National Water Commission

JAMAICA'S WATER RESET

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BUILDING A WATER NETWORK FOR THE ISLAND JAMAICA IS BECOMING

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Along sections of western Jamaica, the future of the island's water supply is being built beneath roads that thousands of people use every day. Excavators, traffic diversions and sections of exposed pipeline have become temporary features of the landscape as the National Water Commission advances the Western Water Resilience Improvement Project, one of the most ambitious water infrastructure programmes currently under development in the Caribbean. For motorists and businesses caught in the construction, the immediate experience is understandably one of disruption. For the NWC, however, what is taking place beneath the road represents something much larger: an attempt to strengthen the infrastructure serving one of Jamaica's most economically important regions and give the network more room to respond when conditions are at their most difficult.

The scale of that challenge is growing. Jamaica's population centres continue to develop, tourism remains one of the country's most important economic engines, and new residential, commercial and institutional developments place further demand on systems that in some cases have been operating for decades. At the same time, the climate is becoming a more demanding engineering partner. Drought lowers reservoir levels and reduces river flows, while intense rainfall can increase turbidity to the point where treatment itself becomes difficult. Hurricanes bring a different combination of threats, damaging pipelines and intakes, disrupting

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electricity and restricting access to facilities just when communities need reliable water most.

This is the environment in which Acting President Kevin Kerr and the National Water Commission are now working. The projects being advanced across Jamaica range from major new treatment capacity and transmission pipelines to wastewater upgrades, reservoir studies, emergency power and rehabilitation of ageing infrastructure. Individually, they solve different problems. Seen together, they reveal something more significant: Jamaica is beginning to redesign its water system around resilience rather than simply responding to failure after it happens.

Water Infrastructure and the Economy Above It

Water networks rarely receive the same public attention as airports, highways, ports or railways. Their greatest achievement is usually that people do not have to think about them. When the infrastructure works, a hotel opens for breakfast, a hospital begins another shift, a restaurant prepares for service, a school fills its classrooms and a family turns on the kitchen tap without considering the treatment plants, pumps, reservoirs and transmission mains that made the moment possible.

That invisibility can obscure how much of Jamaica's economy ultimately depends on water. Montego Bay and Negril sit at the centre of a tourism sector whose growth places substantial demands on treatment and distribution infrastructure. Kingston remains the country's administrative and commercial centre, while Spanish Town and Portmore continue to develop as major population and economic corridors. Housing construction, hospitality, healthcare, manufacturing and commercial development all increase demand, and the infrastructure beneath those activities has to grow with them if the expansion above ground is to remain sustainable.

The NWC's current capital programme is therefore best understood not simply as a utility investment plan, but as enabling infrastructure for Jamaica's wider development. Among

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the major programmes identified by Kerr are the Western Water Resilience Improvement Project, the Rio Cobre Water Treatment Plant, Ferry-to-Rock Pond improvements, the Greater Mandeville programme and the water and sewerage works extending through parts of Kingston and St Andrew. The common objective is to reduce interruptions, strengthen reliability and build capacity for the levels of demand Jamaica expects to face in the years ahead.

That requires more than producing additional water. It requires ensuring that water can still move when an individual component of the system is compromised. In many respects, this is becoming the defining idea behind the NWC programme: resilience is not one project or one item of equipment. It is the relationship between sources, treatment plants, transmission networks, storage, power supply and the operational ability to move water differently when circumstances change.

Rebuilding the Western Water Spine

The Western Water Resilience Improvement Project provides perhaps the clearest expression of that philosophy. Expected to exceed US$450 million across four phases, the programme is designed to strengthen supply across a corridor running through some of western Jamaica's most important communities and tourism centres. Phase One, valued at approximately US$176 million, includes replacement of the transmission main between the Martha Brae Water Treatment Plant and Montego Bay's Terminal Reservoir, together with the extension of transmission infrastructure from Lucea towards Negril. VINCI Construction Grands Projets is undertaking the works.

On an engineering drawing, the project can easily be reduced to pipe diameters, routes, treatment capacities and contract values. On the ground, its purpose is more direct. Communities across western Jamaica have long experienced periods when supply has been inconsistent, and Kerr has publicly acknowledged those frustrations, saying the Commission had listened to complaints from customers who had been without water and was now implementing improvements it had promised.

Later phases reveal the scale of the intended transformation. Martha Brae is planned to increase from approximately 11 million gallons per day to around 20 million gallons, while Great River is expected to rise from about 15 million to 20 million gallons per day. The Great River intake is also expected to be reconstructed and improved, an important intervention in a system where intense rainfall can increase turbidity and make raw water considerably more difficult to treat. Further west, a new treatment facility is planned at Roaring River in Westmoreland, while a later phase envisages a 10-million-gallon-per-day water treatment plant at Rio Bueno on the Trelawny–St Ann border.

The importance of these projects lies in the way they begin to work together. Greater capacity at one plant can relieve pressure elsewhere. A new source can reduce reliance on an existing one. Stronger transmission infrastructure gives operators greater flexibility in moving water across the network. Improved treatment capability provides more room to continue producing when raw-water conditions deteriorate. The result, if the system develops as intended, is not simply more water but a network that is less dependent on any single point continuing to perform perfectly.

That matters particularly in western Jamaica, where tourism infrastructure and local

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communities share the same underlying resource. A hotel development may appear entirely separate from a household in Hopewell, Sandy Bay or Negril, but both ultimately depend on sufficient water being produced, treated and moved through the region. Investment in the western network therefore carries both a social and an economic consequence: reliability for residents is also reliability for one of Jamaica's principal economic corridors.

Rio Cobre and the Value of Additional Capacity

While the western programme is largely about strengthening a regional network, the Rio Cobre Water Treatment Plant addresses another fundamental issue: the amount of water available to the Kingston–St Catherine urban system.

The new plant is being developed to produce approximately 15 million gallons per day and is expected to begin supplying the network in May 2027. More than 600,000 people across Kingston and St Catherine are expected to benefit, including communities in Spanish Town, Portmore and the wider metropolitan area. The project is being delivered through a public-private partnership structure and represents one of the most significant additions to Jamaica's potable-water production capacity in recent years.

Its importance becomes clearer when considered against previous drought conditions. Jamaica has experienced periods during which the Kingston, St Andrew, Portmore and Spanish Town system has faced substantial supply deficits. An additional 15 million gallons per day does not remove the challenge of drought, but it changes the margin available to the utility when rainfall declines, consumption rises or another source is temporarily constrained.

That margin is central to resilience. A network operating close to its production limit has little room for unexpected demand, maintenance or severe weather. Additional capacity gives NWC the ability to respond without every disruption immediately becoming a shortage. It also creates infrastructure headroom for development. New housing, commercial activity and population growth can only continue for so long before underlying utilities have to expand as well.

Rio Cobre has been discussed for many years, with the project concept dating back well before the current construction phase. Its progress therefore says something about the long time horizons involved in water infrastructure. The need can become visible years before the financing, procurement, environmental approvals, technical design and construction arrangements finally align. By the time a plant produces its first gallon, the infrastructure is often answering a question the country began asking a decade earlier.

Designing for the Next Storm

If drought exposes a shortage of water, hurricanes expose the vulnerability of the entire system around it.

Hurricane Melissa provided NWC with a severe test when it affected Jamaica in October 2025. The storm disrupted water infrastructure across the country, with western parishes among the areas facing significant challenges. By May 2026, NWC reported that more than 98 per cent of affected customers had been reconnected, a recovery that required far more than restarting individual treatment facilities.

Modern water systems depend on several forms of infrastructure operating together. Treatment plants and pumping stations require electricity. Generators need fuel. Crews require road access. Intakes can be affected by sediment and debris. Damaged pipelines must be identified and repaired before systems can be repressurised, and water quality must be confirmed before supply can safely return. A hurricane therefore does not simply damage water infrastructure; it attacks the relationships between the components that allow water to move from source to customer.

Ahead of Melissa, NWC had increased operational readiness by engaging standby generator providers, preparing water trucks and heavy equipment, raising storage levels where possible and coordinating with agencies including Jamaica Public Service, the National Works Agency and municipal authorities. Vulnerable pipeline sections were assessed and, in some cases, protected or removed where exposure to flooding or landslides presented an

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unacceptable risk. Kerr later pointed specifically to backup power, stronger infrastructure and emergency planning as investments that had made a difference during restoration.

The larger lesson is one increasingly recognised across infrastructure sectors: resilience cannot simply be added after construction. It has to form part of the design philosophy. For NWC, that can mean additional sources, stronger intakes, alternative transmission routes, greater storage, standby generation and treatment processes capable of operating through more challenging raw-water conditions. The exact solution changes from site to site, but the objective remains consistent. When one part of the network is unavailable, the system should have another way to keep functioning.

Rebuilding Beneath a Living City

The work taking place in Kingston and St Andrew presents a different engineering challenge. Here, the problem is not only the condition of the infrastructure below ground but the intensity of the city operating above it.

The Munroe Road–Wellington Drive programme, valued at approximately J$1.24 billion, includes upgrades to potable-water and sewerage infrastructure across heavily travelled parts of the Corporate Area. **Bacchus Engineering Works Limited is carrying out the works under the NWC**

contract, which covers sections of Old Hope Road, Retreat and Seymour Avenues as part of the wider programme. The Jamaican contractor brings capabilities spanning civil engineering, pipe laying, mechanical and electrical works to an assignment where underground utility construction must be managed alongside the daily movement of the city.

Urban infrastructure renewal inevitably creates conflict between long-term benefit and short-term inconvenience. Roads have to be opened, lanes reduced and construction equipment positioned in areas where commuters, businesses, schools and residents continue to move. Public concern over traffic disruption led to adjustments in the programme, with more work shifting to night-time operations and Sundays in an effort to keep construction moving while reducing pressure during the busiest parts of the day.

The project also demonstrates why water infrastructure cannot be judged solely by the number of households connected. Among the works is a dedicated connection intended to strengthen water supply between Mona, Up Park Camp and Kingston Public Hospital. In normal conditions, such a pipeline may attract little attention. During an emergency, however, water supply to healthcare and other critical national facilities quickly becomes an issue of national resilience.

Once the streets have been reinstated, much of this investment will disappear from view. That is generally the objective. Unlike a landmark bridge or terminal, the most successful buried infrastructure eventually becomes part of the background again, judged not by how often people notice it but by how rarely they have a reason to.

Engineering for Drought and Heavy Rain

One of the most interesting aspects of Jamaica's

water challenge is that too little rain and too much rain can create different versions of the same problem.

By late July 2026, Mona Reservoir had fallen sufficiently for NWC to introduce regulated supply for customers dependent on the system. The timing reflected an attempt to intervene before storage reached a more critical level, slowing depletion and extending the period during which the remaining water could continue serving customers.

Before regulation was introduced, NWC had already been using other tools available to it, including the recommissioning of groundwater wells, movement of water between systems and intensified leak detection and repair. These interventions illustrate the operational side of resilience: infrastructure alone does not solve scarcity unless operators have the flexibility and information required to use it intelligently.

Heavy rainfall creates the opposite challenge. Rivers can carry high concentrations of suspended material following intense weather, raising turbidity at the intake. Water may be physically abundant, yet treatment plants can struggle to process it quickly enough to maintain normal production. Smaller and older facilities are particularly vulnerable to sudden changes in raw-water quality, which is why NWC has identified treatment upgrades among its resilience priorities.

The result is a more complicated engineering brief than simply increasing supply. Jamaica needs facilities capable of operating across extremes. The same system must cope with prolonged dry periods, intense rainfall, hurricane conditions and steadily increasing demand. This is pushing the Commission towards a network in which treatment technology, operational flexibility and redundancy become as important as the nominal capacity of any individual plant.

The Supply Chain Behind the Programme

A programme of this scale inevitably depends on a much wider ecosystem than NWC alone. Major treatment and transmission projects require designers, civil contractors, equipment manufacturers, chemical suppliers, technology providers and specialist service companies working across multiple packages, sometimes over several years.

VINCI Construction Grands Projets is among the most visible international participants through the major western programme, while companies such as **Bacchus Engineering Works Limited** illustrate the important role Jamaican engineering contractors play in delivering the network itself. The supply chain extends further into the processes that keep that network functioning every day. **ANSA Chemicals Jamaica Limited, for example, supplies NWC's chlorine requirement**, making water-treatment chemicals another largely unseen but essential part of producing safe potable water at national scale.

Electrical and control infrastructure is equally important. **WDC Puerto Rico Inc**. was contracted to supply, test, train and commission a freestanding motor control centre for NWC's Old Pepper Relift Station in St Elizabeth, while **Champion Industrial Equipment and Supplies Limited** has also been engaged on NWC sewer infrastructure in Kingston. Together with larger civil packages, these contracts demonstrate the breadth of capability required: pipelines and treatment plants may dominate the visible construction story, but reliable water ultimately

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depends on chemicals, controls, pumps, electrical systems, sewer networks and specialist equipment working behind them.

There is also a substantial local economic dimension. Large infrastructure projects depend on Jamaican transport companies, equipment providers, professional services firms, traffic-management teams, environmental specialists and skilled trades. Their contribution spreads the impact of infrastructure investment through the wider economy long before the finished asset enters service, while creating the local capability that NWC will need to operate, maintain and eventually upgrade the system over its working life.

Wastewater and the Other Half of Growth

The same system thinking is becoming increasingly important on the wastewater side.

Jamaica's urban and tourism growth cannot be sustained by expanding potable-water supply alone. Every new hotel room, apartment, hospital, commercial development or industrial facility creates another requirement after the water has been used. If treatment and collection infrastructure do not expand alongside potable supply, development simply moves the pressure from one side of the network to the other.

NWC has been progressing sewerage improvements in parts of the Corporate Area and has identified the Soapberry Wastewater Treatment Plant as an important asset within its future programme. Kerr has indicated that procurement associated with the proposed expansion and restructuring of Soapberry is advanced, while wastewater infrastructure in western Jamaica is also under consideration.

> ***"Infrastructure does not remove those events; it changes their consequences."***

His description of sewerage infrastructure as being about more than convenience goes to the heart of the issue. Wastewater treatment directly affects public health, coastal and river environments, the quality of urban development and the long-term sustainability of the tourism economy. For an island whose environmental assets form part of its global identity, the relationship between infrastructure investment and environmental protection is particularly close.

This also broadens the supplier landscape surrounding the NWC programme. Wastewater treatment brings demand for process equipment, aeration, pumping, screening, sludge handling, instrumentation, laboratory services, energy systems and long-term operations and maintenance capability. As Jamaica's infrastructure programme matures, the distinction between water-supply investment and wastewater investment is likely to become less useful than looking at the complete cycle.

Hermitage, Mona and the Projects Still to Come

The projects currently under construction represent only part of Jamaica's future water requirements. Some of the most consequential investments are still at the study and development stage.

NWC has confirmed plans to examine the possible reconstruction and expansion of Hermitage Dam, an asset that has served the Kingston Metropolitan Area for generations. The wider programme also includes studies around Mona Reservoir and the Yallahs system, including the infrastructure carrying raw water towards Mona.

Government estimates have placed a potential Hermitage upgrade in the region of US$250 million, although the final scope will depend on technical studies, structural requirements and decisions around future capacity.

These investigations matter because storage,

raw-water conveyance and treatment cannot be planned independently. Increasing reservoir capacity is of limited value if the infrastructure moving water into or out of it remains constrained. A stronger transmission main cannot solve a shortage if the source itself is unreliable, while additional treatment capacity only creates resilience if the network has somewhere useful to send the water it produces.

This is one of the strongest parallels between Jamaica's water programme and other large infrastructure systems around the world. A single impressive asset rarely transforms a network by itself. Just as a major railway tunnel depends on the approaches, terminals and connecting lines around it, a water treatment plant reaches its full value only when sources, storage, transmission and distribution work as a coherent system.

The coming decisions around Hermitage, Mona and Yallahs will therefore help determine whether the current programme becomes a collection of major projects or the foundation of a genuinely more resilient national network.

Financing Infrastructure Whose Return Is Water Security

If the engineering challenge is formidable, the financing question may prove equally important. Water infrastructure generates enormous economic value, but much of that value appears elsewhere. Reliable supply supports tourism, housing, healthcare, manufacturing and commerce, yet the treatment plant or transmission main enabling those activities may take decades to repay its original construction cost. This creates a fundamental mismatch between the long-term value of water security and the shorter-term return expectations associated with some forms of private capital.

Kerr captured the issue succinctly during discussion about greater use of Jamaica's capital markets when he observed that "water projects don't give returns tomorrow morning." The comment points to a wider reality. A new pipeline may not generate a spectacular financial return in its first years, but the economic cost of not having that pipeline can be considerable when hotels, hospitals, communities and businesses face unreliable supply.

Jamaica is already using different structures to bridge that gap. Public-private partnerships are part of the financing landscape, as demonstrated by Rio Cobre, while development finance, government investment and private capital are likely to remain important as the pipeline of projects expands. Larger programmes may increasingly require financing structures designed specifically around long-lived infrastructure rather than conventional expectations of rapid returns.

The financing strategy will consequently help determine the speed at which Jamaica can move from identifying vulnerabilities to actually removing them. Engineering studies can establish what needs to be done, but resilience only exists once the asset is built, commissioned and maintained.

From Individual Projects to a Water Network

The temptation with a programme of this scale is to measure progress primarily through construction milestones. Treatment plants will reach commissioning, transmission mains will be completed, roads will reopen and individual contracts will eventually be handed over. Those milestones matter, but they are not the final measure of success.

The more meaningful test will come when Jamaica encounters difficult conditions again. The Western Water Resilience programme will be judged by whether communities experience greater continuity when an individual source is constrained. Rio Cobre will prove its value when drought tightens supply across Kingston, Portmore and Spanish Town and operators have additional production available. Upgraded treatment plants will justify their investment when heavy rainfall raises turbidity but water production continues. Emergency connections will matter when hospitals and other critical facilities need them most, while wastewater investment will be tested as urban development and tourism continue to place greater loads on the system.

None of this means Jamaica can engineer away the climate. Hurricanes will continue to reach the Caribbean, dry seasons will still reduce inflows, and intense rainfall will continue to test river intakes and treatment plants. Infrastructure does not remove those events; it changes their consequences.

That is what connects the work now taking place beneath roads in western Jamaica, at Rio Cobre, throughout parts of Kingston and within the studies being prepared for the next generation of assets. NWC is not simply replacing one old pipe with a new one or adding another treatment plant to the map. The larger ambition is to create a network with greater capacity to absorb disruption without transferring every failure directly to the customer.

For Jamaica, the ultimate measure of that investment will therefore be remarkably ordinary. It will be found in the hotel that continues operating during a difficult season, the hospital whose supply remains secure, the business that does not have to plan around water shortages and the family that no longer thinks about the infrastructure beneath its feet before turning on the tap.

That is when resilience stops being an engineering term and becomes part of everyday life.

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