MCDAVID HEAVY EQUIPMENT

Water systems. Delivered end to end.

UTILITY INFRASTRUCTURE | HDD | HDPE | FIELD SUPPORT

TECHNICAL BRIEF | WATER NETWORK UPGRADE

RENEW THE MAIN. KEEP WATER MOVING.

A practical HDPE transition, installation and workforce plan for Trinidad utilities.

Prepared for Mr. Clide Elder | Trinidad public utilities

Aging mains can carry costs beyond the pipe: repeat repairs, leakage, road disruption and interrupted service. MHE brings the transition plan, fusion, hot-tap planning, HDD installation, crew readiness and follow-through into one coordinated scope.

THE DELIVERY PATH

01 VERIFY THE EXISTING MAIN
Confirm material, outside diameter, pressure class, condition, route, tie-in points and operating constraints.

02 ENGINEER THE TRANSITION
Use an approved mechanical or flanged transition for PE-to-steel, iron, PVC or other legacy lines. Fuse PE to PE only; verify restraint, pressure rating and transition loads.

03 FUSE AND PLAN THE HOT TAP
Use documented butt- or electrofusion procedures, trained operators and joint records. Hot tap only with compatible pressure-rated equipment and a utility-approved plan after confirming pipe condition and pressure.

04 INSTALL, TEST AND COMMISSION
Choose HDD after checking locates, route geometry, ground conditions, entry/exit pits and pullback limits. Test and commission to the approved project requirements.

BUILD THE WHOLE-LIFE COST CASE

Compare fittings, trenching versus HDD, traffic control, reinstatement, outages, leakage and maintenance. Corrosion resistance and properly made PE joints can reduce maintenance exposure; HDD can limit surface restoration where route and ground allow. Validate savings against local quantities.

THE SYSTEM IN PRACTICE



HDD installation concept
Illustrative image



Multi-connection manifold concept
Illustrative image

THE OUTCOME: a site-checked pathway from today’s main to a tested, maintainable HDPE installation—with decisions tied to utility standards, route conditions and real project quantities.

Technical basis: PPI Handbook of PE Pipe, Ch. 9 (joining and transitions), Ch. 12 (HDD), and Ch. 15 (repairs); PPI MAB-07; PPI TN-45. Project method and savings require site review, approved products, local codes and utility acceptance.

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RESILIENCE | TRAINING | LONG-TERM SUPPORT

A STRONGER MAIN IS ONLY THE START.

Give the network a practical upgrade—and give local teams the confidence to own it.

MHE pairs installation planning with skills transfer and a defined handover, so the value continues after construction crews leave site.

BUILT FOR MOVEMENT

Flexible HDPE pipe and fused joints have a record of performance in shifting soil. Landslide corridors still need geotechnical review and project-specific alignment, strain and restraint design; no pipe can guarantee service through every landslide.

CORROSION & JOINT INTEGRITY

HDPE does not rust or tuberculate like metallic pipe. Proper PE fusion creates a continuous, leak-resistant PE-to-PE system with fewer potential leak paths. Product selection and installation quality matter.

WATER HYGIENE—CLEARLY

Standard HDPE is not an antibacterial or antifungal treatment. Protect potable water with approved pipe and fittings, clean handling, flushing, disinfection and utility water-quality controls. Corrosion resistance helps avoid metal tuberculation.

FAST, PRACTICAL TRAINING FOR DEPARTMENTS & CONTRACTORS

Short, task-based sessions can be delivered around the project and tailored to operations, engineering, maintenance and contractor crews:

01 FUSION & JOINT QUALITY

Preparation, machine setup, approved procedures, operator qualification and traceable joint records.

02 TRANSITIONS & HOT-TAP READINESS

Material compatibility, pressure-rated fittings, isolation planning, risk review and approved hot-tap equipment.

03 HDD & INSTALLATION CONTROLS

Utility locates, bore path, ground checks, pullback limits, handling, testing and commissioning.

04 OPERATIONS & MAINTENANCE

As-built records, inspection points, repair escalation, flushing/disinfection and routine system care.

A SMOOTH HANDOVER. A PARTNER AFTER THE PROJECT.

MHE can align training, commissioning records, as-builts, open items and owner responsibilities into a clear handover package. Set the support period and response scope together: follow-up consulting, troubleshooting, refresher training and future project advice can extend beyond commissioning.

LET'S SCOPE ONE PRIORITY MAIN

Bring material, size, pressure and route. MHE will shape a focused transition, HDD, hot-tap and training plan with your team.

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Resilience reference: PPI, Position Paper: Resilience of HDPE Pipe for Water & Wastewater Infrastructure. Final design, training requirements and support scope to be agreed with the utility and project engineer.