



CSAGROUP
EST • 1956

CORPORATE QUALIFICATIONS





CSA GROUP WHO WE ARE

CSA Group is a successful international consulting firm that has been in business for more than 65 years. Our performance and success are based on a foundation of experience, technology, innovation, and a wealth of in-house capabilities that allow us to deliver full-service project-delivery and program-management solutions to our public and private clients. CSA Group is there throughout the life of your projects from planning through operation using standard contracting, design/build, and P3 contractual arrangements.

CSA Group is committed to making the world a better place by developing stronger, more resilient facility and infrastructure solutions. Our goal is simple: to transform your project needs into reality.

www.csagroup.com

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Company Profile

Services

- Program & Project Management
- Construction Management
- Inspections
- Architecture and Engineering
- Environmental
- Emergency Management

Project Experience



MISSION

Transform our clients' needs into reality by providing integrated program management, project delivery and asset optimization services to public and private sectors throughout the Americas.

VISION

To be the leading firm in markets where our full service offerings and multicultural affinity provide a distinctive added value to our clients.

SOCIAL COMMITMENT

One of CSA Group's most important Guiding Principles is our commitment to contribute to the industries we serve and the communities where we live in. This translates into active involvement in a variety of activities and organizations, which provide many opportunities for education and growth for our employees.



SERVICES



Program & Project Management: Planning, contract administration, project controls



Construction Management & Inspections: Special Inspections, Construction Engineering & Inspections (CEI), procurement, controls, safety, contract administration, permitting



Emergency Management: FEMA & CDBG-DR grant preparation and management, A/E reconstruction services



Engineering: Mechanical, HVAC, electrical, plumbing, fire protection, life safety, civil, structural



Architecture: Building design, interiors, landscape architecture, land planning, urban designs



Environmental: Impact assessments, permitting, technical studies, air quality, noise, wetlands, endangered species, GIS services

OFFICES

- New York, Pennsylvania, Washington, D.C., Florida, Puerto Rico, Panama

RANKING AND AWARDS

- Award winning architectural and engineering firm in the United States, Top 50 program management firm in the United States, Top 100 construction management-for-fee and project management firm in the United States

PERSONNEL

- Professional registered architects, engineers, and environmental scientists, LEED accredited professionals, Envision sustainable professionals, Project management professionals, Certified construction managers, Certified energy managers, Certified public accountants, FEMA certified staff

OUR PARTNERSHIPS



ACE MENTORSHIP PROGRAM

CSA actively participates in the Architecture, Construction and Engineering (ACE) Mentorship Program, a nationally recognized organization that mentors high school students and inspires them to pursue careers in design and construction.



NMSDC

CSA is certified as a Corporate Plus Minority Business Enterprise (MBE) by the National Minority Supplier Development Council (NMSDC). The NMSDC Corporate Plus certification recognizes companies that have the capability to do business on a national level.



CIRT

CSA Group is a member of The Construction Industry Round Table (CIRT), an association of chief executive officers of America's leading design and construction companies responsible for billions in private and public section design and construction work.

MARKET SEGMENTS

- Water, Highways, Rail, Energy, Institutional, Commercial, Housing, Education, Hospitality, Public Safety, Industrial, Airports, Seaports, Healthcare

Program Management

CSA Group's Program Management service merges our full architectural, engineering, environmental, project and construction management experience and technical resources to define, plan, implement and integrate every aspect of a client's collection of projects. CSA Group's full delivery service benefits our clients by having a single point of management responsibility for planning, design management, permitting compliance, construction management, and ongoing operations services for any number of concurrent projects.

CSA Group's Program Management processes include planning, land acquisition, engineering and design management, permit and compliance strategy, construction management, budget control, schedule control, quality assurance, community outreach, agency coordination, and communications programs. A well-defined Scope of Work serves as the framework for alignment. Our use of technology tools and careful planning processes allow CSA Group to deliver program results consistently. Once aligned, the program approach delivers superior performance and peak efficiency while achieving the desired results.



Project Management

Project Management at CSA Group is the business of Project Delivery. Once a customer's project is committed to the firm, it must be completed on time, within budget, and at levels of quality that meet our clients' needs within the realm of accepted professional standards of care. CSA Group's approach to this challenge is met through a strong Project Management system led by capable and experienced Project Managers.

CSA Group's Project Managers organize and coordinate the full spectrum of activities on a project from conceptual design through construction. Each Project Manager has the overall success of the project as their personal goal and guides the project to assure each discipline or supporting element fully addresses the needs of the other project team members. He or she is the direct link to the client, monitoring progress and costs, identifying potential problems and developing corrective action plans to avoid those problems before such issues significantly affect successful project delivery. Project Managers are qualified professionals involved in five major processes: **proposal, contracting, planning, execution and monitoring**. Our project management team successfully provides leadership, coordination, diligent project planning and effective oversight of the delivery process.

We emphasize effective project management on all our projects and understand that successful management is not produced by a single practice, but depends on the application of many concurrent policies and procedures. We use quality processes to produce high-quality deliverables on time and within budget. The application of this process is based on clear lines of communication, proven project control systems, and established (QA/QC) procedures. All projects awarded to CSA Group are executed through an organizational structure that provides for defined management accountability and multi-disciplinary technical input.

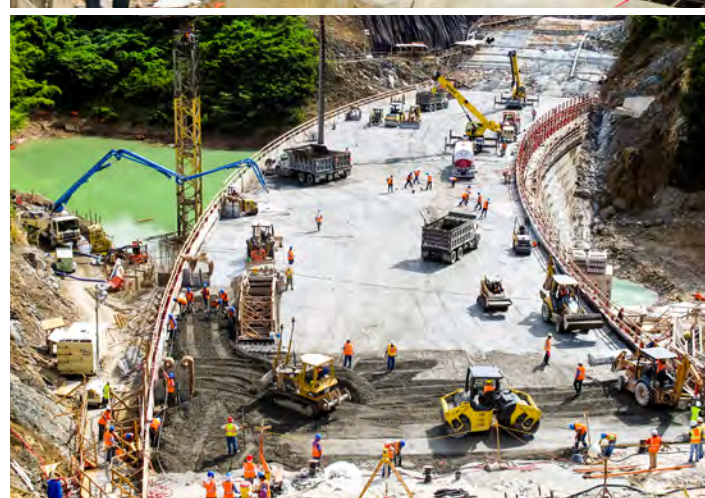
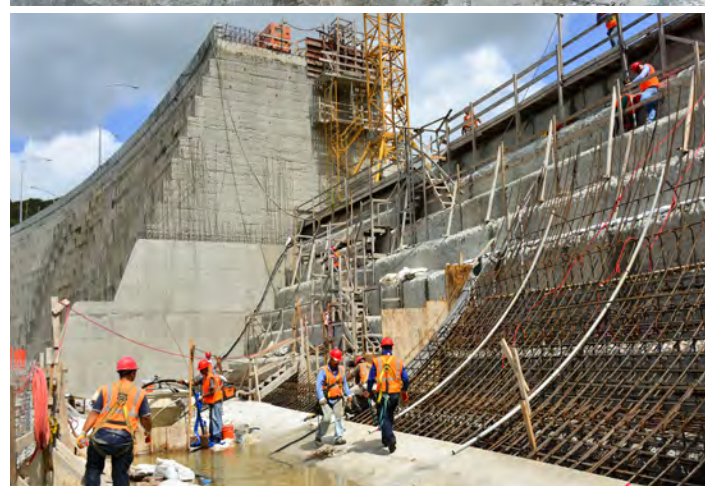
Construction Management

CSA offers public and private sector clientele outstanding capabilities in every facet of the construction management industry. CSA's skilled and experienced architects, engineers, and technicians strive to deliver quality, ease of operation and long-term reliability at the lowest life-cycle cost. We have been involved in over \$20 billion worth of projects for satisfied clients including Federal and State agencies, municipalities and private clients. Each field professional is fully versed in construction techniques, industry standards, and applicable local and national building codes. Construction Supervision/Inspection services are provided to ensure that construction is performed in strict compliance with the contract documents (drawings and specifications) and within the allocated construction period. Our professionals are experienced and skilled in building construction methods, procedures and administration.

CSA's Construction Management approach recognizes that the most effective influence on a project's bottom-line cost and timely delivery occurs prior to the start of the construction phase. Through the Construction Industry Institute (CII), CSA actively participated in studies and development of methodologies that measurably improve the delivery of construction projects. Statistically, CII has shown that expenditures during the Pre-Project Planning, Design, and Constructability Review phases have the greatest influence in reducing the overall costs, while ensuring the timely delivery of a project.

Construction Management services that CSA provides include:

- Contract Administration
- Change Order Management
- Cost and Schedule Management
- Safety Program and Performance Monitoring
- Special Inspections
- Construction Engineering and Inspection (CEI)
- Quality Control and Quality Assurance
- Document Control
- Claims and Dispute Resolution
- Value Engineering



Inspections

Our construction inspection unit was specifically created to promote the quality delivery of projects. CSA's experience includes a broad spectrum of transportation, buildings and infrastructure, in both the public and private markets. The experience and expertise of the field inspectors provides unequaled flexibility and capacity to facilitate high volumes in a single day. CSA consistently conducts in-house training for all inspector skill-sets enabling the team to grow and meet the demands of our clients. CSA has provided decades of construction inspection services from all office locations.

Building Condition Assessment Surveys: Each field Inspector is fully versed in construction techniques, industry standards, and applicable local and national building codes. CSA has been successfully completing facility assessment surveys for various types of facilities for over 60 years. CSA's superior inspection services ensure that construction is performed in strict compliance with the contract documents (drawings and specifications) and within the allocated construction period.

Construction Engineering Inspections (CEI): CSA's Construction Engineering and Inspection group brings to the market the expertise of construction industry veterans with the support of engineers, architects and inspectors. Our approach to CEI embodies a cross discipline approach whereby we draw on the wealth of experience and technical knowledge our staff—over \$20 billion of construction in Federal and State agencies, municipalities and private client programs and projects. Our in-house professionals successfully manage all aspects of rehabilitation, reconstruction and replacement of public infrastructure and private projects.

Special Inspections: CSA Group has the largest team of Master Special Inspectors in the NYC area. The team holds accreditations in every possible category of the International Accreditation Service (IAS) and are licensed in every category for Class 1 New York City Special Inspections as required by the New York City Department of Buildings.

Architecture & Engineering

Architecture: Architectural services include collaborative design strategies through planning, interior design, architectural, and landscape architecture design solutions; assisting our clients with targeted design innovation services including agile ground-up building design, corporate interiors, building additions and renovations, building due-diligence surveys and evaluation analysis, programming and facilities space planning, test fits, LEED® consulting/sustainable design, commissioning, change-in-use applications, life safety, tenant protection, finishes-furniture-equipment selection (FFE), custom millwork and custom furniture design.

Mechanical / HVAC Engineering: CSA's experience with mechanical systems include the design and the preparation of contract documents for heating, ventilating and air-conditioning, automatic temperature controls, chillers, central and packaged air-conditioners, refrigeration power plants, heating power plants including high and low pressure steam, high/medium/low temperature water, gas fired units, and fuel storage and dispensing systems.

Electrical Engineering: CSA's experience with electrical systems include the design and the preparation of contract documents for electrical power (including code-regulated, emergency systems), lighting design (interior and exterior) for conventional and landmark buildings, central controls, life safety systems, fire alarms, telephone systems, paging systems, security systems (closed circuit TV, infrared sensors, key lock-out, intrusion alarms), computer rooms, and Uninterrupted Power Source (UPS) systems.

Plumbing Engineering: CSA's experience with plumbing systems include the design of water, gas, storm, sanitary, site drainage, and fire preventative systems, sprinklers (wet, pre-action, deluge, suppression system; and fire standpipes—dry and wet system).

Fire Protection / Fire Life Safety Systems: CSA's experience with fire protection and fire life safety systems include the design of state-of-the-art fire alarm, fire protection system, emergency lighting and emergency power distribution systems. We work with local authorities having jurisdiction to assure all aspects of fire/life safety systems are in compliance with local requirements.

Structural Engineering: CSA has provided structural engineering design and construction administration services for new construction, additions, renovations and upgrades, and repairs. We also have provided structural analysis, design, failure analysis, certifications, foundations, retaining walls, buildings, towers, bridges, slope stabilization, and specialty structures. Experience includes wood, steel, concrete, aluminum, and composites.

Civil Engineering: CSA's experience includes planning, design and construction phase services. We prepare site plans, grading plans, soil erosion and sediment control plans, drainage studies, roadway and parking lot design, dry and wet utility re-location plans, water distribution, pumping and storage design, wastewater collection and pumping design, storm water management plans, storm sewer design, and storage depots for various bulk material used for maintenance and public works (salt, sand, etc.).

Mapping, Surveying and GIS: Our in-house land surveyors and GIS analysts have mapped thousands of acres of land, roads and buildings within South Florida. CSA's Land Survey / GIS capabilities allow us to quickly provide our clients with important information by rendering multi-faceted solutions, which combine various levels of data in a systematic approach.

Energy Modeling / Audits / Management: We have extensive experience designing energy conserving mechanical and electrical systems, developing energy audits and studies, conceiving, directing and implementing energy conservation measures. We help clients take advantage of incentive programs for these systems.

Technology / Communications: CSA Group offers Technology Engineering Design and Consulting services such as Cabling Infrastructures, Voice / Data, Energy Management Control Systems, Fire Detection, and Telecommunications. The Technology Group is responsible for communication devices, telecommunication systems, industrial and consumer electronic products and systems, and specification writing for various types of installations.

Construction Services: Each field architect / engineer is fully versed in construction techniques, industry standards, and applicable local and national building codes. Construction supervision/inspection services are provided, which ensures that construction is performed in strict compliance with the contract documents (drawings and specifications) and within the allocated construction period. Our engineers are experienced and skilled in building construction methods, procedures and administration.

Condition Reports: CSA field architects / engineers are knowledgeable in preparing condition reports for existing and retrofitted projects. Each field architect / engineer is sufficiently experienced with electrical and mechanical systems with the approach toward preparing condition reports, which would evaluate and recommend building and system conditions, upgrades, and replacements.

Software Capabilities: CSA uses a variety of technical design software, including AutoCAD, Civil 3D, Navisworks, MicroStation, GEOPAK and Revit. For structural analysis and foundation design, we use Staad. Pro, LPILE and other software. For Fire Protection system design, we use specialty software such as HASS. Our water resources modeling software (InfoWater and H2O Map, SWMM, ICPR, Multiple HEC, etc.) is fully GIS-integrated. For renderings and simulations, we use 3D Studio, SketchUp Pro and other software. We stay current with the latest versions via subscription licensing. We have a state-of-the-art computer network that links all our offices, and our servers are constantly monitored by our in-house IT Department to ensure optimum performance.

Sustainable Design: CSA has a commitment and dedication to "Green" Building Design. We have LEED® Accredited Professionals, Envision® Sustainability Professionals and Certified Energy Managers (CEM) on staff. At CSA Group, we are committed to the development of projects that minimize their impact on the natural environment and provide the client with the most efficient, cost effective building possible. We believe integrated, sustainable or "green" design should be a standard, common sense practice for all design firms.

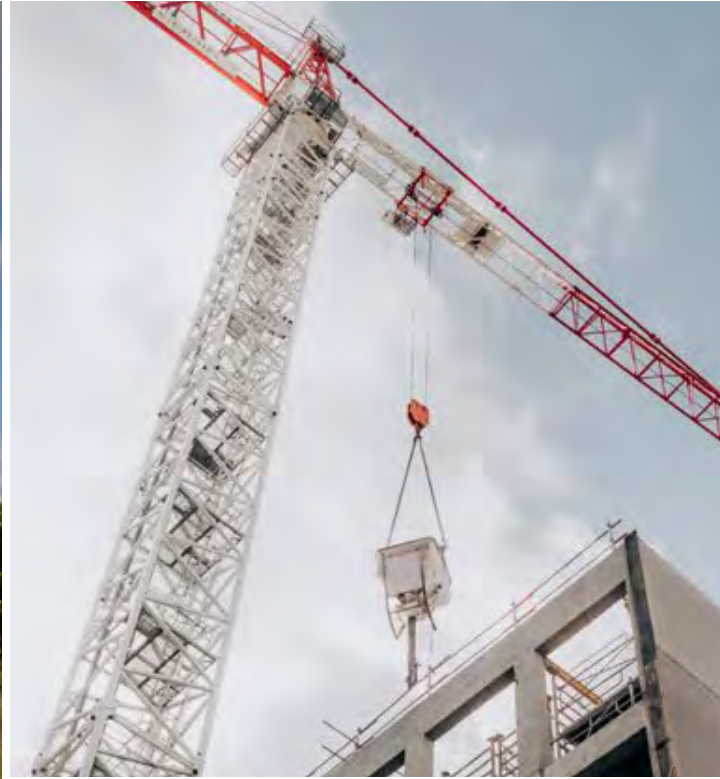


Environmental

CSA's Environmental Unit provides environmental and permitting services to public and private sector clients. Service areas include:

- Environmental Review and Impact Statements
- Natural Resource Assessment and Management
- Wetlands Permitting and Mitigation
- Threatened and Endangered Species Assessment & Consultations
- Marine Assessments
- Air Quality Permits
- Noise Evaluations and Mitigation
- Open Space Assessments
- Shadow Studies and Visual Impacts
- Water, Storm Water and Sewer Evaluations
- SWPPP, SPDES/NPDES
- Pollution Prevention
- Site Characterization
- Construction Impact Assessments and Environmental Monitoring
- Pre-construction and Construction Permitting (including Department of Buildings) and environmental compliance

Our Environmental Unit is formed by a highly experienced team of Professionals specializing in all areas of environmental science and engineering, environmental compliance, and project permitting and licensing. These biologists, ecologists, geologists, marine scientists, wetland specialists, environmental engineers, water resources specialists, air resource specialists, noise specialists and permitting specialists, among others, contribute to the strength of the Unit, which is further enhanced by CSA's geographic information systems (GIS) group and its vast database of geographic and environmental data.

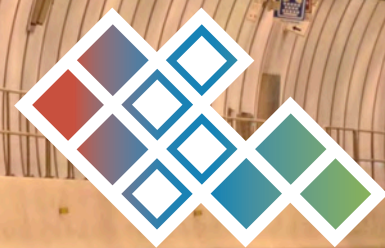


Emergency Management

CSA has the in-house professionals to successfully manage many aspects of disaster preparedness, response and recovery. For over 20 years, CSA has been actively involved in disaster response and recovery, including grant management and engineering services such as design, construction management and environmental compliance. CSA can assist municipalities in the following key areas:

- Program Management
- Grantee and Subgrantee Public Assistance Support
- Damage Assessments
- Debris Monitoring
- FEMA and CDBG-DR Compliance
- Resilient Design and Permitting
- Cost Estimating and Reasonableness Reviews
- Disaster Recovery Engineering
- Design and Permitting Management
- Procurement Support
- Outreach
- Project Formulation
- Grant Management
- GIS Spatial Analysis and Damage Estimates
- Environmental and NEPA Compliance

CSA participated as a key member of the overall Program Management team managing \$3 Billion of design, procurement and construction for the New York City Housing Authority (NYCHA) Sandy Recovery Program. This program was the first ever funded by the Stafford Act Section 428. Additionally, after Hurricanes Irma (Cat. 5) and Maria (Cat. 4), CSA provided consulting services to the Government of Puerto Rico, assisting directly over 20 government agencies in the Public Assistance process for Category A and B damages. CSA also provided support to FEMA and the Government of Puerto Rico in the first ever application of the Stafford Act Section 428 funding at a state level.



**PROJECT
EXPERIENCE**



PRASA CAPITAL IMPROVEMENT PROGRAM, PROGRAM MANAGEMENT
PUERTO RICO

The Puerto Rico Aqueduct and Sewer Authority (PRASA) Capital Improvements program (CIP) will invest approximately \$6 billion in recovery funds provided by FEMA, CDBG-DR, SRF, ARPA and PRASA over the course of 10 years. The program consist of managing the process of implementing an out-of-the-ordinary, aggressive and challenging CIP that emphasizes recovery from Hurricane María’s impact, complies with the Consent Decree and maximizes the useful life of its assets. CSA’s Joint Venture with WSP is assisting PRASA with program management, engineering design, design management land acquisition, environmental, geographic information system (GIS), construction management, and operations and maintenance support.



WSSC DEVELOPMENT SERVICES GROUP FIVE-YEAR CONTINUING SERVICES CONTRACT
MARYLAND

The Washington Suburban Sanitary Commission (WSSC) Basic Ordering Agreement provides staff augmentation, hydraulic modeling, plan review, plan quality assurance, training, development of internal business process and regulations, technical engineering expert resource services, reports and studies, and other development related consulting services for their Development Services Group. WSSC is one of the largest water/wastewater utilities in the United States. WSSC serves about 1.8 million people in an approximately 1,000-square-mile area. It owns and manages about 10,000 miles of water and sewer mains. CSA was retained as a subconsultant team member providing: H&H modeling, engineering, quality assurance, cost estimating, benefit/cost analysis, and schedule preparation services.



NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION SANDY TOC & BWT IDIQ
NEW YORK CITY, NY

The DEP is responsible for maintaining the operational capability of wastewater facilities located in the five boroughs of New York City. These facilities include but are not limited to wastewater treatment plants and wastewater pumping stations. CSA Group is providing MEP, structural, architectural design services and environmental services for this contract as a subconsultant to D&B Engineering and Greeley & Hansen.



SFWMD STRUCTURE S-151
WATER CONSERVATION AREA 3A, MIAMI, FL

The project is considered a core mission of SFWMD in maintaining the Central and Southern Florida Flood Control system. The project involved refurbishing, enhancing and/or adding components to allow the SFWMD to maintain the current level of flood protection and water supply through culvert replacements, telemetry enhancements, dredging activities, bank stabilization, building hardening, levee repairs and repowering existing pump stations. CSA provided full scale engineering design, environmental, construction management for high and low hazard embankments and levees, associated canal excavation/bank stabilization, stormwater pump stations, control structures, spillways, bridges, monitoring systems, communication towers, control systems and miscellaneous service buildings, among other.

HIGHWAYS PROJECTS



PRHTA EMERGENCY RESPONSE & RECOVERY (2017 HURRICANES IRMA AND MARÍA; 2019 FLOODINGS AND TS KAREN; 2020 EARTHQUAKES) PUERTO RICO

CSA is providing the critical assistance needed in post disaster highway recovery efforts like assessments, design, NEPA compliance, procurement of construction, coordination with regulatory agencies, and Right of Way related work. Our staff provide multidisciplinary engineering support including civil/highway, utilities, pavement, structures (bridge and culverts), Geotechnical, environmental scientists and archeology professionals to cover the many issues associated with disaster response and recovery.



FDOT DISTRICT 6, PORT OF MIAMI TUNNEL MIAMI, FL

This major infrastructure project included a .75 mile (1.1 km) long twin-tube highway tunnel for two 12-foot traffic lanes with curbs, walkways, ventilation fans and additional safety features that connect the MacArthur Causeway on Watson Island to the Port of Miami on Dodge Island in Miami. CSA was part of the PB Americas' Construction Engineering and Inspection (CEI) Team for the Florida Department of Transportation (FDOT) providing construction contract management and inspection services. CSA was also awarded a 30-year term contract for Operations and Maintenance of the tunnel.

HIGHWAYS PROJECTS



MIAMI-DADE EXPRESSWAY AUTHORITY, S.R. 874 KILLIAN PARKWAY INTERCHANGE IMPROVEMENTS MIAMI, FL

This project incorporated capacity and safety improvements to SR 874 mainline from 117th Avenue to Kendall Drive and the reconstruction of the Killian Interchange. The project was one of the first corridors to incorporate Open Road Tolling (ORT), which allowed for toll collection electronically using overhead gantries without having to stop at a toll plaza. CSA's scope of services included: geotechnical engineering, surveys, drainage, signage and pavement markings, signalization, lighting, utility coordination and relocation, landscaping, maintenance of traffic/traffic control, cost estimates, environmental permits, public involvement, noise abatement analysis, specifications and all necessary items for a complete design and construction support services.



PR-66 CONSTRUCTION INSPECTION AND DESIGN SERVICES CANÓVANAS, PUERTO RICO

PR-66 connects expressways PR-53 and PR-26 to create a non-stop trip from San Juan to the eastern part of the island. Phase I consisted of a section of four-lane controlled access, toll collection expressway. The project scope involved the asphalt roadway, shoulders and medians. CSA provided an inspection team to manage the revision of contract documents, specifications, and the selection and submittal of all laboratory tests samples for construction. CSA was responsible for the Phase II A/E design scope involving approximately five miles of PR-66. The expressway has four lanes with future expansion planned for six lanes. The toll plaza at the center of the project is a high-speed toll with four high-speed lanes and eight-coin change lanes. Due to the proximity of El Yunque National forest, the environmental aspects of the project were strict and meticulously observed.



**AMTRAK PENN STATION,
EAST RIVER, AND HUDSON
RIVER 26-MILE TUNNEL FIRE
PROTECTION**

NEW YORK & NEW JERSEY

Amtrak needed a custom fire protection system in their New York City Tunnels. This experience included the following MEP elements in the tunnels and mechanical rooms: fire standpipe, electrically actuated valves, power panels and wiring, low-voltage control wiring, compressed air system, deluge valves, fire alarm control system, and monitoring devices and annunciators. CSA Group conducted studies and research of state and national codes and standards, in coordination with NY and NJ fire departments, and examined existing systems throughout the world to define a basis of design.



**TREN URBANO CAROLINA
EXTENSION – TECHNICAL
CONSULTANCY**

CAROLINA, PUERTO RICO

The Puerto Rico Highway and Transportation Authority (PRHTA) began the process of constructing an extension of the Tren Urbano that would take the rail system to the Municipality of Carolina. As part of this process, CSA provided technical consultancy services including the following: analyzed, evaluated and made recommendations on contractor proposed O&M plans, policies, and procedures; monitoring tools developed for measuring contractor performance of approved plans, policies and procedures; assistance to the Department of Transportation & Public Works with contractor compliance of Federal Transit Administration requirements and soundness of services plans; and reviews and recommendations on contractor developed System Safety Plan, and Drug and Alcohol Program.



**NYCT & LIRR ENHANCED
STATION INITIATIVE DESIGN/
BUILD PACKAGES**

NEW YORK CITY, NY

The Enhanced Station Initiative, initiated by Governor Cuomo, included a new approach to rapidly redesign and renew dozens of existing subway and rail stations across the MTA system. It also included a number of technology initiatives to bring the system into the 21st century, including expanding Wi-Fi hotspots, accelerating mobile payments and ticketing to replace the MetroCard and providing USB ports in stations to allow customers to charge their mobile devices. CSA Group was contracted on the Design-Build team for mechanical, electrical, plumbing, and communications engineering disciplines.



PANAMA METRO LINE 2

PANAMA CITY, PANAMA

The first phase of the Panama Metro Line 2 involved a length of 21 km of elevated track with 16 stations in areas of the highest concentration of users including developments, shopping centers, entertainment venues, universities and hospitals. CSA performed a technical cadastral survey along the route and designed utility relocations between rail sections and stations including electric beam pipeline system design, telecommunications, potable and rainwater systems as well as providing commissioning services.

SEAPORTS PROJECTS



PAULSBORO MARINE TERMINAL

PAULSBORO, NJ

The South Jersey Port Corporation redeveloped the former 130-acre British Petroleum Oil Terminal and the adjacent 45-acre former Essex Industrial Chemicals properties into the Paulsboro Marine Terminal. CSA's scope of services for the project included architecture and MEP engineering for all the vertical buildings on the site, renovation of an existing main terminal administration building, and design of a new maintenance building for servicing the terminal transportation equipment.



PORT OF THE AMERICAS TRANSSHIPMENT PORT

PONCE, PUERTO RICO

This project is designed to provide deep world class draft port facilities for containment ships and for the transshipment of cargo containers for international and local markets. CSA prepared the Environmental Impact Statement (EIS) for the regulatory local agency, the Environmental Quality Board, and in coordination with the U.S. Army Corps of Engineers, the NEPA Environmental Impact Statement as well as the Site Consultation for the Puerto Rico Planning Board. CSA also prepared all documentation to procure permits for the dredging activities in Ponce Bay.

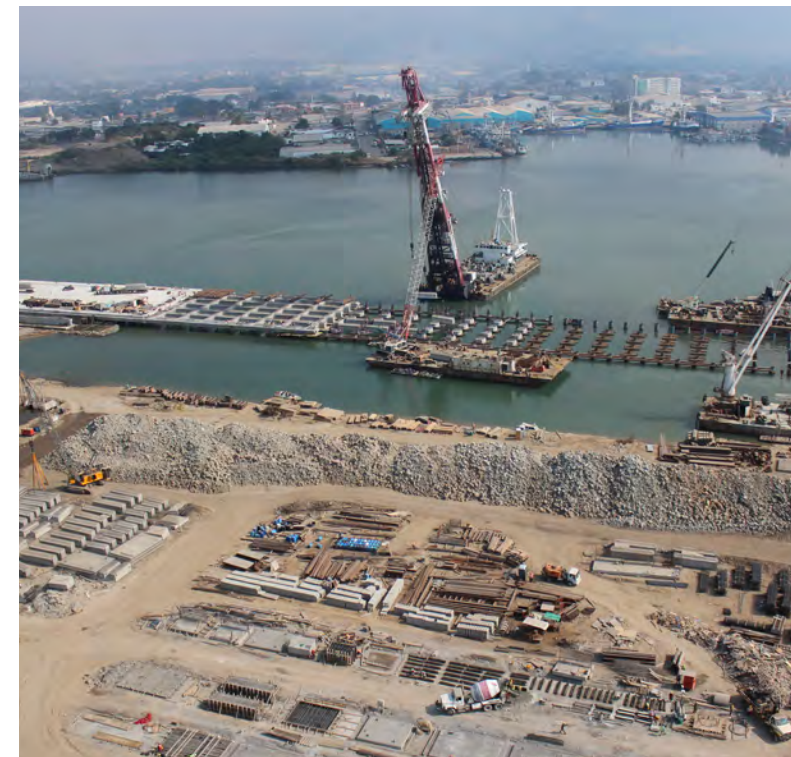
SEAPORTS PROJECTS



BAHÍA URBANA SAN JUAN WATERFRONT

SAN JUAN, PUERTO RICO

The Bahía Urbana project is a redevelopment of approximately 100 acres along the San Antonio Channel, to provide a pedestrian-friendly, mixed use waterfront area and create public access along the San Juan shore. A Master Plan was developed incorporating residential, commercial, hotel, park, and other dockage uses. Our scope of work was to perform comprehensive surveying work, assist in the environmental planning and permitting process, perform secondary studies related to the permitting process; and to provide civil engineering for the conceptual design of infrastructure requirements to support the master plan proposed along the San Antonio Channel.



PORT OF MANZANILLO

MEXICO

The Port of Manzanillo handles 90% of the containerized cargo that is moved on the Mexican Pacific. China Harbour Engineering Company (CHEC) was contracted to provide design and administration services for this project. CSA was contracted to provide administrative procedures and processes for contract documents, schedule, quality control, configuration, and health and safety compliance.



**NYPA TRANSMISSION
LIFE EXTENSION AND
MODERNIZATION
ENGINEERING SUPPORT**
NEW YORK STATE

Transmission Life Extension and Modernization (TLEM) is a multilayer program to upgrade the New York Power Authority's transmission system to maintain availability, increase reliability and ensure regulatory compliance. CSA Group is part of the team to provide technical support for TLEM, a four-year program. CSA provided electrical engineering for typical upgrades for 13.8kV and 480V station service equipment in accordance with NYPA design criteria and applicable standards and codes including the National Electric Code and National Electric Safety Code.



**EL GIRAL THERMOELECTRIC
PLANT**
BUENA VISTA, COLON, PANAMA

Térmica Del Caribe, S.A. is a company dedicated to thermoelectric energy generation through a 49.1MW thermoelectric plant. The plant needed to comply with environmental requirements and regulations. Initially, CSA prepared an Environmental Impact Statement (EIS) and subsequently provided all engineering and architecture designs, construction management and commissioning services.



**SANTA BARBARA SOLAR
PHOTOVOLTAIC 40 MW PARK**
CAROLINA, PUERTO RICO

Hanwha-Solar Monkey selected a site in Puerto Rico to build a 40MW Solar Park. The scope of work involved multiple environmental studies and the preparation of permitting requirements including: Pre-consultation, lead agency selection, and coordination of meetings for the project EIS; jurisdictional wetland determination study; hydrologic & hydraulic study; noise level study; access study; socioeconomic and environmental justice study; initial review of archeological Phase 1A and 1B, flora & fauna studies and draft EIS Document; siting application; participation on the siting public hearing; Certification and Notification of Adjacent Property Owners (after siting application is filed); USACE joint permit process and application; construction permits; operational permits; preparation of a technical report of the findings and recommendations; project execution plan/schedule; preparation of reports; and project coordination.



SANTA ISABEL WIND FARM
SANTA ISABEL, PUERTO RICO

The Santa Isabel Wind Farm Project was the first industrial scale wind farm to be built in Puerto Rico. The project installed up to 65 Wind Turbine Generators (WTG) and associated foundations, access roads, a power collection system, transmission line, electrical substation, switch yard, operations and maintenance buildings and meteorological towers. CSA was contracted to prepare environmental studies to determine locations with optimum wind conditions and minimal impact to the environment of surrounding areas. Some of the parameters evaluated were wind speed, temperature, and altitude, availability of land, access to the proposed properties, and accessibility for connection to the electric power grid. CSA also prepared an EIS as required by Puerto Rico Environmental Public Policy.

INDUSTRIAL PROJECTS



REDEVELOPMENT OF TWO BUILDINGS AT AN AEROSPACE MANUFACTURING PLANT SITE AT INDUSTRIAL PARK – ENVIRONMENTAL AND PERMITTING SERVICES

SANTA ISABEL, PUERTO RICO

An Aerospace manufacturing plant site needed to expand its operations and identified two existing adjacent buildings that would provide a combined expansion of approximately 95,600 SF. The Initial Phase of the Project consisted of the rehabilitation of a portion of 12,000 SF in one building to house administrative offices. The development of the remaining 83,600 SF consisted of the partial demolition and extension of the existing buildings and the construction of a new area between both buildings. CSA provided professional environmental consulting and permitting services for this redevelopment project.



PHARMACEUTICAL BIOTECHNOLOGY MANUFACTURING SITE NEW WATER WELLS AND THE SUPPORTING INFRASTRUCTURE - A/E DESIGN

JUNCOS, PUERTO RICO

This plant site needed 300,000 gallons per day (GPD) of water, as a supplemental source to the water supplied from PRASA, for its process operations. To address this need, the plant site proposed to design, drill, construct, and operate up to five new water wells at land adjacent to its facilities. Each of the new wells supplies a volume rate of 100,000 GPD. CSA provided civil and structural engineering, and architectural services for the Basis of Design / Conceptual Design phase of this project. Proposed services also included a geotechnical study, hydrologic and hydraulic studies, and permits review.



ADDITIONAL PARKING SPACES AT A MEDICAL DEVICES MANUFACTURING SITE

JUNCOS, PUERTO RICO

A Medical Devices company wanted to develop additional parking spaces at its manufacturing site. CSA evaluated the existing parking and site layout to determine the potential amount of new parking spaces that could be accommodated within the property limits, taking into consideration Puerto Rico Building Code, easement and rights-of-way from infrastructure agencies. The scope of work included: Site visit and reconnaissance of parking lots; analysis of up to two alternatives for additional parking spaces within the site; findings presented in a site evaluation report summarizing the outcome of the parking analysis.



NEW PROCESS BUILDING - A/E DESIGN SERVICES

PUERTO RICO

Project scope included the construction of a new 15,000 SF Pre-Engineered Metal Building (PEMB) to support research and administrative functions. The building housed a Processing Room, Laboratories, Cold Rooms, and future process areas with its mechanical, electrical and IT support areas, offices, restrooms, and a breakroom. CSA provided A/E design services including: applicable codes review; site visit to identify existing conditions; civil site engineering design; validation of proposed floor plan provided by the owner; architecture design; structural engineering design of a PEMB Structure; HVAC comfort design for the building; plumbing design for building sanitary, potable and stormwater drainage; electrical engineering design; and fire protection systems design.

HOUSING PROJECTS

NYCHA SANDY RESILIENCY & RENEWAL LONG TERM REPAIR PROGRAM

NEW YORK CITY, NY

CSA Group was contracted as a major subconsultant for the \$3B NYCHA Recovery and Resilience Department "Sandy Recovery Program" for Program Management Services including overall program management support, design oversight, procurement, construction management, community outreach, and grants management for PMO Funding group support with cost estimating, documentation, reporting and negotiation efforts for the 428 FEMA grant and HUD CDBG-DR funds. A restoration work plan was developed for the 34 public housing developments suffering from short- and long-term damage, affecting structures, mechanical and electrical systems, roofs and facades.



PASEO VERDE MIXED USE HOUSING DEVELOPMENT NATION'S FIRST LEED® PLATINUM FOR NEIGHBORHOOD DEVELOPMENT (AND HOMES)

PHILADELPHIA, PA

Paseo Verde is a transit oriented mixed-use development with 120 units of sustainable housing for low and moderate-income families, 30,000 SF of retail and community space, office space, and parking. CSA provided MEP engineering design and construction support services to WRT Architects for this project. Mechanical and electrical engineering systems included the preparation of an energy model to optimize gas, electric and domestic water usage for each apartment unit. This project serves as a model for sustainable redevelopment in neighborhoods throughout Philadelphia.



HOUSING PROJECTS

ALTURAS DE CUPEY, PUBLIC HOUSING MODERNIZATION

SAN JUAN, PUERTO RICO

This comprehensive modernization project included existing condition assessment surveys and recommendations for 250 apartments in 24 buildings with two different typologies: walk-ups (two and three stories) and row houses. CSA proceeded with the planning, A/E design and construction support services for the upgraded dwelling units. The scope of work also included improvements to ancillary buildings housing administrative offices, maintenance warehouse, auditorium, Puerto Rico Head Start State Collaboration Office, electronic library, covered basketball court, baseball field and playground areas.



HAITI SHELTER PROGRAM

HAITI

As a result of an earthquake in Haiti, millions were displaced from their homes throughout Port-Au-Prince. In an effort to provide shelter for displaced citizens in locations with employment opportunities, the USAID worked with the Government of Haiti to provide housing alternatives in the Port-au-Prince, St. Marc, and Cap-Haitian Development Corridors. In the Cap-Haitian corridor, CSA was contracted to provide A/E design and construction administration services for the development of plans for eight sites and approximately 3,000+ housing units.



COMMERCIAL PROJECTS



LINCOLN FINANCIAL FIELD (PHILADELPHIA EAGLES FOOTBALL STADIUM)

PHILADELPHIA, PA

Lincoln Financial Field, the Eagles football stadium was designed to seat 68,532 fans in a state-of-the-art facility incorporating the latest amenities and viewpoints to maximize the customers' entertainment experience. CSA's scope of work included structural engineering services for all concrete elements: the foundations, Service Level, and Main Concourse Level. In addition, we were responsible for the design of all CMU walls and their associated restraints and structural framing systems for attached roofs.



EMPIRE STATE BUILDING RENOVATIONS/UPGRADES/ FIT-OUTS

NEW YORK CITY, NY

CSA Group contributed to resolving the broadcasting urgency that disrupted all radio broadcasting, regular television and cellular calls within the New York Metro Area that occurred on September 11, 2001. CSA was the MEP engineer for the Channel 11 (WPIX) DTV and VHS Transmitter site at the World Trade Center. The situation impacted all major broadcasters in the industry's ability to get broadcasting up and running. The immediate response and proactive involvement of our project managers and engineers were critical in dealing with the negotiations and technical issues related to obtaining and distributing any available amperage to the Empire State Building.

COMMERCIAL PROJECTS



UNIVISION HD STUDIOS A & B DORAL, FL

CSA Group in association with Lemartec Engineering was responsible for A/E design services for two HD studios at the Univision Headquarters using the design-build project delivery method. The scope of work consisted of the development of approximately 1/2 of an acre footprint adjacent to the north side of the existing Univision Broadcasting Center. CSA Group's scope of services included schematic design, design development, construction documents and construction administration.



PUERTO RICO CONVENTION CENTER DISTRICT

SAN JUAN, PUERTO RICO

CSA was part of a multi-disciplinary team developing the new Puerto Rico Convention Center District. The convention facility and its anticipated ancillary hotels, restaurants, retail establishments, park system and commercial developments were constructed on approximately 113 acres of land. CSA provided a variety of management and technical services including: program management, master plan development, engineering infrastructure design, architectural development guidelines, park architectural & civil design, environmental site assessments, environmental impact statement and permits, asbestos and lead abatement, erosion and sediment control design, archaeological evaluation, equipment and facility reuse option analysis, construction supervision and contract administration services.

INSTITUTIONAL PROJECTS



FRC HOMEPORT UPGRADES PHASE II, ENGINEERING SUPPORT BUILDING SAN JUAN, PUERTO RICO

CSA was the prime A/E for Phase II of the Fast Response Cutter (FRC) Homeport upgrade project providing support facilities for new Coast Guard FRC. Project included: demolition; provision of temporary facilities; construction of a new Engineering Support Building and renovations to existing Building 101; site work including paving and provision of utility services for both temporary facilities and the new Engineering Support Building. A/E Services included: geotechnical investigation, utility survey, survey, abatement survey, civil, structural, architectural, mechanical, electrical, plumbing, and communications design and construction support services.



GOVERNMENT OFFICE BUILDING RENOVATION NEW YORK CITY, NY

CSA Group is the architect and engineer for this confidential government client involving the renovation of their 350,000 SF, 18-story headquarters office building. The renovation was driven by the implementation of New York Local Law 26/04 requiring installation of sprinklers in high rise office buildings and code related modifications to fire safety systems. Improvements to the facility also incorporated NYS Governor's Executive Order 88 (Sustainable Design), emerging technologies, programmatic needs, life safety matters, and the overall quality of the office environment as part of the new design.



CITY OF THE ARTS PANAMA CITY, PANAMA

The project "City of the Arts" provided for the development of 1.5 hectares, within a 12.7 hectares property, owned by the National Institute of Culture. The Institute operates the Anthropological Museum located in Llanos de Curundu, Panama City. CSA Panamá offered the following services: preparation of EIA Category II, hydrological and hydraulic study, structural engineering, MEP engineering, fire protection engineering, and security systems.



DMVA MIRAMAR READINESS CENTER MIRAMAR, FL

CSA was contracted as an A/E full-service firm for the Florida Army Reserve National Guard readiness center. The program was tailored to meet their unique requirements for combat readiness and local emergencies. CSA had to adhere to Department of Military and Veterans Affairs (DMV A) agency specific standards and requirements including minimum anti-terrorist standards for buildings, armories, logistical, aviation, training and construction design guidelines. The two-story building features a 40-foot high assembly hall designed to accommodate the entire battalion, storage spaces, platoon areas and offices.

EDUCATION PROJECTS



**SUNY STONY BROOK
UNIVERSITY WEST
APARTMENT BUILDINGS
J & K - ENVIRONMENTAL
SERVICES**

STONY BROOK, NY

Enrollment at SBU's Campus has grown consistently over the past five years. To help with accommodating the growth in enrollment and the need for more onsite student housing, SBU added two new dormitories to its existing West Apartment Complex. SBU enlisted CSA to prepare environmental reports required under New York State Environmental Quality Review (SEQR) for both projects. The scope of services includes the preparation of Environmental Assessment Forms (EAFs), (Long Form) including Parts 1, 2 & 3 on behalf of the University, as SEQR Lead Agency and in cooperation with DASNY as an Involved Agency.

EDUCATION PROJECTS



**RIVERGLADES ELEMENTARY
SCHOOL 24 CLASSROOM
ADDITION**

PARKLAND, FL

The project scope was for the integration of a modular two-story classroom building into an existing school campus. The 31,300 SF, two-story classroom facility provided 24 student classrooms, complete accessibility provided through passenger elevators and protected roofed canopy structures making the connection to the existing building assembly. CSA Group performed professional architectural, site adaptation and civil engineering services to include drainage, sanitary sewer and water distribution design. Additional services included parking lot and student bus drop off enhancements, signing and pavement makings, relocation of play courts, bidding, construction administration and warranty services.



**PRDE ARCHITECTURAL AND
ENGINEERING SERVICES**

PUERTO RICO

The Puerto Rico Department of Education (PRDE) is in the process of implementing a series of projects to repair, rebuild and reconstruct public schools' buildings that were severely damaged by hurricanes Irma and María in 2017 and the 2020 earthquakes. CSA is providing the PRDE full-service A/E modernization design, construction administration, and permitting at seven project locations. The focus will be on implementing hazard mitigation best practices to ensure the schools' resilience against natural disasters prevalent in Puerto Rico. Through the collaboration between PRDE and CSA, these schools will be transformed into safe and functional learning spaces. This modernization projects will not only address the immediate challenges but also contribute to the long-term sustainability and resilience of the school campuses.



**UPR MOLECULAR SCIENCES
& RESEARCH CENTER
BUILDING**

SAN JUAN, PUERTO RICO

The University of Puerto Rico (UPR) contracted CSA Group for A/E design and construction support services, contractor procurement support, construction oversight, and permitting services for the development of the sixth and seventh floors of the Molecular Sciences Building. The sixth floor includes a 17,220 SF laboratory and administration area, a vivarium, and administration spaces all within a 12,500 SF area. The lab features a Neuro Plasticity and Chemical Synthesis laboratory, as well as an office area for researchers and scientists.

HOSPITALITY PROJECTS



FONTAINEBLEAU NORTH TOWER NEW RESORT

MIAMI BEACH, FL

This project consisted of the demolition and reconstruction of the Fontainebleau North Tower and Parking Garage, the remodeling of the existing Chateau Tower and the redevelopment of the landscape and pool areas east of the existing buildings. CSA provided complete civil engineering design services for paving, grading, drainage, water and sewer. Services also included topographic and boundary survey services, permitting and construction inspections services.



WYNDHAM GRAND RIO MAR PARCELS R, L2, 5 AND 6

RÍO GRANDE, PUERTO RICO

Located along the coastline of Puerto Rico, the Wyndham Rio Mar development needed to comply with strict local, federal and client related environmental conservation policies and regulations. CSA assisted Wyndham Vacation Ownership with their due diligence, permitting and design processes for the development of 750 timeshare units.



ROYAL SONESTA HOTEL & CASINO PANAMA - CONSTRUCTION MANAGEMENT SERVICES

PANAMA CITY, PANAMA

This privately-owned 30-story building with 300 rooms, is equipped with a large HVAC system with digital controls, generators, elevators, CCTV, access control systems, UPS, and other various support systems. CSA was contracted for construction management support for construction completion; startup of all MEP systems; assurance that building equipment was up and running; and one year of maintenance support.



WYNDHAM GRAND RIO MAR - HOTEL RENOVATION AND TIMESHARE CONVERSION

RIO GRANDE, PUERTO RICO

This seven-story facility consists of 588 guest rooms, a large convention center, spa and outdoor facilities. Renovation of the property involved 400 guest rooms and common areas. The remaining 188 hotel rooms were converted to 132 timeshare units. The development needed to comply with strict local, federal and client related environmental conservation policies and regulations. CSA provided all required permits including the US Corps of Engineers exception, local pre-construction permits, agency endorsements and authorizations plus all related environmental studies. CSA also provided civil and MEP engineering design and construction support services and coordinated with the architect of record, landscapers, pool designers, lighting, structural, interior designers and geotechnical consultants.

AIRPORTS PROJECTS



PANYNJ LAGUARDIA AIRPORT TERMINAL B - CONSOLIDATED TENANT IMPROVEMENTS

QUEENS, NY

CSA Group was contracted for the La Guardia Airport Terminal B project for the Consolidated Tenant Improvements (CTI). The improvements are comprised of an A/E fit out of approximately 76,825 SF of airline operational space. The fit-out includes flight operations, airline employee spaces, quiet rooms, training stations, baggage service office, airline ticketing office, storage areas, locker rooms, breakrooms and other support functions. CSA's scope of services includes MEP and fire protection engineering systems design and construction support services, and special inspections for structural interior work.



PHILADELPHIA INTERNATIONAL AIRPORT CAPACITY ENHANCEMENT PROGRAM & ENGINEERING

PHILADELPHIA, PA

The Philadelphia International Airport (PHL) Capacity Enhancement Program is a collection of several projects scheduled over 13 years with a total cost of \$6.4 billion. CSA is a first-tier sub to the CEP Program Management JV, Global Program Partners, providing structural and civil engineering services as well as program quality management. As part of the program ramp-up, CSA also prepared structural design standard specifications.

AIRPORTS PROJECTS



LUIS MUÑOZ MARÍN INTERNATIONAL AIRPORT CAPACITY ENHANCEMENT PROGRAM

CAROLINA, PUERTO RICO

Aerostar Airport Holdings LLC (Aerostar) was awarded a 40-year lease by the Puerto Rico Ports Authority (PRPA) for the operation of the Luis Muñoz Marín International Airport (SJU) in San Juan, Puerto Rico. Aerostar executed a Capacity Enhancement Program (CEP) in the terminal areas as part of the Use Agreement between the signatory airlines at SJU and Aerostar. The estimated value of the CEP was approximately \$100M. The three phases included work in Terminals B, C and D, Concourses C and D, and Terminal A upgrades. CSA services included: architecture; MEP, civil and structural engineering, environmental studies and permitting.



PANAMA TOCUMEN AIRPORT PANAMA CITY, PANAMA

The expansion of Tocumen International Airport (T2) aimed to meet a demand of 20 million passengers annually. The new T2 interconnects with the existing Terminal (T1), forming a single airport complex with the ability to optimize operations, consolidate Panama as the Hub of the Americas, and strengthen the demand for new flight frequencies, new airlines and thousands of passengers who will enter the country daily and make connections through Panama. CSA was a consortium team member providing program management, construction management, technical assistance, design supervision, construction supervision, and cost control services.

This project received ENR's 7th Annual Global Best Projects Award in the Airport/Port category in 2019.

HEALTHCARE PROJECTS



KINGS COUNTY HOSPITAL CENTER BUILDING 'R' ENGINEERING

BROOKLYN, NY

CSA was the technology and MEP site steam engineer for a new 300,000 SF, King's County Building 'R' psychiatric facility. We designed multiple hardwired staff duress alarm systems for seven floors of the hospital. We also designed the site steam distribution tapping into the campus distribution system and feeding the new building, as well as several other buildings disconnected from the campus system due to phasing.



CLEVELAND CLINIC NEUROLOGY INSTITUTE & CANCER INSTITUTE - CIVIL ENGINEERING SUPPORT

WESTON, FL

CSA provided civil engineering support for the development of an overall Master Plan for the expansion of Cleveland Clinic Florida Weston Campus, including detailed civil engineering, site design, landscape architecture and environmental permitting services for the Neurology and Cancer Institute building. Engineering services included: schematic design, detailed design phase services, construction documents, and construction administration services as well as environmental permitting for the South Florida Water Management District, City of Weston and Broward County.

HEALTHCARE PROJECTS



CHILDREN'S HOSPITAL BUILDING – STRUCTURAL ANALYSIS

PANAMA CITY, PANAMA

After 61 years of operation, the Children's Hospital building was showing signs of deterioration. The Ministry of Health asked CSA for a comprehensive structural analysis with the cost-benefit of facility repairs and structural soundness of the structure. We performed non-destructive/ noninvasive tests and identified the building structural elements and systems. Our staff then conducted a structural engineering analysis of the gathered data and issued a final safety recommendations report for immediate actions.



VA HOSPITAL ELECTRICAL DISTRIBUTION SYSTEM UPGRADE

SAN JUAN, PUERTO RICO

The Veterans Affairs (VA) Hospital system contracted CSA to design an office/electrical utility building to be constructed on the VA Hospital grounds. The 9,400 SF new building is a reinforced concrete structure with masonry infill, consisting of three levels, one main level for office use and two electrical utilities levels. CSA provided A/E design services for the new office/utility building and the replacement of outdated electrical equipment, construction procurement and construction administration services, which included the construction phasing schedule and cost estimate. The design of the building and electrical facilities complied with Federal, VA standards and applicable building codes and regulations.

PUBLIC SAFETY PROJECTS



HURRICANE MARIA PROGRAM MANAGEMENT OFFICE

PUERTO RICO

The MARIA Program Management Office (PMO), supported by Consul-Tech Caribe, a CSA Group Company, and teaming partner Aptim provided comprehensive program management, disaster recovery strategic policy advice and federal grants management for the Government of Puerto Rico. The purpose of the Consul-Tech Caribe Team was to support the MARIA PMO with comprehensive emergency management and disaster recovery services designed to ensure that Puerto Rico optimized its reimbursement for disaster-related damages from all available federal sources.



NYC DDC "BUILD IT BACK" HURRICANE SANDY AFFECTED COMMUNITY RECOVERY CM/DESIGN/ BUILD

NEW YORK CITY, NY

New York City 'Build it Back' is the City's program to assist homeowners, landlords and tenants in the five boroughs whose primary homes were damaged by Hurricane Sandy. Through the repair, rebuilding, and elevation of homes, the 'Build It Back' program is working to enhance resiliency in our waterfront neighborhoods. CSA has been involved in this program in multiple capacities including: A/E design, permitting, project management, sprinkler designs, CEI and special inspections.

PUBLIC SAFETY PROJECTS



NYC OMB DISASTER RECOVERY PROGRAM MANAGEMENT SERVICES

NEW YORK CITY, NY

This contract was for Program Management consulting services in the aftermath of Hurricane Sandy for claims development and administration under Federal Disaster Programs for NYC agencies such as NYC DOT, DEP, DPR, FDNY, NYPs and DSNY. CSA was a sub-consultant providing A/E consulting services for damage inspections, condition assessments, recommendations, hazard mitigation studies, and hazard mitigation proposal preparation.



MIAMI-DADE COUNTY PUBLIC SCHOOLS DEBRIS MONITORING SERVICES

MIAMI, FL

CSA participated as a subcontractor in the Hurricane Irma Debris Removal Program for Miami-Dade County Public Schools. Debris monitoring and reporting included work in over 400 schools affected by Hurricane Irma. Over 50 debris monitors, five prime contractors, 240+ trucks certified and around 40,000+ cubic yards of debris removed.



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EST • 1956

info@csagroup.com

www.csagroup.com

