA (Architectural Barriers Act) Accessibility Standards, as directed by DoD Policy Memo "Access for People with Disabilities" dated 31 Oct 2008.
- v. ECB 2018-17: New Requirements for Visual Notification for Mass Notification Systems

1. BUILDING CODE REQUIREMENTS:

a. Occupancy Classification:

IBC Chapter 3

Indicate project's occupancy classification information based on IBC for building code requirements. Exception For Repair Garage, UFC 3-600-01: 4-43.1.2 to use NFPA 30A(3.3.12.2 & NFPA 101 40-1.2.1)

b. Construction Type:

IBC Chapter 6 Table 601 Indicate project's building code (IBC) construction type.

c. Mixed Use & Occupancy Separations

UFC 3-600-01: 5-4, 5-5 IBC Section 508

Indicate project's intention for mixed use or separated occupancy. Per UFC 3-600-01: 5-5, IBC Section 509 does not apply. Include equations proving the area allowances for separated occupancy per 508.4.2 if it applies. For example:

S-1 H-2

$$\underline{22,300sf}$$
 + $\underline{213sf}$ = .347 < 1 (okay)
 $\underline{65,625sf}$ 26,250sf

d. Area Limitations / Modifications:

UFC 3-600-01: 5-3 IBC Section 503, 506, 507 Indicate project's area limitations, Table 506.2. Describe area modifications taken. Include equations proving allowable area increases using frontage and automatic sprinkler factors. Only need to show increases if needed to increase allowable area. For example:

Area Determination

At = 16000 > actual = 9503 Is = 2 for sprinkler increaseIf = 0

IJ = 0

Aa = 16000 + [16000(0)] + [16000(2)] = 48000 > actual 27843 okay

e. Height Limitations:

IBC Section 503 Tables 504.3 & 504.4 Indicate specific project's height limitations, providing maximum height allowed and actual height per building height definition in Section 502.

f. Vertical Enclosures, Continuity, Protection:

3-600-01: 3-3.1.1 NFPA 101: 7.1.3, 8.6 NFPA 90A: 4.3.1.2, 5.3.4 Indicate fire protection provisions for stair enclosures, utility shafts, elevators, laundry chutes, etc. Indicate vertical enclosure requirements & provisions based on number of building stories for stairways, elevator hoistways, light shafts, building expansion joints, etc. List required fire resistance ratings of shafts, for example: 2-Story Shaft Enclosures - () hour rating: 3-Story Laundry Chute Enclosure - () hour rating.

g. Opening Protectives & Thru-Penetrations

NFPA 101: 8.3 thru 8.6 NFPA 90A NFPA 80 NFPA 13 Indicate requirements & provisions for fire barriers, smoke partitions, smoke barriers, vertical openings, and special hazard protection. Per NFPA 13, 8.15.4, vertical openings not meeting 8.15.4.4 require closely spaced sprinklers and draft stops.

h. Horizontal Separations:

IBC: Table 508.4

Indicate location for horizontal separation and provision such as fire or smoke rated floors between occupancies or exit enclosures.

i. Fire Resistive Requirements:

IBC: Table 601 and Section 602

Indicate requirements based on construction type:

Primary Structural Frame - () hour rating

Exterior Bearing Walls - () hour rating

Interior Bearing Walls - () hour rating

Exterior Nonbearing partitions - () hour rating

Interior Nonbearing partitions - () hour rating

Floor Construction & Secondary Members - () hour rating

Roof Construction & Secondary Members - () hour rating

j. Enclosure Protection:

NFPA 101: Specific Occupancy Chapters ASME A17.1

UFC 3-600-01; 4-46.5.2.2

01 C 3-000-01, 4-40.3.2.

NFPA 30, 9.9.1

Indicate enclosure protection requirement for specific spaces and what is actually provided, example:

Mechanical Rm requires 1 Hr or sprinklered - sprinkler provided. Janitor Closet requires 1 Hr or sprinklered - Sprinkler provided.

Warehouse and storage area must separated from offices and shops by a minimum of 1hr fired construction.

Indicate the total floor area for flammable liquid, combustible liquid & control waste liquid storage room. The flammable liquid, combustible liquid and control waste room must be less than 500sf and provide 1hr fired rated wall and ceiling for room floor area less than 150sf and 2hr fire rated wall and ceiling for >150sf but \leq 500sf.

k. Fire Protection System:

UFC 3-600-01: Chapters 4 & 9 UFC 3-600-01: Appendix B Determine the requirement for fire protection systems, stating which systems are required and criteria to which they are designed.

Indicate the hazard category based on occupancy for various rooms, using UFC 3-600-01, Appendix "B". Consider classifying the entire building and noting exceptions for differing rooms. For example, for a light hazard (LH) building, the mechanical, electrical and storage rooms are classified as ordinary hazard (OH).

UFC 3-600-01; 9-7, except as modified in Chapter 4 of UFC for specific facility types

For each occupancy hazard category based on Tables 9-3 & 9-4 for non-storage applications, indicate Sprinkler Design Density, Sprinkler Design Area, Water Demand for Hose Streams, providing supply pressure and source

UFC 3-600-01; 1-12.12, 9-7.3.1.2, 4-46 NFPA 13

For warehouse and storage facilities indicate the commodity classification, maximum potential storage height must be based on roof or ceiling height, storage configuration (racks, shelves, palletized, bin box, and solid-piled), aisle width, clearance to ceiling, and sprinklers type and temperature rating. The roof slope must be less than or equal to 2 on 12

UFC 3-600-01: Chapter 9-7.4 NFPA 13

Coverage per sprinkler must be in accordance with NFPA 13, not exceeding 225 sf for light hazard, 130 sf for ordinary hazard, or 100sf for extra hazard. Extended coverage heads are not permitted.

l. Available Water Supply Testing UFC 3-600-01: 1-12.5, 9-6.4

Provide results of water flow tests per the UFC which requiring QFPE to witness the flow testing per NFPA 291. Water supply data shall show available water supply, static pressure, & residual pressure at flow. Based on this data & estimated flow & pressure required for the building sprinkler system(s), determine the need for a fire pump. Indicate test & flow hydrant locations, elevations, & water flow data on contract drawings..

NFPA 291

For non-sprinklered facilities, fire flow & duration must meet minimum requirement in NFPA 1, Table 18.4.5.2.1.

UFC 3-600-01: 9-2.2 NFPA 1: Table 18.4.5.2.1

> For range and remote facilities, provide capacity & fire flow information requirement per NFPA 1142. Provide information indicating how the local fire department will meet the fire flow requirement. Provide code analysis and calculation per NFPA 1142 to District Fire Protection Engineer (DFPE) to get AHJ concurrence.

UFC 3-600-01: 1-12.10, 4-40

Provide water storage requirements including capacity, type of storage tank and storage tank monitoring.

m. Water Storage Tank Requirements UFC 3-600-01: 1-12.4, Chapter 9-4

n. Backflow Preventer & Testing

NFPA 13: 8.16.4.6.1 UFC 3-600-01; 9-6.3.5, 9-6.6

NFPA 22

Provide backflow preventer valves as required by local authority or water surveyor. On contract drawings show and provide test piping and valve located downstream of the backflow preventer for flow testing of the backflow preventer at full system demand flow. Route the discharge to an appropriate location outside the building. Minimum pressure drop across reduced pressure backflow preventer is 12 psi and 8psi for double check backflow preventer. Assure that backflow preventer is 8 psi for hydraulic calculations for double check and 12 psi for reduce

o. Fire Pump(s) UFC 3-600-01: Chapter 9-5 NFPA 20

UFC 3-600-01: 9-5.1.4

Provide information regarding project site reliable power. Provide fire pump(s) flow and pressure requirements, locations, construction enclosure, fire pump and fire pump controller maintenance access.

2. LIFE SAFETY REQUIREMENTS:

a. Classification of Occupancy: NFPA 101: Ch. 6

Indicate project's occupancy classification information based on NFPA 101 for life safety code requirements. Exception For Repair Garage, UFC 3-600-01: 4-43.1.2 to use NFPA 30A (3.3.12.2 & NFPA 101 40-1.2.1)

b. Occupant Load:

NFPA 101: 7.3.1.2 & Chapters 12-42

UFC 3-600-01: 10-3.1

Indicate total occupant load, showing occupant load factors and subtotals of various occupancies for each floor,

Actual floor area Business: 5,626 GSF / 100 GSF = 56.37 ~ 57 Actual floor area Assembly: 1,920 NSF / 15 NSF = 128.002 ~ 129

Total Floor Maximum Occupancy: 186

Supplemental Occupant Load Factors found in UFC 3-600-01, para. 10-3.1, shall be included when calculating the total occupant load for the facility.

c. Capacity of Means of Egress: NFPA 101: 7.3.3 & Chapters 12-42 Indicate egress capacity for components of all means of egress including stairs, corridors, ramps, and doors. Include total egress capacity needed.

d. Number of Exits: NFPA 101: 7.4 & Chapters 12-42 Indicate number of exits required based on egress capacity needed. Indicate number of exits provided.

e. Arrangement of Means of Egress

Indicate requirements for means of egress arrangement, including project's provisions to comply.

NFPA 101: 7.5 & Chapters 12-42

Indicate requirements for accessible means of egress with project's provisions to comply.

f. Accessible Means of Egress NFPA 101: 7.5.4

g. Travel Distance to Exits:

Indicate travel distance requirements and project's provisions to comply using worst case distance. Include common path, dead end, and travel distance limits for each occupancy.

NFPA 101: 7.6 & Chapters 12-42

h. Illumination of Means of Egress: NFPA 101: 7.8 & Chapters 12-42

Indicate required and provided provisions for means of egress illumination.

i. Emergency Lighting:

Indicate required and provided provisions for emergency lighting.

NFPA 101: 7.9 & Chapters 12-42

j. Marking of Means of Egress:

NFPA 101: 7.10 & Chapters 12-42

Indicate required and provided provisions for marking of egress lighting.

k. Interior Finish Classification Limits:

NFPA 101: Table A.10.2.2

 $Indicate\ required\ and\ provided\ provisions\ for\ interior\ finish\ classification\ limitations.$

l. Detection, Alarm, & Communications:

UFC 3-600-01: Chapter 9-18 NFPA 101: 9.6 & Chapters 12-42 Indicate requirements for manual alarm initiation, automatic detection, and alarm notification. Include location to which notification is sent.

m. Portable Fire Extinguishers:

UFC 3-600-01, 9-17 NFPA 10 Indicate requirements for FE and project provision. See provision in Draft AR DG Pamphlet, 3-4.1.5 for Arms Vaults.

n. Corridors:

NFPA 101: Chapters 12-42

 $Indicate\ requirement\ and\ provisions\ for\ corridor\ protection\ including\ any\ fire\ and\ smoke\ ratings\ and\ door\ ratings.$

o. Fire Dampers:

NFPA 90A: 5.3.1, 5.4.1 & 5.4.2

Fire dampers shall be dynamic type, rated for 3,000 ft./min or greater. Edit the following or insert other requirements for this project:

Fire rated dampers shall be installed in ducts passing through partitions or walls having a fire resistance rating of 2 hours or greater.

Fire dampers shall be installed in ducts passing through fire resistance rated shafts.

Fire dampers shall be installed in air transfer openings in fire resistance rated partitions.

Fire dampers shall be installed in ducts passing through floors except where the floor penetration is within a fire rated shaft.

p. Smoke Dampers:

IBC: Section 716 NFPA 90A: 4.3.10.2, 5.3.5.1 Indicate requirements & project's provision for dynamic smoke dampers. Provide isolation smoke damper when air handling equipment systems have a capacity greater than 15,000 cfm to isolate the air-handling equipment, including filters, from the remainder of the system on both the building supply and return sides, in order to restrict the circulation of smoke.

q. Duct Smoke Detectors

NFPA 90A: 6.4.2.1

Indicate type of duct smoke detectors required & provided, for example: Duct smoke detectors installed downstream of the air filters and ahead of any branch connections in air supply systems having a capacity greater

r. Elevators UFC 3-600-01: 4-13 IBC Chapter 30 ASME A17.1 NFPA 13 UFC 3-490-06: 3-3.1 Indicate elevator type, construction, detection systems, and sprinkler requirements & provisions, for example: A holeless hydraulic type elevator is provided with 1 hr. rated shaft walls, sprinklers, smoke detectors, flow switches and necessary appurtenances for elevator machine room, top and pit of hoistway, see figure 4-4, UFC 3-600-01. See contract drawings for figure for type of elevator used. The elevator is not considered an egress component. Hoistway vent and elevator lobby not required for shaft penetrating up to 3 stories. Include hoistway pit entrapment protection per UFC 3-490-06: 3-3.1 requiring a door to an exit area.

s. Roof Access: UFC 3-600-01: 10-4 IBC Chapter 1011.12 Indicate requirements & provisions for roof access. If not required by code, user may request roof access from interior for convenience and in compliance with UFC 4-010-01 DoD Minimum Antiterrorism Standards for Bldgs.

t. Hazardous Locations in Commercial Garages

NFPA 70: NEC Articles 500 & 511

Indicate class and division of hazardous locations within the work bays, pits, and adjacent rooms. Indicate methods used to unclassify areas adjacent to classified locations such as corridors, offices, stockrooms, mechanical rooms, and electrical rooms. Indicate use of positive pressure or cut-off wall (to include door seals) to declassify areas adjacent to hazardous work areas.

u. Fire Dept. Vehicle Access

UFC 3-600-01: 9-1 NFPA 1: 18.2.3.4.1 Indicate requirements and provisions for vehicle access to the building, for example: All weather ground access provided with widened/thickened sidewalks at 30 ft. from the building on two sides of the of all facilities more than two story bldg.

v. Fire Hydrant Installation

UFC 3-600-01: 9-3.5

 $Indicate\ hydrant\ installation\ requirements\ and\ provisions\ including\ spacing\ based\ on\ building\ type.$

w. Kitchen Cooking Exhaust Equipment

NFPA 101: 9.2.3, Chapters 12-42 NFPA 96 Indicate provision for kitchen cooking equipment in the project. Indicate extinguishing system required and provided. On contract drawings, show all interlocks with manual release switches, fuel shutoff valves, electrical shunt trips, exhaust fans, and building alarms.

3. EXISTING FACILITIES:

a. Existing Facility Deficiency Upgrade:

UFC 3-600-01: 34-1.1

Facilities as they exist prior to project, must meet NFPA 101 for existing occupancy. Indicate what deficiencies must be upgraded as part of the project or establish management protocols with AHJ. Entire facility must comply

NFPA 101: Chapters 12-42

with the applicable existing occupancy chapter of NFPA 101 before beginning the project for work in existing

facilities.

b. Work in Existing Facilities:

UFC 3-600-01: 34-1.2.1

Conform to the requirements of the Building Rehabilitation chapter of NFPA 101 for design and construction of the project except as specified in UFC 3-600-01.

NFPA 101, Chapter 43, Repair

Identify the project area that apply to Repair, indicating how area meets NFPA 101 requirements.

NFPA 101, Chapter 43, Renovation

Identify the project area that apply to Renovation, indicating how area meets NFPA 101 requirements.

NFPA 101, Chapter 43, Modification

 $Identify\ the\ project\ area\ that\ apply\ to\ Modification,\ indicating\ how\ area\ meets\ NFPA\ 101\ requirements.$

NFPA 101, Chapter 43, Reconstruction

Identify project areas that apply to Reconstruction, indicating how area meets UFC and NFPA 101 requirements.

UFC 3-600-01: 34-1.2.8

Determine the total floor area will be reconfigured. If the total reconfigured floor plan exceed 50% of the total floor area, the entire floor must be brought up to the requirements for new construction in UFC 3-600-01 and NFPA 101.

Category	List Affected Rm Nos.	Category's Total SqFt (x)	Total Gross Area 1 (y)	Affected Percent (x divided
No Work	101,102	5000		by y)
Reconfigure Floor Plan	111-120	3000	8000	38%
Reconstruction	38%<50% therefore no trigger for reconstruction category			

If the floor plan reconfigurations that exceed 50%, the entire floor must be brought up to the requirements for New Construction

UFC 3-600-01:34-1.2.9

Determine if the total project cost exceed of the building total replacement value. If the total project cost exceed 50% of the total replacement value, the entire building must be brought up to the requirements for new construction in this UFC 3-600-01 and NFPA 101.

NFPA 101, Chapter 43, Addition

Identify project areas that apply to Addition, indicating how area meets UFC and NFPA 101 requirements.

c. Change in Use Category:

UFC 3-600-01:34-1.3

Identify project areas that apply to Change in Use including change in occupancy, indicating how area meets UFC and NFPA 101 requirements.

d. Vacant Bldg. Category:

UFC 3-600-01:34-1.4

e. Phased Projects: UFC 3-600-01:34-2

Identify project areas that apply to Vacant Bldg. category, indicating how area meets UFC and NFPA 101 requirements.

Indicate if this project includes multiple phases (potentially executed as separate projects) to the same existing facility within 5 years involving floor plan reconfiguration that will encompass more than 50% of the floor area or project cost exceeding 50% replacement value, triggering requirement for compliance with Reconstruction.

f. Cooking Areas:

UFC 3-600-01:34-3

Indicate if cooking areas are included and provision for compliance with UFC.

g. Electronic Equipment Areas:

UFC 3-600-01:34-5

Indicate if non-plenum rated cables exist under raised floors having no FE system and provision for compliance with UFC.

h. Automatic Sprinkler Systems: UFC 3-600-01: 34-1.2.6 & 9-7.2

UFC 3-600-01: 34-1.2.6 & 9-7.2

Indicate compliance requirement and project's provision to meet the UFC.

i. Fire Alarm System:

UFC 3-600-01:34-1.2.8 & 9-18

Indicate compliance requirement and project's provision to meet the UFC. The notification appliances for the fire alarm and mass notification required to upgrade throughout the facility if reconfiguration exceed 50% of the floor plan.

4. MASS NOTIFICATION:

UFC 4-021-01 ECB 2018-17 Indicate mass notification system requirements and provisions including type of base-wide mass notification / communication system.

5. ACCESSIBILITY REQUIREMENTS:

ABA Chapters 1-10

Indicate accessibility requirements for the project, for example: "Facility shall be completely accessible in accordance with ABA. Fire alarm annunciators shall be in accordance with ABA." or "Facility is considered as being for able-bodied persons only, therefore, is not required to be fully accessible".

CERTIFICATION OF FIRE PROTECTION & LIFE SAFETY CODE REQUIREMENTS

Preparers of this document certify the accuracy and completeness of the Fire Protection and Life Safety features for this project indicated with the attached, completed signature forms.

Architect-Engineer Design Certification of Fire Protection / Life Safety / Accessibility Code Requirements

Insert Project Name and Location

Insert Review Milestone (Preliminary, Interim, Final, or Corrected Final Review)

Preparers of this document certify the accuracy, completeness, and incorporation of the all required fire protection, life safety, and accessibility features in this project for the indicated milestone review.

Qualified Fire Protection Engineer (QFPE) of Record - <i>Insert Typed Name</i>			
Signature	Date		
Architect of Record - Insert Typed Name			
Signature	Date		
Mechanical Engineer of Record - <i>Insert Typed Name</i>			
Signature	Date		
Electrical Engineer of Record - <i>Insert Typed Name</i>			
Signature	Date		
Civil Engineer of Record - <i>Insert Typed Name</i>			
Signature	Date		

LOUISVILLE DISTRICT IN-HOUSE DESIGN FIRE PROTECTION / LIFE SAFETY / ACCESSIBILITLY CODE REVIEW

Insert Project Name and Location

Insert Review Milestone (Preliminary, Interim, Final, or Corrected Final Review)

Preparers of this document certify the accuracy, completeness, and incorporation of the all required fire protection, life safety, and accessibility features in this project for the indicated milestone review.

Signatures below indicated the project drawings, specifications and design analysis have been reviewed and shown to be incompliance with the UFC 3-600-01 and references code on this FP&LS sheet.

Qualified Fire Protection Engineer (QFPE) ITR- Insert Typed Name

Signature	Date			
Project Design Team Leader - Insert Typed Name				
Signature	Date			
Architectural ITR - Insert Typed Name				
Signature	Date			
Mechanical Engineer ITR - Insert Typed Name				
Signature	Date			
Electrical Engineer ITR - Insert Typed Name				
Signature	Date			
Civil Engineer ITR - Insert Typed Name				

Date

Signature