DESIGN QUALITY ASSURANCE GUIDANCE

CONTRACT: [Insert Contract Number and Title]

General description of process:

The framework for reviewing project submittals includes administrative, contractual, and technical oversight vice detailed discipline verification and control. This Design Quality Assurance Plan includes discipline specific guidance to assist in reviewing project elements at the various submittal stages. Reviews should check that the project is within scope and budget; health, safety, and functional requirements and criteria are addressed; sound engineering practice has been followed; and project documents are adequate to construct the intended facility or project.

The A/E of record should be notified of obvious errors or omissions noted during the review, but **detailed checking and quality control of the design documents is the responsibility of the A/E of record**. Upon completion of the review, there should be a level of confidence that the A/E has fulfilled their contractual obligations, and it can be reasonably expected that the project will successfully be constructed without significant additional changes.

General description of project:

Specialty Items

Define system components of special concern for this project.

DISCIPLINE REVIEW GUIDANCE

ARCHITECTURAL	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Verify that FACD or Design Charette issues are addressed.	☐
Verify that the DD1391 scope (SF, ECC, and special design features) has been met.	☐
Verify that handicapped accessibility provisions have been included. Document "able bodied military" where appropriate.	☐
Verify that architectural compatibility has been addressed, determine if Architectural Review Board needs to meet.	☐
Verify roof system selection.	☐
Verify wall and roof insulation.	☐
Spot-check conformance to the NAVFAC elevator design checklist for selection of elevator type.	☐
Verify that sustainable design has been addressed, and meets requirements of the Professional Services Guide.	☐
Verify that security requirements have been addressed.	☐
Verify doors and windows.	☐
Verify interior finishes.	☐
Verify exterior material selection considering appearance, maintainability and intended building usage.	☐
DRAWINGS	
Verify that floor plan is compatible with function, and meets applicable space criteria.	☐
Review building floor plan for flexibility to accommodate future alterations and additions consistent with building usage.	☐
Verify circulation and separation of services (employees, visitors, loading dock, etc.)	☐
Verify compliance to handicap criteria.	☐
Verify roof drainage system.	☐
Review building elevations for potential architectural compatibility issues.	☐
Review building elevations for appropriate entrance identification.	☐
Review wall sections to insure integrity of the building envelope.	☐
CALCULATIONS	
Review square footage (metric) calculations to verify that scope has been met.	☐
Verify that LEEDS calculations have met appropriate sustainable design targets.	☐

Pre-final (100%) Drawing Submittal

DRAWINGS	
Verify that architectural compatibility issues were addressed.	☐
Verify roof system selection and detailing.	☐
Verify that an exterior finish/color schedule has been provided.	☐

Verify integrity of building envelope.	☐
Spot-Check conformance with NAVFAC Elevator Design Checklist for elevator detailing (wall ratings, machine room, emergency power, etc.)	☐
Verify flashing at windows and exterior doors.	☐
Verify that sustainable design issues have been incorporated.	☐
CALCULATIONS	
Verify that area calculations are still appropriate.	☐
Verify that LEEDS calculations are still valid.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐

LANDSCAPE ARCHITECTURE	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Verify that FACD or Design Charette issues are addressed.	☐
Verify that the DD1391 scope (SF, ECC, and special design features) has been met.	☐
Verify that handicapped accessibility provisions have been included.	☐
Verify that sustainable design has been addressed.	☐
Verify that ATFP requirements have been addressed.	☐
DRAWINGS	
Review Landscape Plan for functional requirements and CADD standards requirements.	☐
Review Plant Schedule for appropriate plant materials for the site including compliance with BEAP standards.	☐
Review Planting Details and Construction Details if provided, for correctness.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Review all specs sections applicable to Landscape Design effort.	☐
DRAWINGS	
Review Landscape Plan for functional requirements and CADD standards requirements.	☐
Review Plant Schedule for appropriate plant materials for the site including compliance with BEAP standards.	☐
Review Planting Details and Construction Details if provided, for correctness.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐

INTERIOR DESIGN	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Verify that FACD or Design Charette issues are addressed.	☐
Verify that the DD1391 scope (SF, ECC, and special design features) has been met.	☐
Verify that sustainable design has been addressed with regard to interior finish materials.	☐
Verify that there is a vehicle for development/design and procurement of a collateral equipment/furnishings package.	☐
DRAWINGS	
Verify that the furniture footprint plan is compatible with Client functions.	☐
Verify compliance of furniture footprint plans to handicap criteria.	☐
Verify that an interior signage system is addressed.	☐
Review finish schedule with regard to appropriateness of finishes and space functions.	☐
Review interior finish material board for appropriateness of color scheme with regard to building function.	☐
CALCULATIONS	
Verify that LEED calculations have met appropriate sustainable design targets.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Verify that interior finish material specifications reflect and include all products referenced on drawings.	☐
Review all specification sections applicable to interior design effort.	☐
DRAWINGS	
Verify that an interior finish/color schedule and supporting finish legend have been fully developed and coordinated.	☐
Verify inclusion of all "built-in" (not collateral equipment) items (refrigerators, mini blinds, lockers, projection screens, etc.).	☐
Verify that furniture layouts have been coordinated with power/data/communication systems (spot check).	☐
Review interior signage.	☐
Review associated finish drawings (floor/wall patterns, special finish treatments, etc.).	☐
Verify that sustainable design issues have been incorporated with regard to interior finish materials.	☐
Review interior finish/material board for appropriateness of color scheme with regard to building function.	☐
CALCULATIONS	
Verify that LEED calculations have met appropriate sustainable design targets.	☐
PREVIOUS REVIEW COMMENTS	

Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Other Issues (define/list)	
Inform the DM of performance issues for incorporation into A/E performance rating.	☐
Verify that color documentation binders have been submitted and are in proper format.	☐
Verify distribution (by A/E) or distribute color binders to apprpriate ROICC office for their use during the construction process.	☐
	☐

STRUCTURAL	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Check loading criteria (wind, live, snow, force protection, seismic, etc.).	☐
DRAWINGS	
Verify that plans / sections agree with the intent of calculations and Basis of Design.	☐
CALCULATIONS	
Check application of loading criteria (wind, live, snow, force protection, seismic, etc.).	☐
Check analysis of lateral forces resisting system; does a clear load path to the foundation exist.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Check that material strength and properties agree on the drawings and in the calculations.	☐
DRAWINGS	
Check loading criteria (wind, live, snow, force protection, seismic, etc.).	☐
Check that list of applicable design codes is current and correct.	☐
Check accuracy and completeness of load schedule (wind, live, snow, force protection, seismic, etc.).	☐
Check frost penetration depth and foundation bearing capacity.	☐
Check consistence of column lines between roof, foundation and floor plans.	☐
Check lateral force resisting system.	☐
Check metal deck anchorage for diaphragm action and wind uplift.	☐
Check that expansion joints run through the building.	☐
Check for crack control joints in walls and slabs.	☐
Check for supports of Mechanical and Electrical equipment.	☐
Check for minimum seismic reinforcement of masonry.	☐
Check special loading conditions such as cranes, heavy equipment, vibration isolation, etc.	☐
Check for reinforcing and support for exterior wind walls.	☐
Spot-Check coordination between structural drawings and other disciplines.	☐
Spot-Check for conformance with the NAVFAC Elevator Design Check List.	☐
CALCULATIONS	
Check loading criteria (wind, live, snow, force protection, hardening, seismic, etc.).	☐
Check analysis of lateral force resisting system; does a clear load path to the foundation exist.	☐
Spot-check that calculations agree with drawings and specifications.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐

Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐

MECHANICAL	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Review and approve or modify submitted HVAC system alternatives (E-1 Form)	☐
Verify selected HVAC system is appropriate with respect to application and station capabilities.	☐
Verify HVAC system selected has lowest LCC and that the calculated energy budget is below the Design Energy Target.	☐
Verify corrected heating utility source (gas, steam, electric) selection and supporting economic analysis.	☐
Verify design is in accordance with project scope and Station policy.	☐
Verify outside air amount and conditioning approach.	☐
DRAWINGS	
Verify mechanical utility routing.	☐
Verify correct equipment placement to facilitate maintenance and to minimize noise transmissions.	☐
Verify correct zoning.	☐
CALCULATIONS	
Verify HVAC load calculations for correct inside and outside design conditions, U-Values, lighting loads, ventilation air amount and load.	☐
Verify correct zoning.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Check for conformance to the Mechanical Engineering Design Guide.	☐
Review major equipment sections.	☐
Review controls and TABS sections.	☐
DRAWINGS	
Check for conformance to the Mechanical Design Guide.	☐
Verify correct plan, section and detail presentation.	☐
Verify equipment accessibility and maintainability.	☐
Consider noise from the HVAC system.	☐
Verify that IAQ has been adequately addressed.	☐
Verify correct DDC system.	☐
Verify compliance with scope and station policies.	☐
Verify appropriate use of balancing dampers and valves.	☐
CALCULATIONS	
Check for conformance to the Mechanical Engineering Design Guide.	☐
Verify correct calculations and psychrometrics.	☐
Verify correct consideration of fan system effect.	☐

PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐

ELECTRICAL	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Verify scope conformance.	☐
Communicate lessons learned.	☐
Communicate client requirements and preferences.	☐
Check that all Basis of Design items identified in the Electrical Engineering Design Guide are addressed.	☐
DRAWINGS	
Check for inclusion of required Legends, Plans, and Riser diagrams..	☐
Check for sufficient quantity and appropriate location of telephone outlets, convenience receptacles, and lighting switches.	☐
CALCULATIONS	
Check for inclusion of required calculations.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Check for inclusion of appropriate specification sections and products.	☐
Review Spec Sections 16272, 16273, and the liquid filled transformer paragraphs of 16301, 16360, and16361.	☐
DRAWINGS	
Check for conformance to the Electrical Design Guide.	☐
Check for inclusion and completeness of Grounding Diagram.	☐
Spot-check coordination between Electrical drawings and other disciplines.	☐
Spot-check for conformance with the NAVFAC Elevator Design Check List.	☐
CALCULATIONS	
Check for inclusion of all required calculations..	☐
Spot-check calculations for agreement with drawings and specifications.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	

Check A/E response and coordination.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐

CIVIL	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Verify site approval is complete.	☐
Verify that a personnel loading is identified.	☐
Verify 100-year flood plain elevation is identified and is correct.	☐
Verify force protection and security requirements are identified.	☐
Verify clear zone criteria or explosive arc criteria are identified.	☐
Verify design vehicles are identified.	☐
Verify required permits are identified and project milestones include enough time to acquire them.	☐
Verify the status of hazardous materials existing on site and that remediation funds are included.	☐
Verify environmental assessment status and/or final decision.	☐
Verify that a waste stream analysis has been done and the water/wastewater treatment process chosen will produce the desired results.	☐
Verify that existing utilities have been certified as adequate for the project.	☐
SPECIFICATIONS	
Verify specifications identify permits that construction contractor is required to acquire.	☐
DRAWINGS	
Verify finish floor elevation is above the 100-year flood elevation.	☐
Verify benchmark and layout control is properly indicated on the plans.	☐
Verify system of units is consistent with the other disciplines.	☐
Verify handicap parking and access is provided.	☐
Verify traffic flow is consistent with design vehicles and the facility's function and that pedestrian flow is safe.	☐
Verify force protection and security are addressed.	☐
Verify that clear zone and/or ESQD arcs are accommodated.	☐
CALCULATIONS	
Check for inclusion of required calculations.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Spot-check coordination of plans and specifications for special or unusual design features, i.e., package treatment systems, critical pumps, etc.	☐
Verify special scheduling and phasing requirements that will affect construction time and costs are included.	☐
DRAWINGS	
Verify grading plan contours and/or spot elevations provide positive drainage and a smooth transition to the surrounding topography; natural drainage patterns are not blocked; existing downstream systems are not overloaded; storm drain outlets are	☐

stabilized; building is protected against flooding if storm collection systems fail.	
Verify erosion control and storm water management measures are provided.	☐
Verify sections are provided for exterior surfaces (pavement, sidewalks, pavement patches, berms, etc.)	☐
Spot-check details/sections and specifications for coverage of contractor provided materials and systems.	☐
Verify connections to existing utility systems are detailed.	☐
Verify joint restraint is specified/detailed for pressurized lines.	☐
Verify minimum cover is provided for underground utilities.	☐
Verify utility structure castings are designed and rated for expected traffic loads (POV, commercial, maintenance, industrial, aircraft, etc.)	☐
Verify thrust and freeze protection is provided for above ground utility appurtenances.	☐
Verify required permits have been obtained or application has been made.	☐
CALCULATIONS	
Verify pavement loads used in the analysis are consistent with anticipated traffic.	☐
Verify gravity system flow velocities are between 2.5 and 10.) fps and pressure system velocities should not exceed 10.0 fps.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Verify status of permits and advise management of critical outstanding issues.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐

SPECIFICATIONS	
35% Drawing Submittal	**Verified**
SPECIFICATIONS	
Review in conjunction with Basis of Design.	☐
Instruct A/E to use latest version of SpecsIntact, the UFGS, and the Specification Preparation Manual at time of 100% spec preparation.	☐

If project includes demolition, (asbestos, lead, PCB's), check with PM to ensure testing gets done.	☐
Provide guidance for preparation of FEC Europe specs. Instruct A/E to use Italian or Spanish Spec Database available on LANTDIV website. Instruct A/E to regionalize UFGS for project spec sections not in the Italian or Spanish database. Describe Type I, II, and III products and related spec requirements.	☐
Pre-final (100%) Drawing Submittal	
SPECIFICATIONS	
Verify latest version of SpecsIntact and the UFGS are being used.	☐
Verify LANTDIV regional guides and sample specs are used.	☐
Spot-check for ISR requirements.	☐
Spot-check submittal register for problems.	☐
Spot-check front end sections for problem issues (project description, special scheduling, activity restrictions, geographic requirements, etc.).	☐
Check any NAVY criteria issues relative to the spec.	☐
Verify proper SpecsIntact/CSI format used for A/E created spec sections.	☐
Check "Big Ticket/Problem" items in each discipline. Ex: Civil/Structural/Environmental (asbestos, lead, PCB's); Architectural (paint, roofing, elevators); Electrical (transformers); EFA MED projects (verify use of Italian or Spanish database from the website, verify regionalization of specs, verify Type I, II, and III products specified).	☐
Spot-check for proprietary items.	☐
Verify Project Information Form is complete and correct.	☐
Coordinate additive/option items with the AIC/EIC.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
SPECIFICATIONS	
Check section 00120/Bid Schedule for unit cost items and additive bid items/option items.	☐
Verify specifications are stamped & signed by appropriate Discipline	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Verify status of permits and advise management of critical outstanding issues.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐

COST ESTIMATING	
35% Drawing Submittal	**Verified**
ESTIMATE	
Spot-check high cost items (80:20 rule).	☐
Check estimate against scope.	☐
Check wage rates, mark-ups, escalation and exchange rates.	☐
Spot-check high cost items in the design to confirm they are in the estimate and that quotes have been provided.	☐
Compare system costs to historical costs.	☐
Check for poorly defined systems.	☐
Compare the estimate to recent bid history and market conditions.	☐
Confirm that the estimate is within "Design-To" target and that additive/option bid items have been identified. Notify PM and AIC/EIC if over "Design-To" target.	☐
Check the estimate for conformance to contract requirements ("Success" format, local pricing for overseas projects, etc.).	☐
Check the estimate for use of most recent cost database.	☐
Pre-final (100%) Drawing Submittal	
ESTIMATE	
Spot-check high cost items (80:20 rule).	☐
Check estimate against scope.	☐
Check wage rates, mark-ups, escalation and exchange rates.	
Spot-check high cost items in the design to confirm they are in the estimate and that quotes have been provided.	
Compare system costs to historical costs.	
Compare the estimate to recent bid history and market conditions.	
Confirm that the estimate is within "Design-To" target and that additive/option bid items have been identified. Notify PM and AIC/EIC if over "Design-To" target.	
Check the estimate for conformance to contract requirements ("Success" format, local pricing for overseas projects, etc.).	
Check the estimate for use of most recent cost database.	
Check the structure of the estimate for use of the most recent cost database.	
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
ESTIMATE	
Compare the estimate to recent bid history and market conditions.	
Confirm that the estimate is within "Design-To" target and that additive/option bid items have been identified. Notify PM and AIC/EIC if over "Design-To" target.	
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐

Other Issues (define/list)	
Complete A/E performance rating.	☐
Provide AIC/EIC a copy of the final estimate stamped "Official Use Only" in a sealed envelope, accompanied by a rounded estimate summary sheet.	
	☐

FIRE PROTECTION	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Check Civil BOD for description of water supply/distribution system. If the design incorporates a remotely located fire pump, assure fire flow velocities are considered when sizing or evaluating exterior distribution systems.	☐
Check validity of water supply information.	☐
Perform criteria check of A/E's UBC & LSC analysis.	☐
Check Mechanical BOD for description of HVAC system, smoke control systems, interface with fire alarm system.	☐
Check Electrical BOD for description of distribution system and emergency power if provided.	☐
Check Fire Protection BOD for building occupancy type and hazard, fire suppression system, water supply information, fire alarm systems and associated control functions (number and types of circuits, number of devices per circuit, and control functions for modifications to existing fire alarm systems).	☐
Check Fire Protection BOD for complete description of existing fire alarm/suppression systems to be renovated/modified.	☐
Check adequacy of fire protection based on proposed occupancy type and hazard.	☐
Verify correct application of fire protection criteria.	☐
SPECIFICATIONS	
Check outline spec for inclusion of fire protection sections.	☐
DRAWINGS	
Check site plan for water distribution info, fire hydrant locations and fire department accessibility.	☐
Check architectural floor plans for Life safety Code Compliance, Fire rated partition locations, fire extinguisher/cabinet locations.	☐
Check all fire protection sheets for compliance with criteria.	☐
Check fire sprinkler sheets for location of risers, standpipes, pumps.	☐
Check fire sprinkler sheets for special system details.	☐
Check Fire Suppression sheets for applicable information pertaining to existing systems. Insure efficient data is provided for the existing system.	☐
Check fire alarm sheets for location and spacing of alarm/supervisory initiating and notification appliances, FACP, fire pump controller, suppression control panels and other miscellaneous control devices and interfaces (if provided at this submittal).	☐
Check fire alarm riser diagram.	☐
Verify location of point of connections to existing systems identified.	☐
Check electrical for emergency lighting and exit signs, and one-line riser fire power to FACP and electrical fire pumps (if provided).	☐
CALCULATIONS	
Verify correct application of fire protection criteria.	☐
Check hydraulic design analysis.	☐

Check fire pump selection.	☐
Check special system calculations (AFFF/Special Agent).	☐
Check battery/circuit power calculations where existing fire alarm systems are used/expanded. Insure sufficient data is provided for the existing system.	☐
Pre-final (100%) Drawing Submittal	
Fire Protection Compliance Certification Letter	
Assure submittal includes the A/E's FPE certification IAW UFC 3-600-01, Section 1-5.1.	☐
SPECIFICATIONS	
Check elevator spec for compliance with current NAVFAC criteria.	☐
Check correctness of referenced criteria with respect to current edition.	☐
Criteria check of fire protection specification systems.	☐
DRAWINGS	
Check site plan for water distribution info, fire hydrant locations and fire department accessibility, and fire sprinkler service point of connection to the existing distribution system.	☐
Check architectural floor plans for Life safety Code Compliance, Fire rated partition locations, fire extinguisher/cabinet locations.	☐
Check mechanical sheets for proper locations of duct smoke detectors and fire dampers.	☐
Check electrical sheets for emergency lighting and exit signs, and one-line riser fire power to FACP and electrical fire pumps (if provided).	☐
Check all fire protection sheets for compliance with criteria.	☐
Check fire sprinkler sheets for location of risers, standpipes, pumps.	☐
Check fire sprinkler sheets for special system details.	☐
Check fire alarm sheets for location and spacing of alarm/supervisory initiating and notification appliances, FACP, fire pump controller, suppression control panels and other miscellaneous control devices and interfaces.	☐
Check fire alarm riser diagram.	☐
Verify location of point of connections to existing systems identified.	☐
Check electrical for emergency lighting and exit signs, and one-line riser fire power to FACP and electrical fire pumps (if provided).	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	

Check A/E response and coordination.	☐
Advise management of critical outstanding issues.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐

GEOTECHNICAL	
35% Drawing Submittal	**Verified**
BASIS OF DESIGN	
Review methods and materials used for sire preparation, foundation construction and paving (i.e., check if materials are locally available and suited to function – cursory evaluation of life cycle costs, standard methods utilized in Iceland and Sigonella).	☐
Check if consideration given to factors influencing construction of overall facility that are "geographic specific" pitfalls/problems (ex: expansive soils in Rota, Puerto Rico and Sigonella; historically difficult site prep soils such as "farmland" of Northwest Radio Station and NAS Oceana).	☐
If airfield pavement related, verify conformance to applicable design/maintenance criteria.	☐
Verify need for ROICC support using Contractor provided geotechnical consultant for excavation, dewatering, or pile dynamic analyzer, and spot check that specs address the same requirements.	☐
DRAWINGS	
Check if plans reflect the recommendations of the geotechnical engineer (after reviewing geotechnical report)	☐
Verify that soil data shown on plans (preferred) or in specification, is complete with notes to explain soil boring logs and lab test results.	☐
Verify that groundwater information is presented clearly (data is consistent throughout boring logs and/or addressed in the specification).	☐
CALCULATIONS	
Ensure inclusion of required calcs.	☐
OTHER	
Review geotechnical report.	☐
Pre-final (100%) Drawing Submittal	
DRAWINGS	
Spot-check that specifications are coordinated with plans (emphasis on earthwork, paving materials, and installation of piling).	☐
If piling, verify payment clause (lump sum or unit price), and roles/responsibilities of KTR and government clearly defined for test pile installation and evaluation, load testing and evaluation, and production pile inspection.	☐
If rock or "hard" material excavation is involved, check that rock/hard materials can be quantified and method of payment is defined in the specification.	☐
Check that bearing capacity used for design is stated on structural plan.	☐
Check that piling type, size, bid lengths and design loading is shown on structural plans.	☐
Verify that soil data shown on plans (preferred) or in specification, is complete with notes to explain logs and lab test results.	☐
Verify that groundwater information is presented clearly (data is consistent throughout boring logs and/or addressed in the specification).	☐
Cursory review of pavement sections (thickness, materials, constructability).	☐

If airfield related, perform spot-check to ensure conformance with applicable criteria.	☐
On plans requiring large out of the ordinary excavations or blasting, check that technical approach assigns responsibility and is safe.	☐
CALCULATIONS	
Ensure inclusion of required calcs.	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Final Drawing Submittal	
DRAWINGS	
Verify all original Drawing Sheets present	☐
Verify all Drawing Sheets are stamped & signed by appropriate Discipline	☐
Verify Drawings match drawing lists (NAVFAC Dwg.#, & Titles) on Dwg. Sheet T-1 & Section 00102 "List of Drawings"	☐
Verify Sat-to's (Functional, Environmental, & ROICC) noted on Drawing Sheet T-1. **Note**: No stamp or signatures for Design/Build projects.	☐
Verify PL initial drawings	☐
PREVIOUS REVIEW COMMENTS	
Check A/E response and coordination.	☐
Advise management of critical outstanding issues.	☐
Other Issues (define/list)	
Complete A/E performance rating.	☐
	☐