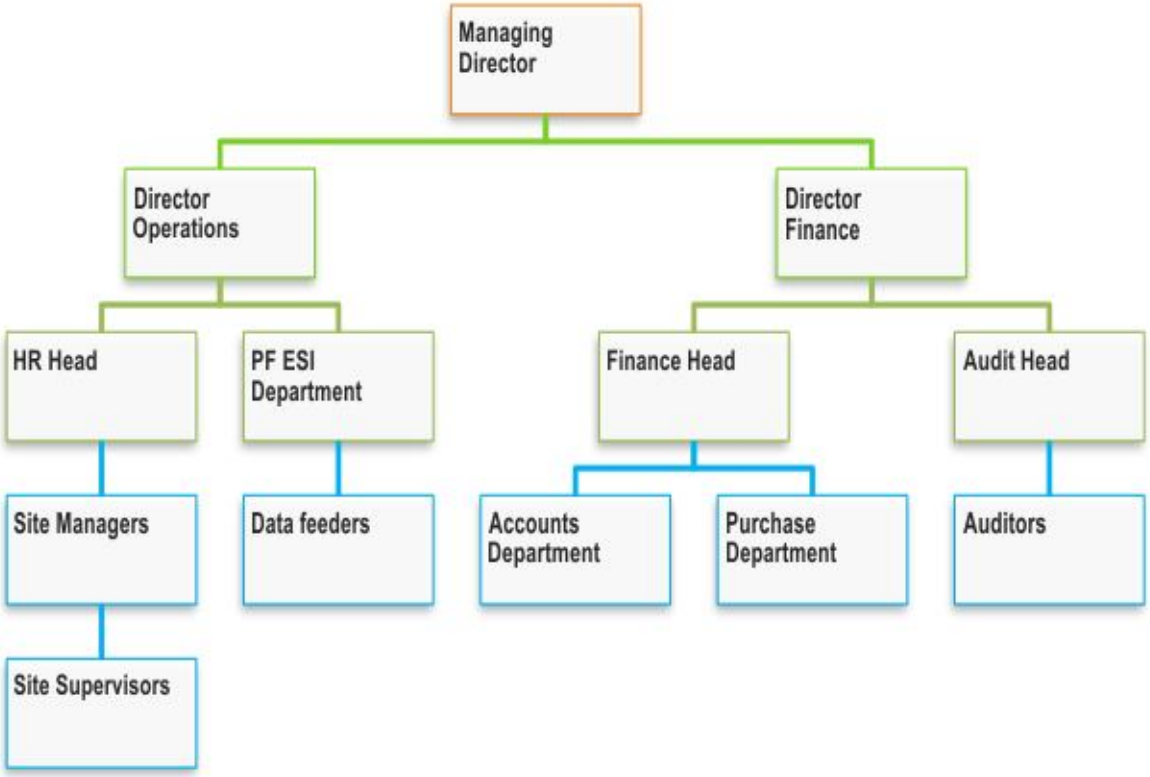
Introducing

GMK CONCRETE PVT LTD.

Management Structure



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Cleaning at its best

GMK

ENGAGED IN REHABILITATION / CIPP / DE-SITTING UNDER LINE DRAINS USING MOST MODERN EQUIPMENTS

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Let us introduce you to the new age process of underground drain cleaning. No need to manually clean your drain. We here at GMK use Automated High powered JET-VACS to give you an efficient, quick and easy way to clean all your drains.

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High Pressure Jetting

Our modern machines are most suitable and capable for dislodging settled sludge/slit from underground tanks, sewer pipelines, open drains by the help of jetting machine and suctioning the same from specially designed vacuum trucks.

The suctioned sludge is collected in a truck mounted suction tanker also known as the silt container/vacuum truck for onwards disposal at dumping grounds, which helps in totally avoiding manual scavenging as the same has been banned by Honourable Supreme Court of India.

High Pressure Jetting

Industries, Municipalities and water bodies require a wide range of infrastructure for cleaning and maintenance jobs. It may be a small task of cleaning a few blocks of 100mm to a much larger and harder job of cleaning of several kilometres of large diameter storm water lines. GMK is well equipped with the latest machinery and trained manpower to carry out all works professionally.

High pressure Jetting is used to blast away years of accumulated silt, sand, grease that has built up inside the sewer lines. At pressure ranging from 1500 PSI to 10000 PSI, the jets have the power to burst open the most adamant of blockages and at the same time scours the full diameter of the sewer line, flushing debris towards the mouth of the manhole. This is immediately sucked up by the suction machines mounted on trucks very efficiently keeping the sewer line clean for CCTV operation.

Out JET-VACS can deliver water- blasting pressures exceeding 10000 PSI and produce unto 865 LPM of flushing water. The JET-VACS and their experienced operators are available for small and large jobs. The JET-VACS carry upto 750 meters of sewer cleaning hose fitted onto fully hydraulic reel systems. A full range of specialised flushing nozzle are available and specially designed to deal with blockages caused by sand, gravel or built-up as well as cleaning different types of pipe sizes and configuration.

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Jetting Machine

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Silt Container

Process

One of our experienced technician would come and survey the site. He would then locate the source of the problem and explain how the cleaning would take place. Upon the approval of the client, the machines and manpower would be mobilised to the respective site. The client has the option of conducting a CCTV survey of the drains at an additional cost. Prior to commencing work, the relevant warning signals and safety barriers are to be erected in the work area for the purpose of warning people. GMK then uses high pressure water cleaning through the specified sewer line and removes all accumulated debris to facilitate the CCTV survey. At the end of the shift we check that all covers are secure and site is left safe and tidy.

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Pan Tilt Zoom CCTV Camera for Sewer Inspection

CCTV Surveys

GMK is one of the foremost specialists in the inspection of pipelines and other enclosed structures using CCTV equipment.

CCTV Survey units

Our CCTV Inspection vehicles are purpose built to ensure reliability of service to our clients. All onboard equipment is powered by the vehicle engine and a generator. Other than surveying equipment, every survey unit carries a wide range of essential Health & Safety equipment for safe confined space entry.

Reporting

Reports are generated on site to international sewer defect coding standards, using the industry leading Wincan data capture software, with video recorded to DVD or hard disk in MPEG 1, MPEG 2 or MPEG 4 formats.

Safety

We at GMK take safety very seriously. Incase one of our workers has to enter into any of the manholes, we would first inspect for any dangerous gases using our state of the art gas detector. Only if the manhole is found to be free from any dangerous gases, our worker would be permitted to enter into the manhole.

We provide our workers with Personal Protective equipment for carrying out any cleaning inside the manholes.

List of equipment

1) High power jetting cum super sucker machine.
2) Vacuum trucks/ Silt Containers
3) Water tankers.
4) Zoom and pan tilt CCTV camera for inspection of sewer lines.
5) DG sets, Compressor, Gas detectors, metal detectors etc.

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Cleaning at its best

GMK CURED IN PLACE PIPELINE

CURED IN PLACE PIPELINE

GMK is a leading provider of cured-in place pipeline and other technologies for the rehabilitation of water and wastewater pipeline systems.

We provide cost-effective solutions to remediate operational, health, regulatory and environmental problems resulting from ageing and defective pipelines. GMK allows its customers to avoid the extraordinary expenses and extreme disruption that can result from traditional "dig and replace" methods.

GMK's expanded capabilities enable us to protect a wide variety of structures and pipelines from corrosion, restore structural integrity, reduce infiltration, eliminate leaking joints, improve water and storm water pipelines and water distribution and transmission mains.

CURED IN PLACE PIPELINE

The GMK CIPP process is suited for wastewater pipeline repair and can be used to rehabilitate sanitary sewers, storm water sewers and forced mains. GMK CIPP is a jointless pipe-within-a-pipe with the capability to rehabilitate pipelines ranging in diameter from 6 to 96 inches and to negotiate bends. GMK CIPP addresses your top concerns:

Infiltration reduction: Water entering your waste water system through holes, breaks and joint failures can significantly tax your treatment facilities especially during storm events. GMK CIPP can significantly reduce this infiltration and eliminate leakages from your system. In dry climates, tree and plant roots find the sewer system an attractive source of water and nutrients.

Entering through pipe defects, roots create blockages and overflow. GMK CIPP contains your flow within the pipe while keeping external water and roots out. We can help you avoid the large capital cost of expanding treatment facilities and the environmental problems caused by sewer overflow.

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Structural Integrity: GMK CIPP restores structural integrity to your damaged pipes. The designs models used, independent test results have confirmed that CIPP is a structural product with a 50 year design life.

Increased Flow Capacity: GMK CIPP provides the least cross-sectional reduction of all methods used to rehabilitate pipes. Despite the Cross-sectional reduction, the smooth, jointless interior of our product typically improves flow capacity. There are no joints that can separate over time. The smooth interior also provides excellent abrasion resistance.

Affordability: The GMK CIPP process is typically less expensive than conventional methods of sewer repair, specially when you factor in the loss to business revenues, traffic congestion and social cost that would be associated with the conventional "dig and replace" method.

Installation: GMK uses the most reliable and time tested water installation with hot water curing method for all its CIPP projects.

CURED IN PLACE PIPELINE

1. **Description of Process and Materials:** One of the most widely used pipeline rehabilitation methods is the cured-in-place pipe (CIPP) lining method. The CIPP process begins by thoroughly cleaning the existing pipeline, removing any debris or protruding laterals, noting locations of existing lateral connections, and diverting sewer flows, if they are high, in preparation for the installation of the liner.

a. **Liner:** The liner consists of an absorbent, flexible, industrial grade felt tube with an impermeable membrane on the inside surface. The size and length of the tube are custom made to fit each project. This makes CIPP an ideal method for odd sized or odd shaped pipes such as old brick sewers.

b. **Resin:** The resin is what hardens and ltimately gives the CIPP its strength. Various resins are available and each has different properties. The material property, of most interest to the designer in determining the thickness of the liner to be installed, is the strength or flexural modulus of elasticity.

Resins with a flexural modulus of 250,000, 300,000, and 400,000 psi are common. Additional resin strengths may be available.

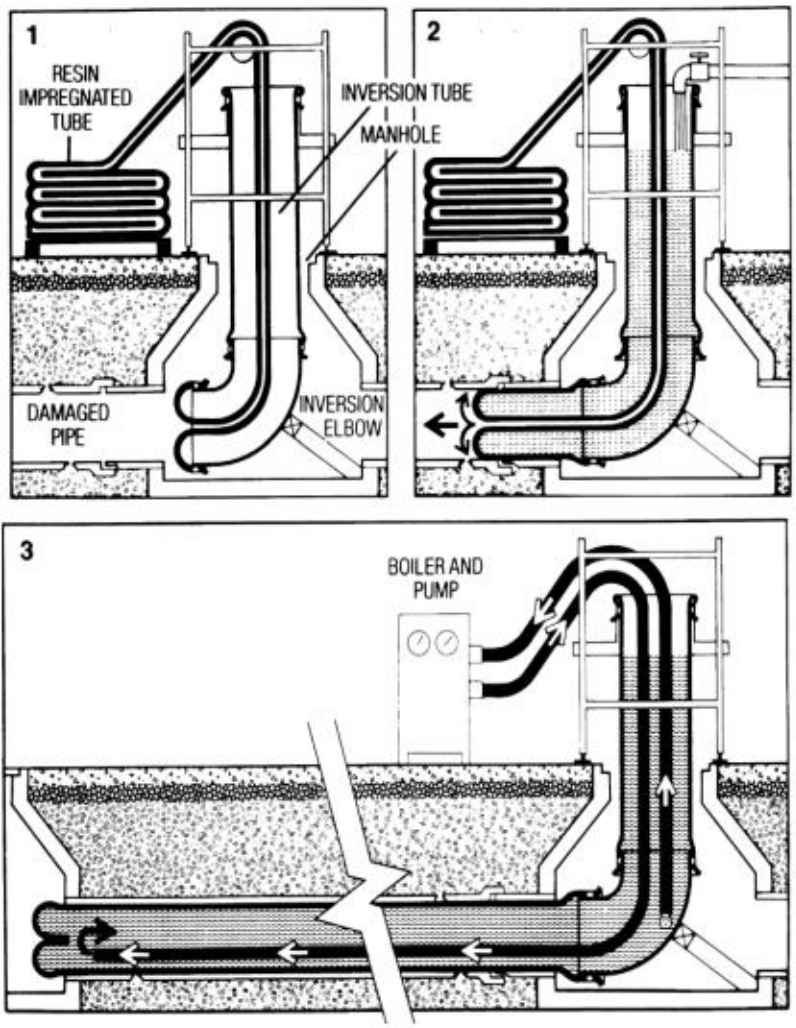
CURED IN PLACE PIPELINE

Over time, the materials used for construction of CIPP will undergo deformation when exposed to a constant load. This deformation is defined as creep. This long term creep effectively reduces the strength of the liner over time. To account for this, a reduction factor (normally 50%) is applied to the initial flexural modulus of the resin material to provide a long term modulus of elasticity (EL). This long term modulus is the value utilised in the liner designs.

c. **Preparation for Lining**: Prior to beginning the lining process, the sewer should be thoroughly cleaned and televised. All service connection locations should be identified and carefully noted. Large pieces of debris such as bricks or chunks of concrete should be removed. Any obstructions that may interfere with the lining process, such as protruding services, severely offset joints, collapsed pipes,tree root penetration, etc., should be addressed by either remote repair or by open cut point repair.

d. **CIPP Installation Process**: Just before delivery to the project site, the felt tube is thoroughly wetted with a thermosetting resin. As the resin is applied to the felt, the liner is turned inside-out, resulting in the impermeable membrane being on the outside, and the resin-impregnated felt on the inside of the tube. The liner is loaded on a truck and delivered to the project. Since the resin cures in the presence of heat, the liner may be shipped in a refrigerated truck or packed in ice if weather conditions dictate.

Typical CIPP Inversion Process



The sewer is lined by inverting the tube into the sewer line. In the inversion process, one end of the tube is cuffed back and attached to an inversion ring directly above the access point (typically a manhole). The inverted tube is filled with water. The resulting pressure head is used to force the liner through the sewer line and continue the inversion process. In addition to inverting the tube, the water head also acts to expand the tube inside the pipe, forcing the resin soaked felt (once again on the outside of the liner) against the inside walls of the existing sewer pipe. The pressure head applied by the water causes some of the resin in the felt to be squeezed out, filling leaky joints and cracks in the pipe. ASTM F 1216 addresses this potential loss of resin from the felt tube by requiring an additional 5 to 10% (by volume) of resin to be added to the tube beyond its saturation point.

CURED IN PLACE PIPELINE

e. **Curing and Hardening the CIPP Liner**: The newly installed liner is then cured by applying heat. Typically, this is done by heating and circulating the water used to invert and expand the tube, or by applying pressurised steam to the line. The applied heat causes the thermosetting resin in the felt to cure or harden.

This changes the resin from a liquid to a solid. After the resin has cured, the CIPP is cooled, resulting in a new pipe with a slightly smaller inside diameter, but of the same general shape as the original pipe.

f. **Completion**: The ends of the CIPP are trimmed off, and the service laterals are reopened. Reopening the service connections can be done by man-entry for larger diameters or robotically for smaller diameters. Normally, a small dimple is left in the liner directly over each service connection, allowing them to be easily located and reopened. However, the number and locations of the service connections should be noted during the pre-lining televising process to ensure that all connections are reopened and to aid in locating those that are difficult to identify.

The result of the CIPP process is that a new pipe is formed within the existing sewer pipe. This new pipe reduces infiltration and adds structural integrity to the existing line. The expected service life of a cured-inplace liner is generally accepted to be 50 years.

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List of Clients

- Haryana Urban Development Authority (HUDA)
- Municipal Corporation Gurgaon
- Municipal Corporation Delhi
- Delhi Development Authority
- Maruti Suzuki India Limited
- Ansal
- DLF
- DSIISC Delhi
- Blue Bell Institute
- HSIIDC
- JAY AUTO
- NHAI
- Globe Rise Infra

Thank You