

अभियंता प्रमुख-सह-अपर आयुक्त-सह-  
विशेष सचिव (कार्य प्रबंधन) का कार्यालय  
पथ निर्माण विभाग, बिहार, पटना।

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प्रेषक,

अभियंता प्रमुख-सह-अपर आयुक्त  
-सह-विशेष सचिव (कार्य प्रबंधन)।

सेवा में,

सभी मुख्य अभियंता (रा०उ०प० सहित),  
पथ निर्माण विभाग, बिहार, पटना।  
सभी अधीक्षण अभियंता (रा०उ०प० सहित),  
पथ निर्माण विभाग, बिहार।  
सभी कार्यपालक अभियंता (रा०उ०प० सहित),  
पथ निर्माण विभाग, बिहार।

**विषय :-** विभाग अन्तर्गत पथों के कार्य में पथ का Level Raise नहीं किये जाने एवं  
Drainage को Improve करने के संदर्भ में SOP के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि माननीय उच्च न्यायालय पटना द्वारा जनहिता  
याचिका सं०-CWJC No.-7191/2023 बिरेन्द्र कुमार बनाम बिहार सरकार एवं अन्य के आलोक में पथ  
निर्माण विभाग अन्तर्गत Urban Area के पथों के कार्य में पथ का Level Raise नहीं किये जाने एवं  
Drainage को Improve करने के संबंध में SOP Formulate करने का निदेश है।

उपर्युक्त निदेश के अनुपालन में "Standard Operating Procedure (SOP) for  
maintaining Existing Road Level in Repair & Maintenance Work" संलग्न है।

निदेशित किया जाता है कि उपर्युक्त Standard Operating Procedure (SOP) का  
दृढ़ता से अनुपालन सुनिश्चित किया जाय।

अनु०-यथोक्त।

विश्वासभाजन



अभियंता प्रमुख-सह-अपर आयुक्त  
-सह-विशेष सचिव (कार्य प्रबंधन)।

# Standard Operating Procedure (SOP)

**Title: Measures to Prevent the Raising of Road Levels in Urban area.**

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## **1. Purpose**

To establish standardized measures within the Road Construction Department to prevent the raising of road levels in urban areas, ensuring proper drainage, accessibility, and minimizing adverse impact on local infrastructure and communities.

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## **2. Scope**

This SOP applies to all projects undertaken by the Road Construction Department involving road construction, widening, repair, and maintenance within urban area.

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## **3. Definitions**

- **Raising of Road Level:** Increasing the vertical height of the road surface beyond existing approved levels during road works.
  - **Finished Road Level (FRL):** The final height of the road surface relative to adjacent buildings, natural drainage, and existing roads.
  - **Topographic Survey:** Mapping and recording of ground levels and features.
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## **4. Responsibilities**

- **Executive Engineer:** Oversee adherence to this SOP during project execution.
  - **Assistant Engineer/ Junior Engineer:** Ensure accurate leveling and compliance on-site.
  - **Survey Team:** Conduct detailed pre-construction surveys.
  - **Quality Control Team:** Verify levels during and post construction.
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## **5. Procedure**

### **5.1 Pre-Construction Survey and Planning**

- Conduct a detailed topographic survey of the project area, noting existing road levels, building plinths, and drainage patterns.
- Use survey data to draft road profiles that maintain or improve existing levels without unnecessary raising.
- Incorporate adequate drainage design to prevent water logging

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## 5.2 Design

- **Provision of Rigid Pavement in Market and inhabited Sections**

In market and inhabited stretches, cement concrete pavement should be provided instead of flexible pavement. This eliminates the need for frequent overlays in the future, thereby preventing progressive increases in road level over time.

- **Milling of Existing Pavement Before Overlay**

Before laying a new bituminous overlay, the existing pavement should be milled to the exact thickness of the new layer. This ensures that the finished road surface remains at the same level as before, improves bonding of the new layer, and allows the milled material (RAP) to be reused

- **Full-Depth Reclamation or Reconstruction**

In locations where both the surface and base layers have deteriorated, full-depth reclamation or reconstruction should be carried out. This involves pulverising the existing layers, mixing them with stabilisers such as cement, lime, or foamed bitumen, and relaying the pavement at its original level. This method restores strength without raising the road height.

- **Construction of Side Drains in Built-up Areas**

In market and inhabited sections, RCC lined side drains should be provided with adequate slope and outfall to drainage channels. Proper cross-drainage structures such as culverts should be placed at required intervals to ensure that surface water flows away efficiently and does not enter adjacent properties.

- **Provision of Service Roads with Integrated Drains**

In built-up stretches, service roads should be constructed parallel to the main carriageway and integrated with covered or open side drains depending upon availability of ROW. This arrangement separates local and through traffic, improves safety, and facilitates effective drainage.

- **Raised Footpaths and Proper Access Ramps**

In market areas depending upon availability of ROW, footpaths should be provided at an appropriate height with properly designed ramps, ensuring that shops and residences remain accessible even if minor level adjustments occur over the years.

- **Use of Cement Treated Base (CTB) and Cement Treated Subbase (CTSB) For flexible pavement designs, the use of CTB and CTSB layers can significantly improve structural capacity, allowing for a reduced overall pavement thickness while still carrying the required design traffic. This not only saves material but also helps maintain the finished road level closer to the original ground level.**

- **White Topping Over Damaged Flexible Pavement**

In locations where the existing flexible pavement is structurally sound in its base layers but has a damaged surface, a concrete overlay (white topping) can be applied directly over the prepared bituminous layer. This provides a long-lasting rigid surface without removing large depths of material, reduces maintenance needs, and avoids multiple future overlays that would otherwise raise the road level. It is also ensured that the height of the roads are not increased ordinarily beyond the plinth height.

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### **5.3 Construction Phase Controls**

- Establish fixed reference points and control benchmarks before construction.
- Continuously monitor levels using leveling instruments.
- Ensure the construction team adheres strictly to approved road levels and drainage layouts.
- Avoid the addition of excess layers that cumulatively raise road height beyond approved FRL.

### **5.4 Drainage Management**

- Construct or refurbish side drains to facilitate proper water runoff.
- Ensure drainage outlets are clear and connected to drainage channels or municipal systems.

### **5.5 Final Inspection and Documentation**

- Conduct a final leveling survey upon project completion.
- Prepare and submit a compliance report verifying that road levels conform to approved designs.
- Document any deviations with appropriate justifications and approval.

## **6. Do's and Don'ts**

### **Do's:**

- Follow approved road profiles strictly.
- Conduct regular training for field staff on leveling and drainage importance.

### **Don'ts:**

- Do not raise road levels arbitrarily or without documented approval.
- Do not neglect drainage maintenance during construction & afterwards.
- Avoid construction practices that obstruct access to adjacent properties.