4.2. Demand Module

4.2.1. Use Case – Demand Creation and Submission

1. Use Case

Description	This use case allows a Ward Councillor or ULB Official (assisted mode) to submit ward-level demands through the MM-NUP web or mobile portal. The user selects the demand category and sub-category, enters location details, and uploads geo-tagged photographs. Upon submission, the system validates the request, generates a Demand ID, and stores it with status "Submitted."
Actor(s)	• Citizen/Ward Councillor • ULB Official (Maker – Assisted Mode)
Pre-conditions	1. MM-NUP portal / mobile application is accessible online. 2. Ward Councillor / ULB Official has a valid and active user account. 3. Ward Councillor is pre-mapped to ward in the system. 4. ULB, Ward, Demand Category, Sub-Category, and demand type master data are pre-configured. 5. Mobile device (if used) has camera and GPS permissions enabled for geo-tagged photo capture.

Process Flow	1. User accesses the MM-NUP portal or mobile application.
	2. User logs in using valid credentials / OTP.
	3. System authenticates user and validates active status and role.
	4. User navigates to **"Create Demand."**
	5. System auto-populates **ULB and Ward** based on Ward Councillor mapping (read-only).
	6. User selects **Demand Category** from parent dropdown aligned with MM-NUP:
	  • **Basic Urban Infrastructure (A)**
	  • **Public Amenities & Services (B)**
	  • **Routine Essential Works (C)**
	7. Based on Category selection, system dynamically displays **Sub-Category dropdown** as per the structure below:
	
	Basic Urban Infrastructure (A)
	– A – Basic Urban Infrastructure
	
	{{TABLE}}

Sub-table within Process Flow:

Sub-category	Typical items / activities
Water Supply	• Individual-level connections (pipes, meters) • Community-level drinking-water facilities in schools, Urban Satellite

			• Health Centres, Anganwadi centres • Community, Pink and Public Toilets (including water ATMs)
		Urban Roads	• Conversion of kuccha roads to pucca roads (top-priority) • Last-mile connectivity roads • Maintenance/repair of pucca roads (claim ≤ 10 % of project cost) • Roads ≥ 2.0 m wide (excluding drains) • Roadside drains, bridges, culverts • Pedestrian footbridges / under-passes
		Drainage System	• Construction of new drains • Conversion of kuccha drains to pucca drains • Closed-drain systems
		Foot-paths	• Pedestrian zones in markets, schools, colleges, etc. • Conversion of high-footfall areas to no-vehicular zones
		Street Lights	• Installation of street-lights & high-mast lights on main roads, markets and high-density zones • Lighting of dark-spot areas to ensure safe night-time walking
		Construction of Ward & Zonal Offices	• New ward-office and zonal-office buildings
		Urban Satellite Health Clinics (USHCs)	• Construction works • Procurement of medical equipment during set-up
		Pink Toilets	• Dedicated women- and child-friendly toilets
		Mosquito-reduction	• Hand-held / vehicle-mounted anti-mosquito larvae spraying-fogging equipment (no recurring cost)

Public Amenities & Services (7B)

SUB-CATEGORY	TYPICAL ITEMS / ACTIVITIES
City Beautification	• Welcome / "Thank You" gates at entry/exit points • New traffic signals, road-identification signages • Upgrading important town junctions, traffic islands, dividers, medians • Development/beautification of "Dashami Ghats"
Safety & Security	• CCTV installation • Construction of traffic posts • Establishment of Mini-ICCCs
Public Information Billboards	• LED display boards / TV screens
Digitisation of ULBs	• e-Office implementation • Internet facilities, KIOSKs, Wi-Fi zones • Computerisation of municipal & ward offices
Public Convenience	• Public seating spaces in market areas • Rain-water harvesting systems for public buildings • Community soak-pits for grey-water management
Sports Infrastructure	• Stadiums, courts, fields, gyms
Community Centres	• Integrated multi-purpose community centres
Slum Re-development	• Projects under PMAY-U (and any other GoI scheme)
Vendor Zones	• On-street / off-street vending zones
Power & Telecom Utilities	• Relocation of electric & telecom poles, transformers • Conversion of overhead cables to underground cables
Water Bodies, Lakes & Ponds	• Rejuvenation, renovation, preservation, beautification • Development of surrounding greenery
Park Development	• Procurement of amusement equipment for children • Open-gyms, seed/sapling procurement, manure, irrigation systems
Urban Transport	• Parking facilities • Smart bus shelters & passenger sheds • Motor-stand, jeep, taxi, auto-rickshaw stands

Routine Essential Works (7C) –

SUB-CATEGORY	TYPICAL ITEMS / ACTIVITIES
Regular Works	• Cleaning of drains • Manual mosquito-larvae spraying / fogging with handheld equipment • Grass pruning, jungle clearing • Maintenance of park plantations • Water-conservation & rain-water harvesting activities • Road sweeping / garbage cleaning • Cleaning of community & public toilets
Periodic Works	• Digging pits for new plantations • Raising seedlings in nurseries • Avenue planting along roads
Work Execution (support)	• Administrative and technical activities required for implementing the above basic-infrastructure projects (e.g., DPR preparation, e-tendering, monitoring)

8. User selects **Category, Sub-Category, and co-related typical items/activities** from the filtered list.

9. User enters **Location Details** (locality, street (from location and To location), landmark).

10. User enters **Demand Description** explaining the issue or requirement.

11. User selects **Priority** (High / Medium / Low), if applicable.

12. User captures or uploads **geo-tagged photograph(s)** of the demand site.

13. System extracts and associates geo-location metadata (latitude, longitude, date, time).

14. In assisted mode, ULB Official uploads scanned copy of the Ward Councillor's physical demand note/letter.

15. User clicks **"Save & Submit."**

16. System validates mandatory fields, Category–Sub-Category mapping, and geo-tag rules.

17. System auto-tags the demand with MM-NUP Project Categories (7/7/7), stores the record with status **"Submitted,"** and generates a unique **Demand ID**.

Construct the Demand ID:

1. **ULB Code / Short-Form –** the abbreviation you use for the urban local body (e.g., AGTL for Agartala Municipal Corporation).

2. **Financial Year –** the fiscal year the demand belongs to (e.g., 2024-25).

	3. **Ward –** the ward number within the ULB. 4. **Category-Code –** A, B or C as per the project head. 5. **Project-No. –** a sequential number for that category-ward-year combination (01, 02, 03 …). 18. System displays confirmation message with Demand ID and sends acknowledgement (if configured).
Business Rules / System Actions	• Demand Category, Sub-Category and Typical Items/Activities shall be selected from **hierarchical, system-controlled master lists** aligned with MM-NUP guidelines. • Selection of Demand Category shall dynamically restrict visible Sub-Categories and based on the sub-category Typical Items/Activities will be populated. • ULB and Ward fields shall be system-generated and non-editable for Ward Councillors. • Each demand shall be **automatically mapped to the corresponding AAP head (A / B /C)** and stored for downstream planning. • At least one **geo-tagged photo** is mandatory for all asset-based demands. • If geo-location metadata is missing in uploaded images, system shall prompt re-capture. • In assisted mode, upload of scanned physical demand document is mandatory. • Each successfully submitted demand shall be assigned a **system-generated unique Demand ID**. • System shall record complete audit details (Created By, Created On, Submission Mode).
Post-conditions	1. Demand is stored in the system with status **"Submitted."** 2. A unique Demand ID is generated and displayed. 3. Demand is linked to the correct ULB, Ward, and demand category head (A/B/C). 4. Geo-tagged photos and documents are securely stored and associated with the demand. 5. Demand becomes available for **Demand Management, duplicate detection, Shelf-List creation, and AAP preparation**.
Functionalities	1. Captures ward-wise demands using structured **Category → Sub-Category hierarchy→** Typical Items/Activities. 2. Enforces automatic and non-editable mapping of demands to **MM-NUP Para A/B/C**. 3. Supports geo-tagged photo capture and metadata storage. 4. Enables assisted demand entry by ULB Officials with document upload. 5. Performs full validation and audit logging before submission.

| | 6. Generates and maintains unique Demand IDs with traceability to AAP. |
| | 7. Fully compatible with **web and mobile platforms**. |

2. Wireframe

Ward Demand Entry
Capture ward-level demand details mapped to MM-NUP (7A / 7B / 7C)

Status: Draft (Not Submitted)

Submission Mode
Councillor Self
Derived from login context; not editable.

ULB
Agartala Municipal Corporation

Ward
Ward 07 – Pratapgarh

Demand Category (MM-NUP Head)
Routine Essential Works (7C)
Level 1 – mapped to AAP (7A / 7B / 7C).

Demand Sub-Category (Level 2)
-- Select Sub-Category --
Level 2 – asset / work group (e.g., Roads, Parks, Drainage).

Specific Work Type (Level 3)
-- Select Specific Work Type --
Level 3 – specific intervention (e.g., New HH Connection, Road Resurfacing).

Demand Title / Short Summary
Repair of internal road near Pratapgarh Primary School

Location – Locality / Area
Pratapgarh, Lane 3

Location – Landmark
Near Pratapgarh Primary School gate

Priority
Medium
Used for ULB-level sorting and planning.

Demand Description
Existing bituminous road near Pratapgarh Primary School is damaged with multiple potholes, causing waterlogging and safety issues for school children and local residents. Request resurfacing and proper side drains.
Provide brief context, impact, and any specific technical requirements, if known.

Primary Geo-tagged Photo (Required)
Choose File   No file chosen
JPEG/PNG, max 2MB. Preferably capture from mobile app to auto-embed GPS.

Additional Photos (Optional)
Choose Files   No file chosen
Up to 4 images for additional context; JPEG/PNG, max 2MB each.

Submission Channel
Mobile App

AAP Head Mapping
7C – Routine Essential Works
Derived from Category / Sub-Category on submit.

Save as Draft   Save & Submit

Demand Snapshot

Category	Routine Essential Works (7C)
Sub-Category	–
Work Type	–
Ward	Ward 07
Priority	Medium

Mapped to AAP
Head: Routine Essential Works (7C)

Quick Notes

Geo-photo	Required
Assisted letter	Only in ULB-Assisted
Next step	Demand Management

3. Screen Parameter

Sl#	Menu Details	Comments
1	Submission Mode	Read-only; auto-derived from context: "Councillor Self" when logged-in user is Ward Councillor; "ULB-Assisted" when logged-in user is ULB Official entering on behalf of Councillor.
2	ULB	Read-only; prepopulated from user context/session (mapped ULB and Ward of Councillor / ULB Official).
3	Ward Councillor (Assisted Mode)	Dropdown (visible only when Submission Mode = ULB-Assisted); required; values: list of active Ward Councillors mapped to the ULB; selection auto-populates Ward.
4	Ward	Read-only; prepopulated from Ward Councillor mapping; in self-mode from logged-in Councillor; in assisted mode from selected Councillor.
5	Demand Category	Dropdown – Values (parent): Basic Urban Infrastructure (A); Public Amenities & Services (B); Routine Essential Works (C); required; drives Sub-Category list and AAP mapping.
6	Demand Sub-Category	Dropdown – child of Demand Category; values populated from master (e.g., Road, Drainage, Street Lighting, Park, Drain Cleaning, etc.); required; determines asset/work type; cannot be free-text.
7	Typical items / activities	Dropdown – Child of Demand Sub-category; values populated from master (e.g., under subcategory of "Water Supply" - Individual level connections (pipes, meters), Community level drinking water facilities in schools, Urban Satellite Health Centres, Anganwadi centres, Community, Pink and Public Toilets (including water ATMs)
7	Demand Title / Short Summary	Varchar (max 150); optional; Unicode allowed; trim leading/trailing spaces; suggested format "Road repair near XYZ school".
8	Location – Locality/Area	Varchar (max 200); required; Unicode allowed; should capture locality/area name; trim spaces; can include house numbers / street names. In case of Road, Drain or similar kind of activities – 'From Location' and 'To Location' has to be captured.
9	Location – Landmark	Varchar (max 200); optional but recommended; captures nearest known landmark (e.g., "near community hall"); Unicode allowed; trim spaces.
10	Demand Description	Textarea; required; minimum length e.g. 20 characters; Unicode allowed; should describe issue, impact, and any specific requirements; trim leading/trailing spaces.
11	Priority	Dropdown – Values: High / Medium / Low; optional or configurable as required; default = Medium; used for ULB planning & sorting.
12	Geo-tagged Photo – Primary	File upload; JPEG/PNG; required for asset-based demands; max size 2 MB; recommend min resolution 800×600; must contain GPS metadata when captured via mobile app; client to validate file type and size.

13	Additional Photos (Optional)	Multi-file upload (0–4 files); JPEG/PNG; optional; max 2 MB per photo; used to provide more visual context; no strict GPS requirement but metadata captured if available.
14	Councillor Letter / Note Upload	File upload; visible & required only when Submission Mode = ULB-Assisted; allowed types: PDF/JPEG/PNG; max size 5 MB; used as scanned copy of physical demand letter/resolution.
15	Latitude	Hidden or read-only field; auto-captured from primary geo-tagged photo or device GPS (for in-app capture); not editable by user; stored for GIS and duplicate detection.
16	Longitude	Hidden or read-only field; auto-captured from primary geo-tagged photo or device GPS; not editable by user; stored with demand record.
17	Submission Channel	Read-only; system-assigned value: Web / Mobile / ULB-Assisted; captured for audit/reporting; not editable.
18	Remarks (Internal – ULB Maker)	Textarea (optional, visible only to ULB Officials in assisted mode); used to note internal comments such as reference file number or councillor discussion notes; not displayed to public.
19	Save as Draft (Optional)	Button; if implemented: saves partially filled demand with status "Draft"; not considered for processing until "Save & Submit" is done; draft not visible in AAP pipeline.
20	Save & Submit	Button – On click: triggers client-side validations on all required fields; if pass, sends payload to server for save; on success, sets status "Submitted" and returns Demand ID.
21	Client-side Validations	Composite: check mandatory fields (ULB, Ward, Demand Category, Sub-Category, Location – Locality, Demand Description, Primary Geo-Photo, Councillor Letter for assisted mode); check file types/sizes; ensure Category–Sub-Category selected; optionally enforce min description length and required Priority.
22	Server-side Validations	Composite: verify logged-in user role and ward mapping; verify Category–Sub-Category exist in master and mapped to 7A/7B/7C; anti-duplication pre-check (same ward, similar asset, same coordinates within radius, same councillor) for informational flag; validate file types/sizes; capture audit trail (user ID, role, IP, timestamp, channel).
23	Demand Status	Read-only; not editable on form; on initial successful submit set to "Submitted"; if drafts enabled, draft status = "Draft"; further status updates handled in other use cases.
24	Demand ID	Read-only; auto-generated unique ID by server post-successful submit; shown on confirmation screen/banner; should support copy button; stored for tracking, AAP mapping, and communication.
25	AAP Head Mapping (7A/7B/7C)	Hidden/read-only; system-derived from selected Demand Category (and Sub-Category if needed); not editable; used downstream for Shelf-List and Annual Action Plan aggregation.

26	Confirmation / Success Message	Standard inline/toast banner: e.g., "Demand submitted successfully. Demand ID: WD-2025-000123"; may also show next actions; optionally trigger SMS/Email acknowledgement.
27	Error / Alert Messages	Standardized error banners/tooltips for validation failures, file upload issues, missing geo-tag, or server errors; messages to clearly indicate field causing error and required corrective action.

4. UML Activity Diagram