

Software Test Report

Project Title: CleanCity Waste Management Web Application

Document Title: Complete QA Test Report (Phase 1 – Phase 3)

Team Name: The Bug Slayer Corps

Team Members:

- Isaac Okai - Test Manager
- Sammy Shoka - Risk Analyst
- Joel Githara - Test EXecutor

Prepared By: Sammy Shoka

Jira Board: <https://oginazy.atlassian.net/jira/software/projects/CQP/boards/5>

Github Repo: <https://github.com/Oginaz/wk-6-Oginaz-1>

Date: 17 November 2025

Executive Summary

This report presents the full QA lifecycle for the CleanCity Waste Management Platform, covering Phase 1 (Planning), Phase 2 (Test Design), and Phase 3 (Execution). The platform was evaluated across functional, non-functional, accessibility, and compatibility aspects.

Key Findings

- Functional features such as login, scheduling, dashboard, and blog are stable.
- Accessibility gaps identified: missing ALT text, missing `<h1>`, color contrast issues, ARIA issues.
- Mobile responsiveness requires improvement (blog cards overflow on phones).
- Cross-browser compatibility is mostly stable (minor Firefox spacing issue).

- 50+ test cases executed; several medium-to-high severity defects logged.

Recommendations

- Fix all WCAG 2.1 AA violations
- Improve mobile UI layout
- Add ARIA labels, ALT descriptions, and proper heading hierarchy
- Improve color contrast on buttons and text
- Re-run regression testing after fixes

Test Objective

To verify that all the project's features function correctly, meet performance standards, meet project requirements and provides a secure and user friendly experience across different platforms

The test objectives included:

- Validate Functional Requirements
- Detect and Document Defects
- Cross-Platform Verification
- Verify WCAG 2.1 accessibility compliance.
- Data Integrity Verification
- Performance Validation

The testing was carried from date 7 Nov 2025 to 18 Nov 2025

Areas Covered

Functional Testing

User Authentication

- Registration, login, logout
- Password validation and security
- Session management
- Role-based access control (User/Admin)

Waste Management and Pickup Scheduling

- Schedule pickup requests
- View request history

- Cancel/modify requests
- Request status tracking

Dashboards and Analytics

- User dashboard functionality
- Statistics and metrics display
- Charts and visualizations
- Leaderboards and gamification

Administrative Functions

- Admin panel access
- Request management
- User management
- Content moderation

Blog and Community Functions

- Blog post creation and viewing
- Comments and interactions
- Community feed posts
- Likes and comments

Content Management

- Awareness section (tips, quizzes)
- Profile management
- Notification system

Form Validation and Error Handling

- Input validation
- Error message display
- Required field validation
- Data sanitization

Non-Functional Testing

Usability Testing

- User experience evaluation
- Navigation intuitiveness

- UI/UX consistency
- User workflow efficiency

Cross-Browser and Device Compatibility

- Chrome, Firefox, Safari, Edge
- Desktop, tablet, mobile devices
- Responsive design validation
- Touch and gesture support

Performance Testing

- Page load times
- Responsiveness and smooth animations
- Memory usage
- Network throttling scenarios

Security Testing

- Input validation and sanitization
- XSS prevention
- Data protection in localStorage
- Session security

Data Integrity Testing

- localStorage functionality
- Data persistence across sessions
- Data consistency
- Storage limit handling

Accessibility Testing

- WCAG 2.1 AA compliance
- Screen reader compatibility (NVDA)
- Keyboard navigation
- Color contrast and visual accessibility
- Responsive and Mobile Testing
- Cross Browser Compatibility

Areas Not Covered

The following areas were not covered:

- Advanced load testing (stress testing with thousands of concurrent users)
- Backend API testing (application uses localStorage only)
- Database testing (no backend database)
- Mobile app testing (web application only)
- Third-party integrations testing

Testing Approach

Our Testing approach combined various testing methodologies which include:

- Manual test execution
- Tool-assisted accessibility scanning
- Jira used for defect tracking
- Risk Based Testing
- Exploratory testing
- User acceptance testing
- Accessibility testing
- Usability testing

Testing Process

The testing of the application followed these phases:

Week 1	Nov 1-5	Test plan, environment setup, initial planning
Week 2	Nov 6-11	Test cases, early execution, defect logging
Week 3	Nov 12-18	Final execution, reporting, video, submission

Roles & Responsibilities

Test Lead – Isaac Okai

- Planning & coordination
- Functional test case design
- Jira administration

Non-Functional Specialist – Joel Githara

- Performance, security, usability

- Cross-browser testing

Accessibility Specialist – Sammy Shoka

- WCAG 2.1 AA testing
- Screen reader testing
- Compatibility testing
- Responsive testing

Testing Tools and Environments

Defect Tracking: Jira

Accessibility Testing: axe-DEV Tools

Compatibility Testing: Chrome-DEV Tools

Automation Testing: Selenium and Jest

Security Testing:

Performance Testing:

Sample Key Tests

Below are a sample key tests

Test-Case: Accessibility

Title

Perform accessibility testing using **axe DevTools**, **WAVE**, and **Lighthouse** to ensure CleanCity meets WCAG 2.1 Level AA standards.

Objective:

Identify accessibility violations such as missing alt text, poor color contrast, and incorrect ARIA labels.

Test Steps:

1. Open the CleanCity application localhost in Chrome Version 142.0.7444.138
2. Press F12 and launch the axe DevTools and click “Analyze.”
3. Review all accessibility violations .
4. Run **WAVE Web Accessibility Evaluation Tool** on the same page.
5. Record all failed elements and severity levels.

6. Generate a **Lighthouse Accessibility Report** and attach the score.

Expected Result:

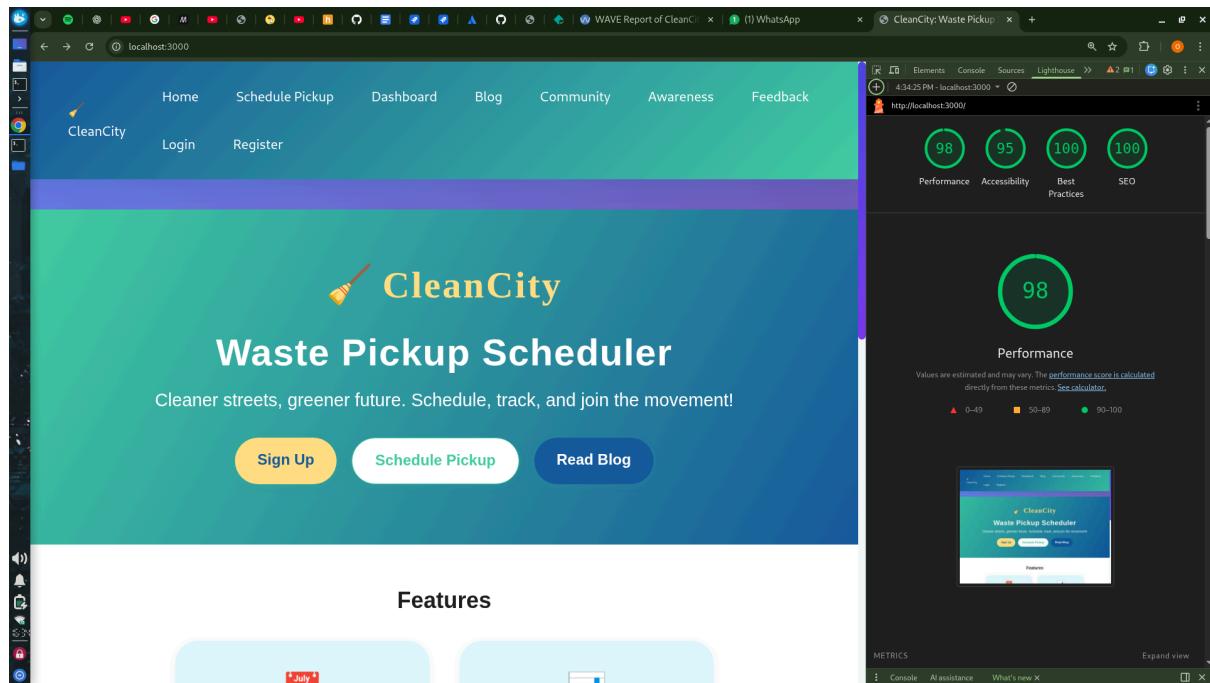
- All pages have a Lighthouse Accessibility Score ≥ 90 .
- No critical violations for contrast, alt text, or ARIA roles.

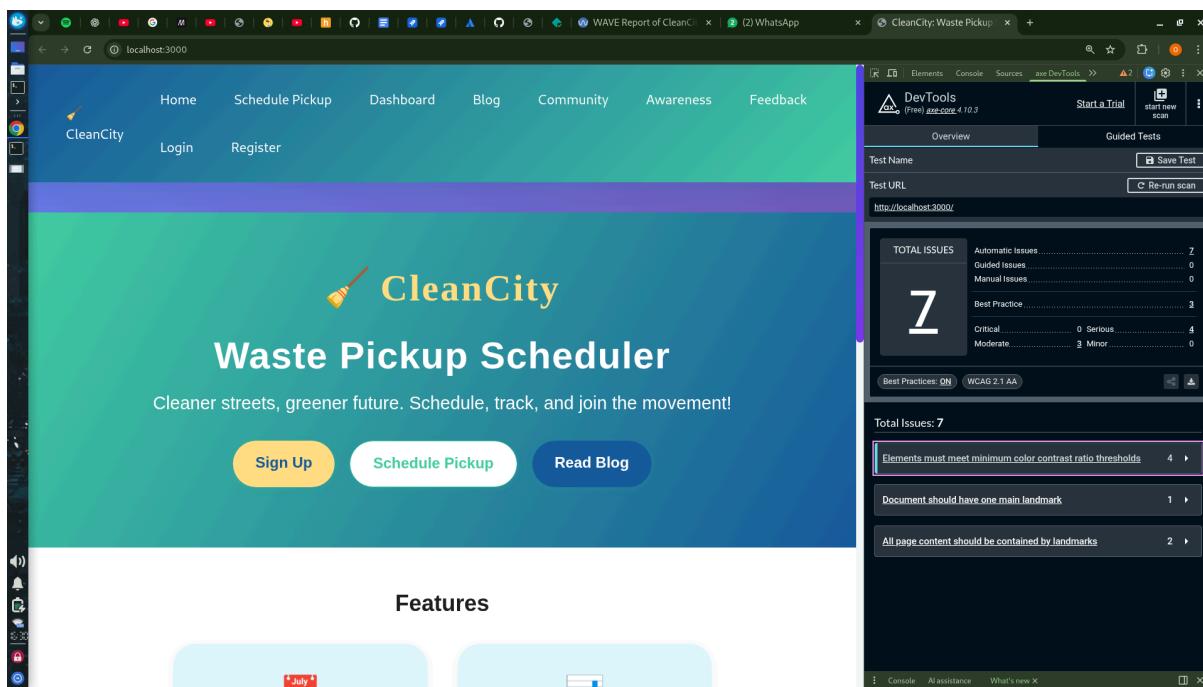
Actual Results:

- The pages have a lighthouse accessibility score > 90
- There is critical violations fro contrast

Attachments:

The attachments below are for, axe DevTools, Wave Web ,Lighthouse report score and light house report for accessibility





Test Execution Summary

Functional Testing Summary

Status	Count
Passed	6
Failed	6
Blocked	0

Modules tested:

- Authentication
- Notifications
- Dashboard
- Pickup scheduling
- Blog
- Community
- Admin panel
- Profile management

Accessibility Testing Summary

Test	Results	Notes
Wave Scan	Alerts	Missing heading structure
Color contrast	Fail	Contrast too low
Keyboard navigation	Pass	Focus indicators visible
ARIA	Fail	Missing ARIA labels

Compatibility Testing Summary

Browser	Status
Chrome	Pass
Edge	Pass
Brave	Pass
Firefox	Pass

Responsive Testing

Desktop: Passed

Mobile: Failed; There was overflow and layout breaking

Overall Status

Defects logged: 7 defects logged and documented

Defects By Severity

Severity	Count
Critical	0
Major	4
Medium	1

Minor	2
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RECOMMENDATIONS & IMPROVEMENTS

Accessibility Fixes

- Add proper `<h1>` and heading hierarchy
- Add ALT text to all images
- Add ARIA labels to icons
- Fix color contrast issues
- Improve keyboard navigation (focus outline)

UI/Responsive Fixes

- Fix mobile overflow on blog cards

Test Metrics

Summary

Execution Metrics

- Total test cases: **51**
- Passed: **6**
- Failed: **6**
- Blocked: 0
- Not Run: 39

Pass Rate = $6 / 51 \approx 11.8\%$

Fail Rate = $6 / 51 \approx 11.8\%$

Defect Metrics

- Total defects: **7**
- Major accessibility issues: **4**

Snapshot of Jira

The screenshot shows a Jira software board titled "CleanCity QA Project". The board has four main columns: "TO DO", "IN PROGRESS", "DONE AND CLOSED", and "DONE".

- TO DO:** Contains tasks like "Updated defect/issue log with findings" (COP-31), "Screenshots, logs, or evidence of test execution" (COP-36), and "Refined documentation and lessons learned" (COP-39).
- IN PROGRESS:** Contains tasks like "Execute functional test cases" (COP-10), "Create functional test cases" (COP-7), "Review and Approve test cases" (COP-8), "Execute Compatibility and Accessibility test" (COP-12), and "Configure Jira Board" (COP-24). There are also two screenshots displayed under this column.
- DONE AND CLOSED:** Contains tasks like "Execute non-functional test cases" (COP-11) and "Accessibility and compatibility tests" (COP-10).
- DONE:** Contains tasks like "Results of executed tests (manual and automated)" (COP-10) and "Page lacks proper heading structure, causing accessibility failure" (COP-49).

At the bottom right of the board, there is a "Quickstart" button.