

NHAI to Adopt Mechanized Drain Cleaning, Automated Pothole Repair Systems and Advanced Road Sweeping Technologies to Strengthen National Highway Maintenance

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In a significant shift to mechanized and automated systems, NHAI has introduced a series of technology-driven initiatives aimed at strengthening maintenance practices across National Highways and Expressways. As part of these measures, NHAI has issued comprehensive guidelines for mechanized maintenance of drainage systems in urban and built-up areas and deployment of advanced mechanized road maintenance equipment, including Automatic Pothole Filling, Compacting & Patching Machines and Mechanized Road Sweeping Machines.

The initiatives are aimed at improving efficiency and quality of National Highway maintenance through adoption of modern technologies, preventive maintenance practices and stricter enforcement of contractual obligations. These measures will improve quality, strengthen sustainability and enhance travel experience of the National Highway users.

Mechanized Drain Cleaning for Improved Stormwater Management

In view of upcoming monsoon season and to improve the efficiency, quality & effectiveness of drainage maintenance, NHAI has mandated use of mechanized cleaning of lined drains in urban and built-up areas of National Highways and Expressways. The mechanized cleaning framework will involve integrated deployment of advanced equipment including High-Flow Super Suction & Jetting Units, Hydraulic Grab Machines and Dewatering Pump Sets. This system will be used in an integrated way for dewatering, loosening accumulated silt, suction of slurry and removal of heavy debris from drainage channels. Mechanized cleaning will be incorporated as a mandatory provision in future maintenance contracts for urban National Highway sections.

In addition, NHAI has directed contractors and concessionaires to strictly adhere to the prescribed maintenance programs and inspection schedules for cleaning and repair of drains. NHAI will closely monitor compliance with specified timelines for rectification of drainage-related deficiencies to ensure that shortcomings are addressed promptly and efficiently in a time-bound manner without delay and deterioration in the quality of the National Highways.

Advanced Technologies for Faster and More Efficient Highway Maintenance

In another major initiative, NHAI has issued guide lines for deployment of Automatic Pothole Filling, Compacting & Patching Machines and Mechanized Road Sweeping Machines to be incorporated in the list of equipment to be deployed under Performance-Based Maintenance Contracts (P BMC). The framework provides a structure for assessment and approval of costs associated with deployment of these advanced technologies in ongoing maintenance contracts and aims to accelerate their adoption across the National Highway network.

The deployment of Automatic Pothole Filling, Compacting & Patching Machines will facilitate faster pavement repairs, reduce maintenance response time and minimize inconvenience to national Highway users. Timely rectification of potholes and pavement defects will improve ride quality and help to preserve the structural integrity of the National Highways.

Similarly, Mechanized Road Sweeping Machines will enable systematic cleaning of corridors and paved shoulders through efficient removal of dust, silt and loose particulate matter. These machines will contribute to cleaner National Highway corridors, improve visibility, enhance road safety and reduce dust-related pollution. These machines have been deployed on Varanasi-Aurangabad NH, Handia-Rajatalab NH and various other projects in the state of Haryana, Punjab and Gujarat.

The adoption of mechanized drain cleaning, automatic pothole filling and advanced road sweeping technologies will help to improve operational efficiency, strengthen preventive maintenance practices and enhance overall National Highway user experience across the country.



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