

CROM[®]

SERVICES



BUILDING AND RESTORING THE NATION'S INFRASTRUCTURE SINCE 1953

WHO IS CROM?

CROM is a specialty contractor focused on safely building, repairing, and restoring essential infrastructure. CROM's culture of performance is built on a foundation of Core Values to ensure we make good things happen for our clients. Our unique design/build team of engineers and project managers allows us to add un-paralleled value by addressing the root of the problem and providing a comprehensive and long-lasting solution, for even the most complex structures and systems. Our teams of certified and skilled technicians can inspect and assess infrastructure and are fully equipped with up to date trainings and cutting edge technology to provide quality repair and restorative solutions. Our specialties include: design and construction of prestressed concrete tanks, concrete removal and surface preparation, construction, durability inspections and assessments, infrastructure upgrades- safety and structural, high performance coatings, shotcrete, and structural repair while also offering Continuing Service Agreements for 24/7 restorative and emergency repairs.

CROM SAFETY CULTURE

We are dedicated to providing a comprehensive safe working environment. Our "safety first" approach requires a commitment to: professional training, certifications, utilization of proper personal equipment (PPE) for our team members and optimal testing and quality assurance of materials, tools, and equipment. In addition to this effort, our team members pledge to put safety first and create a safe environment for themselves and others. CROM aspires to outperform safety expectations and industry standards.

COMMITMENT TO

SAFETY

The well-being of our team and our clients is of utmost importance to us at CROM. Our dedicated Health, Safety, and Environmental (HSE) Department works diligently to anticipate and recognize hazards and behaviors that could be harmful, and proactively prevent accidents from happening. Our team is trained to assess hazards, prevent injuries and honor our culture of SAFETY FIRST. We have been recognized for our attention to safety protocols, practices and forward thinking to bring our team members home safe.

QUALITY

Every client and project deserves our best. We diligently work to continue this 67+ year tradition of excellence by leveraging our experience and quality outcomes. Construction of prestressed concrete tanks, custom fabrications, and infrastructure restorations all have unique challenges. CROM ensures that our team will design, construct, and rehabilitate to the highest quality standards.

PERFORMANCE

CROM has a performance driven culture. Our goal is for each part of our company to operate efficiently and achieve more together. This collaborative effort shows through in every aspect of our work as we strive to exceed expectations. Specialized training, combined with innovative equipment and disciplined safety practices, allow us to build long-term performance into everything we do.



"You guys are the best contractors I've ever worked with and wanted to show my appreciation"

- John P.

Management/Safety on MTMUS site

CONCRETE REMOVAL & SURFACE PREPARATION

CONCRETE REMOVAL

Certified specialists remove unsound concrete using a multitude of methods such as chipping, saw cutting, mechanical shearing, vapor blasting and/or hydrodemolition (UHP water jetting). Concrete removal and demolition are also used to achieve desired changes in the configuration of your essential infrastructure.



40K ULTRA-HIGH PRESSURE (UHP) WATER JETTING

The process of utilizing water pumps to intensify water pressure to ultra-high pressure (UHP water jetting) to clear a surface of hard deposits, grime, residues, and previous coating systems. Water jetting is used for surface preparation. Most concrete structures are coated with a high impact specialty coating that preserves the substrate. In time, these coatings will reach the end of their service life and need to be refinished. The force generated by UHP water jetting exceeds the bonding capability of hard deposits, coatings and/or wastewater contamination allowing for the application of a new coating system.



VAPOR BLASTING/BRUSH BLASTING/SAND BLASTING

Proper surface preparation prior to a new coating application is necessary for proper adhesion. Brush-blast cleaning, abrasive blasting by vapor, sand blasting (with strict wet protocols) are effective solutions to achieve the required surface profile. Corrosion to water and wastewater pipes is common and unsightly. Blasting the impurities, rust, and flaking layers of paint material off the pipes is necessary to properly prepare the surface for resurfacing and/or painting. Trained technicians are often times able to reverse the effects and extend the service life.



PRESSURE WASHING

Pressure washing is the least aggressive cleaning method. At correct pressure (often 5000 psi), technicians are able to remove oil, grease, or other contaminants with minimal to no damage to the substrate.

DURABILITY INSPECTIONS & ASSESSMENTS

DIVE/WET INSPECTIONS

Dive inspections are conducted by a licensed commercial diver. These divers perform a thorough inspection of the tank without taking it out of service for an extended period of time. The diver uses surface supplied air as required by OSHA and AWWA standards. The inspection is monitored with a close circuit television system and on-site technical observation.



DRY INSPECTIONS

Dry inspections include a visual inspection and evaluation of the exterior and interior of a drained tank. A complete report, including a photographic record of the inspection, is provided. This report includes recommendations for improvements or repair based on technical review of the inspection findings and is signed and sealed by one of CROM's professional engineers.



DISINFECTION

All storage facilities taken out of service for inspection, repair, painting, cleaning, or other activity that might lead to contamination of water shall be disinfected before they are returned to service. CROM follows standard disinfection methods as defined by AWWA C652 Chlorination Method 2 (Spray) and Chlorination Method 3 (Fill-Fill).



CLEANING & WASHOUTS

CROM provides tank cleanings that include interior washouts and/or exterior pressure washing in accordance with AWWA requirements. Tank cleanings can be performed on a full tank with the assistance of a diver and vacuum.





SHOTCRETE

WET-MIX SHOTCRETE

Wet-mix shotcrete traditionally is designed to reach a design strength of 4000 psi while regularly reaching 28-day break strengths up to 6000 psi. Best suited for higher volume production shotcrete operations where pre-batched materials are delivered to the site in ready-mix trucks. This type of production is generally used in new construction projects.



DRY-MIX SHOTCRETE

Pre-bagged mixes have cement and aggregate materials pre-portioned. The bag mix and water are introduced at the nozzle tip to project the material at high velocity to the desired location. These pre-bagged mixes are designed to achieve 6000-7000 psi compressive strength. We find gunite is better suited for tight areas with limited access. In addition, for structures that need a higher degree of detail, gunite offers the ability to start and stop without having to worry about the material setting up in the supply lines or availability of concrete by the ready-mix supplier.

ARCHITECTURAL SHOTCRETE

Shotcrete enhances ability to create beautiful structures without the need of costly forms. CROM's design/build approach with in-house engineering and custom built equipment allows us to offer unparalleled value for unique projects.



INFRASTRUCTURE UPGRADES

BAFFLES/CURTAINS

Baffles used to increase retention time are often constructed using:

- Geomembrane Curtains constructed in linear or curvilinear patterns
- Closed Cell Concrete Masonry (CMU) with steel reinforcing constructed in linear patterns
- Shotcrete with steel reinforcing constructed in linear or curvilinear patterns



STRUCTURAL UPGRADES

CROM offers design/build solutions utilizing our in-house structural engineers, custom built equipment, and certified technicians to develop and implement the required changes to your structure. Some of the structural upgrades that CROM can assist you with are:

- Manway Additions
- Wall Sleeve & Pipe Additions (in unbanded and banded areas)
- Underfloor Piping Additions
- Carbon Fiber (CFRP) Retrofits and Strengthening

SAFETY UPGRADES

Upgrades are completed safely and with strict adherence to applicable standards. CROM is equipped with the custom built equipment, in-house engineering capabilities, and certified technicians to meet your needs, including:

- Handrail Systems
- Fall Protection Systems
- Safety Climbing Devices
- Ladder Security Gates
- Ladder Safety Cages



STRUCTURAL REPAIR

CONCRETE REPAIR

Reinforced concrete structures that are well designed and properly constructed prove to be highly durable. However, aggressive environments and severe conditions can pose a threat to the integrity of the concrete, leading to degradation. Exposed reinforcing steel can degrade the integrity of the concrete structure. Solutions often include hand-placed or wet/dry-mix shotcrete for horizontal and vertical overhead repairs and high performance coatings.

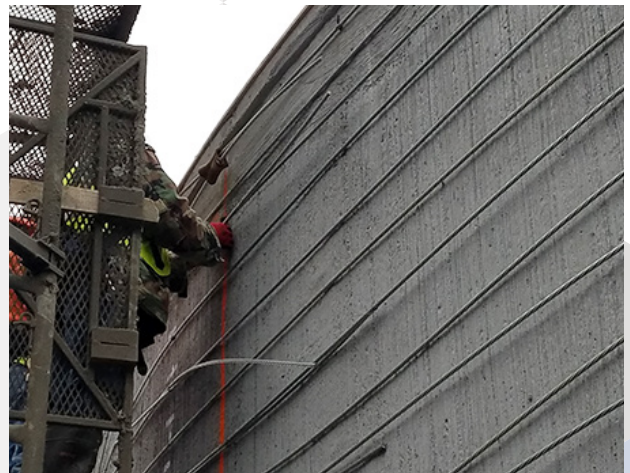


RESURFACING

Structures where coatings have deteriorated, failed, or the appearance needs an update, are perfect candidates for resurfacing. Resurfacing requires removal of previous coating systems. CROM's certified technicians provide installation of high performance coating systems ranging from water-based acrylic paint to complex epoxy-based heavy industrial coating systems.

POST TENSIONING

CROM's unique design/build team of engineers and project managers are available to inspect infrastructure for service-life and durability issues related to loss of compression and make recommendations for repair. CROM's TEAM is highly trained and experienced to design and implement post tensioning solutions.



FIBER REINFORCEMENT

When reinforcing loss occurs due to corrosion, structural damage or compensation for loading requirements or conventionally cast-in-place concrete modifications, fiber reinforcement is an efficient and affordable solution. CROM's in-house engineers and certified technicians are trained and approved by system manufacturers for the proper installation of Carbon Fiber Reinforced Polymer (CFRP) and Fiber Reinforced Polymer (FRP) strengthening systems in a wide array of applications including compensation of damaged prestressed wires.

STRUCTURAL REPAIR

EPOXY CRACK INJECTION

Cast in place structures over time may develop cracks that need to be addressed to ensure longevity of the structure. CROM is qualified to provide methods of structural crack and injections using high pressure mechanical devices.



POLYURETHANE CRACK INJECTION

Concrete structures that are intended to retain water, over time can develop leaks. CROM can assess and inspect the source of the leak and properly perform repair by injecting hydrophilic polyurethane resin.



JOINT REPAIR

Joint sealants play a crucial part in keeping a concrete structure air and watertight. This can be the difference in the durability of the installation. By installing the correct sealant systems properly serious damage can be prevented. Our in-house engineers and certified technicians offer construction systems, waterproofing, linings, and expansion joint replacement.



BRIDGE REPAIR

Many bridges suffer from concrete corrosion due to freeze thaw damage, exposure to saltwater, or lack of routine maintenance. CROM's structural concrete repairs, shotcrete and concrete restoration, and industrial coatings system applications can rehabilitate these structures to extend their life and continued service.

HIGH PERFORMANCE COATINGS

WATERPROOFING

Prevention of water ingress and egress is a priority for most structures. CROM is experienced in the selection and application of quality coatings systems for waterproofing. Structurally engineered injection solutions, liquid membranes, torch-down membranes, adhesive applied sheeting, plural component elastomers or a combination thereof can be installed to ensure optimum coverage and protection.



LOGOS, MURALS & ARCHITECTURAL TREATMENTS

Make a statement with a landmark logo or mural or choose a more subtle appeal with a style that blends in with your surroundings. Whatever your choice, your look can be designed to complement any scenscape and can be both highly attractive and adaptable to your environment and your community.

ABOVE GROUND PIPING GALLERIES

Above ground piping galleries are subject to rusting and deterioration due to exposure to environmental elements. With CROM's experience and highly trained technicians, we can remediate corrosion and re-coat these areas with long lasting high performance protective coatings.



STRUCTURAL COATINGS

Full removal of previous failed systems as well as applications of acrylic and hybrid elastomeric systems can be applied to prevent moisture intrusion to provide long lasting protection of your high value assets.



HIGH PERFORMANCE COATINGS

HIGH PERFORMANCE SUBMERGED COATINGS

Application of high performance submerged coatings, utilizing the latest technologies, provides protection from biological attack/hydrogen sulfide induced corrosion on both steel and concrete substrates. Top brands are utilized such as Themec, Sherwin Williams, Carboline, and Mainstay.

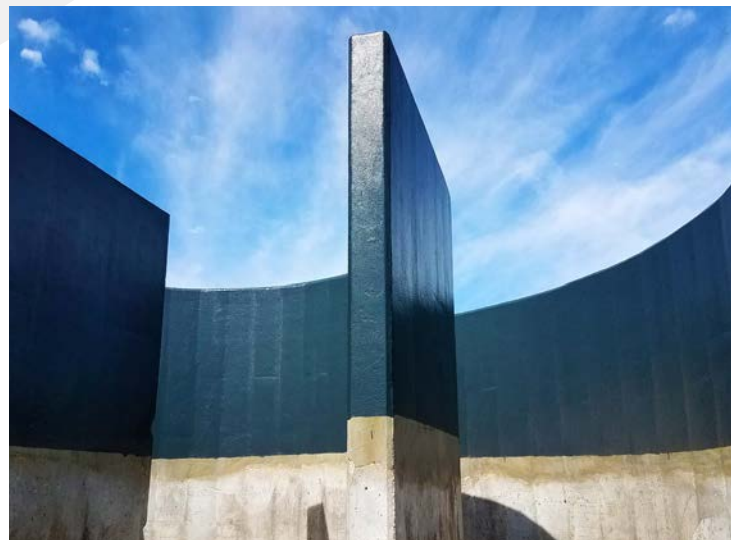


FLOORING

CROM can apply highly specialized fiberglass matte lay-up chemical resistant coatings as well as decorative double broadcast, quartz, or flake epoxy and urethane systems.

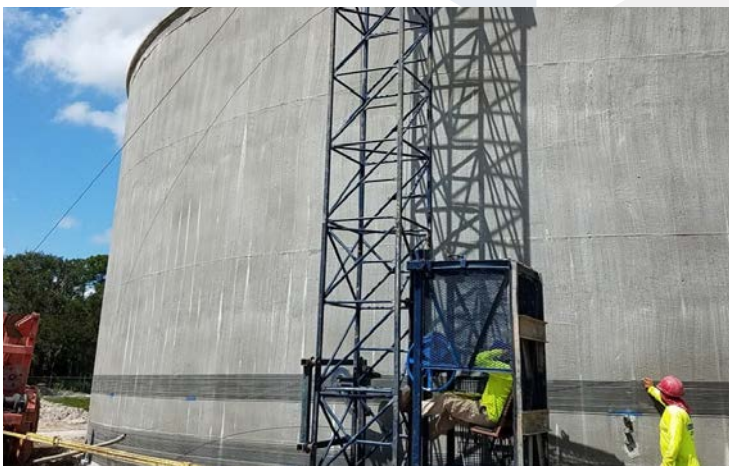
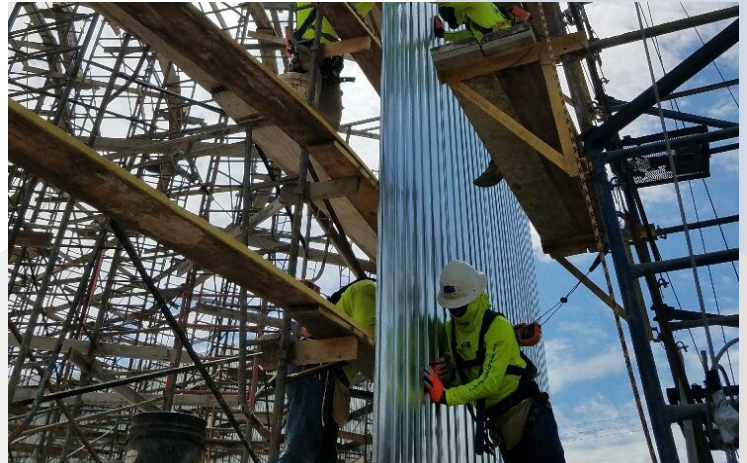
INDUSTRIAL COATINGS

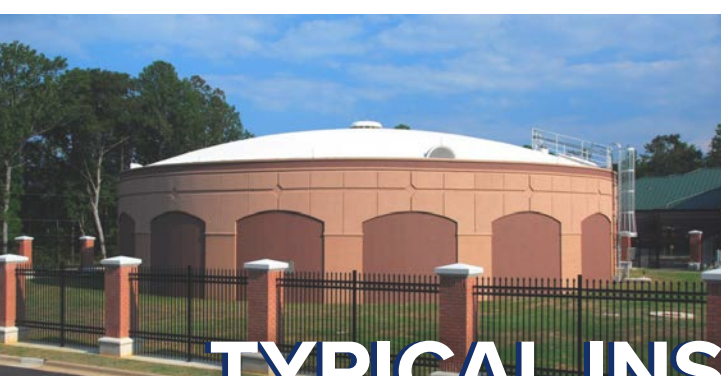
Abrasive blasting and subsequent coatings application is one of the most cost effective methods of combating corrosion, chemical attack, and erosion to steel or concrete surfaces. CROM's Technicians and NACE Certified Inspectors are highly skilled and equipped to install and inspect high quality protective coating systems for your industrial structures.



PRESTRESSED CONCRETE TANKS

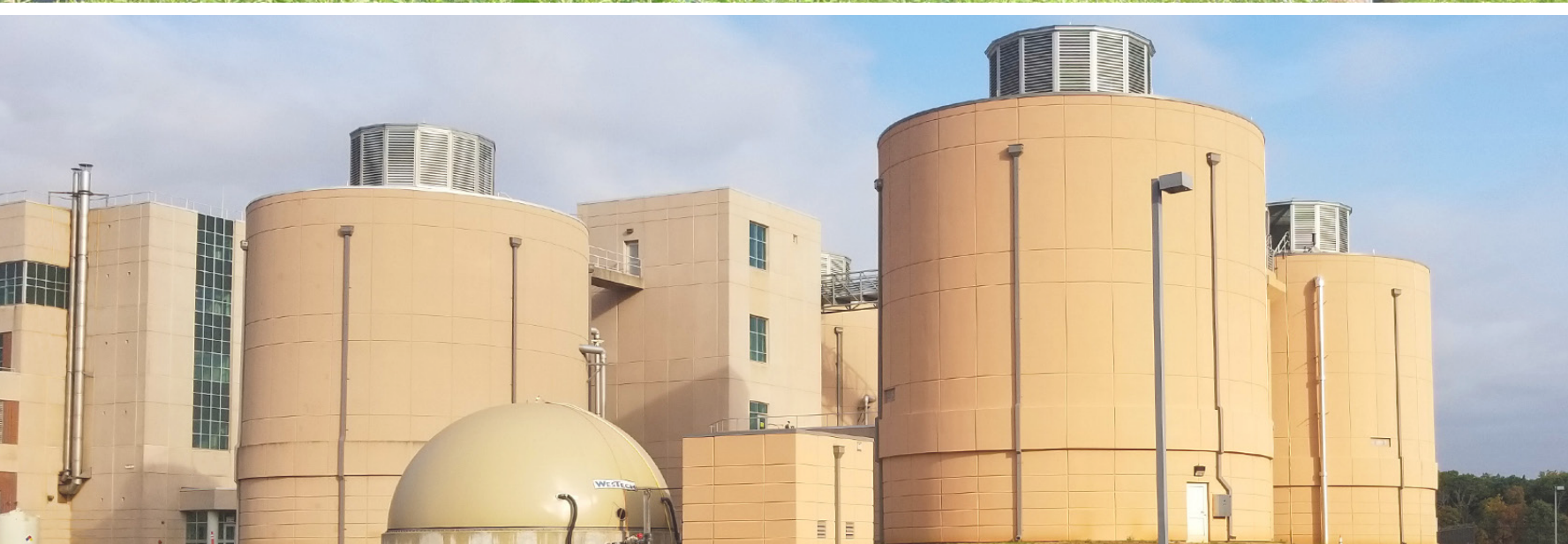
CROM provides a complete tank construction service. We prefer no division of responsibility with respect to the tank structure. Our forces construct the wall footings, floor slab, circular wall, dome roof, and other such appointments as required. By eliminating the division of responsibility, the consulting engineer and owner can proceed with confidence that the tank will be built by PCT experts that guarantee product performance.





TYPICAL INSTALLATIONS

WATER STORAGE TANKS, WASTEWATER STORAGE TANKS, THERMAL ENERGY STORAGE



SPECIALTY FABRICATIONS

CROM designs and fabricates railings, ladders, gates, hatch covers, manways, wall pipes, aluminum stairs (free standing or attached), platforms, and safety accessories at our 25-acre Project Services Facility. For decades, our in-house engineering and skilled fabricators have been creating high quality custom solutions to meet our client's needs. Our fabrication team offers specialty fabrications in the following materials: aluminum, stainless steel, carbon steel, fiberglass, precast concrete, and lumber. We also provide OSHA compliant safety modifications fabricated specifically to custom fit your existing infrastructure. A few of our notable achievements include a 70' tall switch back aluminum staircase, custom access ways and piping, and equipment for construction of prestressed concrete tanks.



CONTINUING SERVICES AGREEMENT

CROM Coatings and Restorations (CCR) brings the experience, quality, and reliability of CROM's 65+ years of design and construction excellence to the restoration of aging infrastructure. CCR specializes in wet/dry inspections, high performance coatings, shotcrete/concrete structural repairs, crack repair with structural epoxy or polyurethane grout injection, external post tensioning, safety modifications, retrofitting, and carbon-fiber reinforcing solutions. CCR is equipped and able to respond to emergencies within 24 to 48 hours of receiving notice.

Many proactive owners demand protection, security, and responsiveness for their infrastructure which CCR delivers through Continuing Services Agreements.



5 YEAR - LEVEL 2 INSPECTIONS - For the most comprehensive protection

- Foundation
- Exterior Roof
- Floor
- Interior Wall
- Interior Roof
- Aerator
- Roof Center Vent
- Roof Safety Handrail
- Roof Access Hatch
- Roof Probe
- Emergency Overflow Openings
- Liquid Level Indicator
- Exterior Ladder
- Wall Manhole
- Interior Piping
- Interior Ladder

ANNUAL - LEVEL 1 INSPECTIONS - Complying with local, state, and federal regulations

- Location and address of tank
- Type and capacity of tank
- Site Security
- General overall condition of exterior wall and roof
- Check all locks: ladder, hatch
- Check condition of all screened openings
- Date of inspection and name of inspector
- Photographic documentation of key items

REPAIR AND RESTORATION SERVICES

- Routine preventative maintenance
- Removal of biogrowth
- Removal of sludge
- Inspections
- Reports
- Corrective maintenance

STRUCTURE CLEANING AND DISINFECTIONS IN ACCORDANCE WITH AWWA C652

CONCRETE REHABILITATION & RESTORATION

HEADWORKS

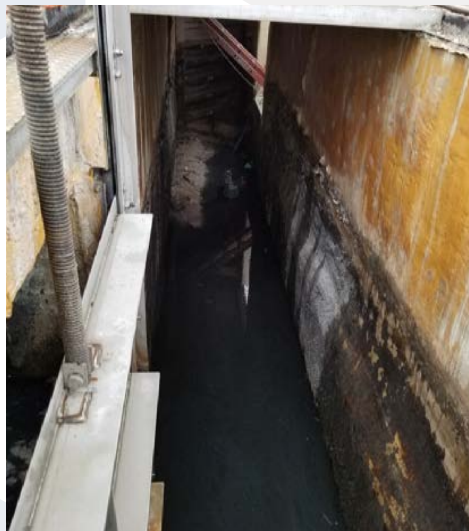
DETAILS:

- Custom fiberglass gates
- Hydroblasting of all interior surfaces
- Replacement of compromised reinforcing steel
- Crack repair
- Resurfacing
- Custom high performance coatings system
- Rehabilitation of gate connection points to effluent boxes
- Removal and rehabilitation of weir gates

EFFLUENT CHAMBER



CHANNELS



GATE





CROM[®]

PRESTRESSED
CONCRETE TANKS | COATINGS AND
RESTORATIONS

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